

# **INFORMATION HANDOUT**

**For Contract No. 04-235524  
At 04-SM-92, 82-R11.0/R11.4, 10.4/10.7**

**Identified by  
Project ID 0412000496**

## **MATERIALS INFORMATION**

Foundation Recommendations, dated July 14, 2015

Materials Recommendation for Temporary Pavement, dated May 13, 2015

Water Quality Information Handout, dated May 2016

Preliminary Site Investigation Report, dated March 2016

**M e m o r a n d u m**

*Serious drought  
Help Save Water*

**To:** MR. KEYHAN MOGHBEL  
District Office Chief  
Design South - Peninsula

**Date:** July 14, 2015

**Attention:** Hossein Khodabakhsh

**File:** 04-SM-92/82, PM 11/10.3  
04-235521  
Efis#: 04120000496  
R92/R84 Interchange  
Reconstruction

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**Subject:** Foundation Recommendations

This memo provides foundation recommendations for the State Route (SR) 92 and SR 82 Interchange Improvement project. The project site is located in the City of San Mateo, San Mateo County. Please refer to Figure 1 – Project Location Map, which is attached.

**PROJECT DESCRIPTION**

Three retaining walls are proposed for construction and are listed in Table 1 – Proposed Walls, below:

**Table 1 – Proposed Walls**

| Wall | Stationing                                    | Design Height, ft.  |
|------|---|---|
| RW1  | CLVR1 Line - Station 11+47 to Station 19+59.6 | Section 1 (Type 736 SV (Modified)), 3                       |
|      |   | Section 2 (Type 1SWBP), varies between 8 and 14.            |
|      |   | Section 3 (Type 1SWBP (Modified)), varies between 8 and 14. |
| RW2  | CLVR4 Line - Station 13+70 to station 17+81.4 | RW2 (Type 1SWBP, (Modified)) varies between 8 and 20.       |
| RW3  | CLVR5 Line - Station 11+90 to Station 15+00   | Type 736 SV (Modified), 3                                   |

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## **SCOPE OF WORK**

We have performed a geotechnical investigation to determine design parameters for the foundation recommendations. The scope of work includes the following:

- Review of Route 92/82 and Palm Avenue Undercrossing As-built plans, (As-built LOTB's – attached to this memo).
- Subsurface exploration consisting of seven (7) cone penetration test (CPT) soundings pushed to approximate depths ranging between 24-ft and 73-ft. during December 2014 and January 2015. All work conforms with Geotechnical Manual Supplemental A (GMSA)
- Engineering analyses and preparation of the repair recommendations.

## **PROJECT SITE DESCRIPTION AND BACKGROUND**

### **Site Description**

The project site is located in San Mateo County on SR 92 between PM 10.3-10.7. At this location, SR 92 has two (2) westbound and two (2) eastbound lanes. The interchange between El Camino Real and SR 92 is a classic cloverleaf exit and entrance lane in both directions. The undercrossing of El Camino Real has three (3) lanes in both the north and southbound directions.

A total of three (3) retaining walls are to be installed on the outside of each on or off-ramp, the highest of which, is 20-feet high and 453 feet in length.

### **Site History**

The SR92/SR82 Interchange, originally named the Route 105/Route 2 Separation, was built in 1961/62.

## **SITE GEOLOGY AND SEISMICITY**

### **Regional Geologic Overview**

The project is located on the edge of the eastern side of the Santa Cruz Mountains, at the junction between the hills and the flat land of the alluvial planes of the San Francisco Bay. The site is approximately 2.25 miles east of Buri Buri Ridge (634 feet mean sea level (msl)) and Pulgas Ridge. These ridges are separated by San Mateo Creek, the closest named creek, at 1.25 miles northwest of the project site. This creek drains from Crystal Springs dam northeast to San Francisco Bay. The closest body of water is an unnamed canal which is approximately 1,500

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feet southwest of the site. This canal drains to Seal Slough and then drains to the San Francisco Bay.

### **Geology**

The project site is located within the California Coast Ranges geomorphic province. Extensive folding has created a series of northwest trending ranges and valleys, one of which is the San Francisco Bay. SR 92/82 separation is located on historic artificial fill deposits and Holocene alluvial fan and fluvial deposits.<sup>1</sup> The artificial fill, which is located at the elevated section of the separation, is:

*"...loose to very well consolidated gravel, sand, silt, clay, rock fragments, organic matter, and man-made debris in various combinations. Thickness is variable and may exceed 30 m in places. Some is compacted and quite firm, but fill made before 1965 is nearly everywhere not compacted and consists simply of dumped materials."<sup>2</sup> The flat lying areas are composed of Holocene alluvial fan and fluvial deposits "...alluvial fan deposits are brown or tan, medium dense to dense, gravelly sand or sandy gravel that generally grades upward to sandy or silty clay."<sup>3</sup>*

The LOTBs from the 1961 construction of the Route 92/82 Separation show stiff silty clays, stiff sandy silty clay, compact sandy clayey silt, compact silty sand, slightly compact to compact clayey sand, dense to very dense clayey gravelly sand, sand and gravelly sand. These findings are consistent with the USGS map showing Holocene artificial fill, alluvial fan and fluvial deposits. (Geology is presented on Figure 2.)

### **Natural Slope Stability**

Extensive construction of highways and roads has obscured natural slopes. Much of the topography seen at the present is man-made. There have been several slide repairs adjacent to the proposed project location. No other slides have been observed within the project limits.

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<sup>1</sup> USGS. Geology of the Onshore Part of San Mateo County CA: Derived from the Digital Database Open\_file 98-137; Brabb, E.E., Graymer, R.W., Jones, D.L. 1998

<sup>2</sup> ibid

<sup>3</sup> ibid

**Seismicity**

The dominant geologic structures in the area are the San Gregorio Fault (San Gregorio Section) and San Andreas (Peninsula) Fault (Figure 3 presents the Regional Fault Map), which are major components of the San Andreas Fault system. These northwest-striking, right-lateral strike-slip faults have been the source of numerous historic earthquakes and, hence, are known to be active. The San Andreas is approximately 3.4 miles to the west of the site. Fault data is listed in Table 2.

The project lies in the seismically active San Francisco Bay area and is prone to strong ground shaking. Table No. 2 below lists the major faults in the region, their distance from the project site, maximum credible earthquake magnitudes. The peak bedrock acceleration anticipated at the site is estimated to be **0.71g**, ([http://dap3.dot.ca.gov/ARS\\_Online/index.php](http://dap3.dot.ca.gov/ARS_Online/index.php)).

**Table 2** – Faults, Maximum Credible Earthquake Magnitudes, and Peak Bedrock Accelerations

| <b>Fault Name</b>                                     | <b>Distance: Miles*</b> | <b>Fault ID:</b> | <b>Fault Type:</b>        | <b>Maximum Magnitude (MMax)**:</b> |
|---|-------------------------|------------------|---------------------------|------------------------------------|
| <b>San Andreas fault zone (Peninsula section)</b>     | 3.4                     | 134              | Right Lateral Strike Slip | 8.0                                |
| <b>San Gregorio fault zone (San Gregorio section)</b> | 10.5                    | 127              | Right Lateral Strike Slip | 7.4                                |

*\*Closest portion of the fault, measured in miles. \*\*Moment Magnitude.*

Historic Seismicity

The USGS website lists the following earthquakes that have occurred in the area:<sup>4</sup>

- The 1906 Great San Francisco Earthquake: The April 18, 1906, Magnitude 7.8 earthquake produced strong shaking at the project site. Chimneys were toppled, and buildings thrown from their foundations. Landslides and soil settlement occurred in nearby Saratoga.
- Loma Prieta Earthquake, California August 1989, Magnitude 6.9 in the Santa Cruz Mountains, about 10 miles northeast of Santa Cruz and about 4.5 miles south of Loma

<sup>4</sup> [http://earthquake.usgs.gov/earthquakes/states/historical\\_state.php#california](http://earthquake.usgs.gov/earthquakes/states/historical_state.php#california)

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Prieta Mountains, California. This major earthquake caused 63 deaths, 3,757 injuries, and an estimated \$6 billion in property damage.

### Groundwater

From borings that were advanced in January 1959, groundwater was measured at an elevation between -2.3 and 5.3 feet Mean Sea Level (MSL) (12 and 21 feet below the existing ground surface grades). As-built LOTBs are attached.

### Erosion and Slope Stability

This area is located on relatively flat land; therefore, erosion and slope stability are not significant concerns.

### Primary Seismic Hazards

As discussed in the Seismicity Section, the San Francisco Bay Area is within the most tectonically active area of the North American continent. This is where the North American Plate and the Pacific Plate grind past one another along the San Andreas Fault, a right lateral strike slip fault. This has created a series of semi-parallel faults that cover the Bay Area: e.g. the Hayward and San Gregorio Faults. The controlling fault for the project is the San Andreas Fault zone (Peninsula section). This project is being designed to reduce the seismic effects that are ever present in the Bay Area. According to Alquist-Priolo Earthquake Fault Zone Maps the project site is not located within an active fault zone.

### Secondary Seismic Hazards

The project design would lessen the effects of moderate liquefaction on the proposed structures on this area. (Refer to Figure 3).

### Hazardous Waste Potential

Based on site clearance information provided by District 4 Environmental for our field investigation, there is no hazardous waste within the project site.

## FIELD INVESTIGATION AND FINDINGS

### Field Exploration and In-Situ Testing

Due to the alluvial nature of subsurface soil conditions, we needed to investigate the variation in consistency of clay and sandy material for static and seismic load analyses, utilizing both available as-built LOTBs, and a subsurface investigation, consisting of seven (7) Cone Penetration Test (CPT) soundings, which were conducted in December 2014 and January 2015. The CPTs are listed in table 3:

**Table 3** – Cone Penetration Test Soundings

| CPTs       | Elevation, ft. | Depth, ft. |
|------------|----------------|------------|
| CPT-14-001 | 18.0           | 60.61      |
| CPT-14-002 | 22.0           | 65.33      |
| CPT-15-003 | 15.0           | 65.55      |
| CPT-15-004 | 35.0           | 61.09      |
| CPT-15-005 | 42.0           | 72.37      |
| CPT-15-006 | 17.0           | 47.70      |
| CPT-15-007 | 23.0           | 24.69      |

Each CPT was backfilled in accordance with California Well Standards 74-81 and 74-90.

### Laboratory Testing

No laboratory testing was performed for this project.

### Subsurface Soil Conditions

Since the CPT soundings were planned roughly along the layout lines of each wall the subsurface soil conditions (interpreted soil behavior types based on the classification scheme by Robertson, 1990) are presented with respect to each wall in the following Tables:

Table 4 - Retaining Wall 1 (CLVR1 Line - Station 11+47 to Station 19+59.6);

Table 5 - Retaining Wall 2 (CLVR4 Line - Station 13+70 to station 17+81.4), and

Table 6 - Retaining Wall 3 (CLVR5 Line - Station 11+90 to Station 15+00).

Fill and liquefiable layers are indicated in **bold** type.

As shown in Tables 4, 5, and 6, liquefaction is indicated as occurring during a seismic event; however, settlement due to liquefaction is estimated to be approximately 2-inches or less.

The Logs of Test Borings (LOTBs) sheet(s), showing the CPTs and their locations are included in Appendix A.

**Table 4 - Retaining Wall 1(CLVRI Line – Station 11+47 to Station 19+59.6)**

| <b>CPT Sounding</b> | <b>Depth, ft.</b> | <b>Soil Behavior Type</b>   | <b>Approximate Elevation, ft.</b> |
|---------------------|-------------------|---|-----------------------------------|
| CPT-15-004          | 0-14              | Primarily sand to silt mixtures ( <b>Fill</b> ); ranging from loose to compact. | 35-21                             |
|                     | 14-24             | Alternating Sand and Silt mixtures  | 21-11                             |
|                     | 24-29             | Silty Sand to Sandy Silt ( <b>Liquefiable Layer #1</b> )                        | 11 to 6                           |
|                     | 29-35             | Alternating Silt, Sand, and Clay mixtures                                       | 6 to 0                            |
|                     | 35-40             | Sand and Silt mixtures ( <b>Liquefiable Layer #2</b> )                          | 0 to -5                           |
|                     | 40-61             | Alternating Clay, Silt, and Sand mixtures                                       | -5 to -26                         |
| CPT-15-005          | 0-18              | Primarily sand to silt mixtures ( <b>Fill</b> ); ranging from loose to compact. | 42 to 24                          |
|                     | 18-31             | Alternating Sand and Silt mixtures  | 24 to 11                          |
|                     | 31-40             | Silty Sand to Sandy Silt ( <b>Liquefiable Layer #1</b> )                        | 11 to 2                           |
|                     | 40-72             | Alternating Silt, Sand, and Clay mixtures                                       | 2 to -30                          |
| CPT-14-002          | 0-15              | Primarily sand to silt mixtures ( <b>Fill</b> ); ranging from loose to compact. | 22 to 7                           |
|                     | 15-18             | Silty Sand to Sandy Silt ( <b>Liquefiable Layer #1</b> )                        | 7 to 4                            |
|                     | 18-22             | Alternating silt and clay mixtures  | 4 to 0                            |
|                     | 22-25             | Silty Sand to Sandy Silt ( <b>Liquefiable Layer #2</b> )                        | 0 to -3                           |
|                     | 25-65             | Alternating silt and clay mixtures  | -3 to -43                         |

**Table 5 - Retaining Wall 2 (CLVR4 Line - Station 13+70 to station 17+40)**

| CPT Sounding | Depth, ft. | Soil Behavior Type  | Approximate Elevation, ft. |
|--------------|------------|---|----------------------------|
| CPT-14-001   | 0-10       | Primarily sand to silt mixtures ( <b>Fill</b> ); ranging from loose to compact. | 18 to 8                    |
|              | 10-12      | Alternating Sand and Silt mixtures  | 8 to 6                     |
|              | 12-15      | Silty Sand to Sandy Silt ( <b>Liquefiable Layer #1</b> )                        | 6 to 3                     |
|              | 15-26      | Silt mixtures   | 3 to -8                    |
|              | 26-34      | Alternating Silt and Sand mixtures  | -8 to -16                  |
|              | 34-39      | Alternating Silt and Sand mixtures ( <b>Liquefiable Layer #2</b> )              | -16 to -21                 |
|              | 39-50      | Alternating Silt and Clay mixtures  | -21 to -32                 |
|              | 50-51      | Silty Sand to Sandy Silt  | -32 to -33                 |
| CPT-15-007   | 51-60      | Alternating Silt and Clay mixtures  | -33 to -42                 |
|              | 0-7        | Primarily sand to silt mixtures ( <b>Fill</b> ); ranging from loose to compact. | 23 to 11                   |
|              | 7-8        | Silty Sand to Sandy Silt ( <b>Liquefiable Layer #1</b> )                        | 11 to 10                   |
|              | 8-10       | Silty Sand to Sandy Silt  | 10 to 8                    |
|              | 10-12      | Silty Sand to Sandy Silt ( <b>Liquefiable Layer #2</b> )                        | 8 to 6                     |
|              | 12-25      | Sand mixtures – Silty Sand to Sandy Silt  | 6 to -7                    |

**Table 6 - Retaining Wall 3 (CLVR5 Line - Station 11+90 to Station 15+00)**

| CPT Sounding | Depth, ft. | Soil Behavior Type  | Approximate Elevation, ft. |
|--------------|------------|---|----------------------------|
| CPT-15-006   | 0-4        | Primarily sand to silt mixtures ( <b>Fill</b> ); ranging from loose to compact. | 17 to 13                   |
|              | 4-17       | Alternating Sand and Silt mixtures  | 13 to 0                    |
|              | 17-25      | Silt Mixtures   | 0 to -8                    |
|              | 25-27      | Silty Sand to Sandy Silt ( <b>Liquefiable Layer #1</b> )                        | -8 to -10                  |
|              | 27-46      | Silt mixtures   | -10 to -29                 |
|              | 46-47.7    | Sand mixtures   | -29 to -31                 |
| CPT-15-003   | 0-8        | Primarily sand to silt mixtures ( <b>Fill</b> ); ranging from loose to compact. | 15 to 7                    |
|              | 8-30       | Alternating Sand and Silt mixtures  | 7 to -15                   |
|              | 30-32      | Silty Sand to Sandy Silt ( <b>Liquefiable Layer #1</b> )                        | -15 to -17                 |
|              | 32-36      | Sand mixtures- Silty Sand to Sandy Silt   | -17 to -21                 |
|              | 36-47      | Silt mixtures – Clayey Silt to Silty Clay                                       | -21 to -32                 |
|              | 47-49      | Clays, Silt, and Sand Mixtures  | -32 to -34                 |
|              | 49-62      | Clay and Silt mixtures  | -34 to -47                 |
|              | 62-65.6    | Silt and Sand Mixtures  | -47 to -51                 |

**Groundwater Conditions**

Groundwater depths and elevations have been estimated based on pore pressure measurements taken during the performance of each CPT sounding. The estimated groundwater depths and elevations at the time of investigation are presented in Table 7 below.

**Table 7** – Estimated Groundwater Depths and Elevations based on CPT pore pressure measurements

| CPT        | CPT Elevation (ft.) | Estimated Depth to water level (ft.) | Estimated Groundwater Elevation (ft.) | Date Measured |
|------------|---------------------|--------------------------------------|---------------------------------------|---------------|
| CPT-14-001 | 18                  | 10                                   | 8                                     | 12/23/2014    |
| CPT-14-002 | 22                  | 15                                   | 7                                     | 12/23/2014    |
| CPT-15-003 | 15                  | 5.0                                  | 10                                    | 01/27/2015    |
| CPT-15-004 | 35                  | 12                                   | 23                                    | 01/27/2015    |
| CPT-15-005 | 42                  | 18                                   | 24                                    | 01/27/2015    |
| CPT-15-006 | 17                  | 6.76                                 | 10                                    | 01/27/2015    |
| CPT-15-007 | 23                  | 1.67                                 | 21                                    | 01/27/2015    |

In addition to pore pressure measurements, as-built plans for the Route 92/82 Separation and the Palm Avenue Undercrossing also indicate the presence of groundwater; those data are presented in Table 8.

**Table 8** – Groundwater depths and elevations based on As-built Plans

| As-built/Boring                                  | Boring Elevation (ft.) | Depth to water level (ft.) | Ground Water Elevation (ft.) | Date Measured |
|--|------------------------|----------------------------|------------------------------|---------------|
| <b>92/82 Separation, Contract No. 62-4T13C31</b> |                        |                            |                              |               |
| B-1  | 17.1                   | 16.6                       | 0.5                          | 01/22/1959    |
| B-2  | 18.7                   | 18.6                       | 0.1                          | 01/24/1959    |
| B-3  | 19.1                   | 22.0                       | -2.9                         | 01/15/1959    |
| B-5  | 17.5                   | 17.5                       | 0.0                          | 01/22/1959    |
| B-6  | 17.5                   | 12.2                       | 5.3                          | 01/22/1959    |
| <b>Palm Ave. UC, Contract No. 62-4T13C31</b>     |                        |                            |                              |               |
| B-3  | 12.3                   | 11.5                       | 0.8                          | 03/21/1960    |

Higher groundwater elevations should be anticipated depending upon the amount of precipitation during the rainy season.

**GEOTECHNICAL RECOMMENDATIONS**

Based on the most recent General and Foundation Plans submitted to us by D-4 Design and Structures, Table 9 presents each proposed wall, wall type, and foundation type:

**Table 9 – Proposed Walls, Wall Type, and Foundation Type**

| Wall | Wall Type                         | Foundation Type |
|------|-----------------------------------|-----------------|
| RW 1 | Section 1: Type 736 SV (Modified) | 16” CIDH Piles  |
|      | Section 2: Type 1SWBP             | 24” CIDH Piles  |
|      | Section 3: Type1SWBP (Modified)   | 24” CIDH Piles  |
| RW2  | Type 1SWBP, (Modified)            | 24” CIDH Piles  |
| RW3  | Type 736 SV (Modified)            | 16” CIDH Piles  |

Foundation recommendations for each wall are presented below:

**RW1 – Retaining Wall 1 (CLVR1- Line, Sta. 11+74 to 19+59.6)**

Retaining Wall 1 is divided into three sections. Recommendations for each section are presented below:

**Section 1: Type 736 SV (Modified)**

In reference to Standard Plan Sheet B15-6, Barrier Sections, Case 2 – Sloping Ground, foundation soil angle of friction,  $\phi = 30^\circ$  (Min), we assume that dimension, “He” varies between 1- and 4-feet. Assuming “He” is a maximum of 4-feet and that dimension “H” is 6 feet-4 inches, a required minimum pile length of 16 feet-0 inch is shown for the Case 2: Pile Data Table, Standard Plan Sheet B15-8. Because the soils in this location consist of undocumented fill, we recommend extending that length by five (5) additional feet. ***The pile lengths for Section 1 should be no less than 21 feet.*** Standard Plan Sheets B15-6, B15-7, and B15-8 are attached for reference.

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Standard Plan Sheet B15-8 indicates that a 1 foot-4 inches pile diameter is to be used. It is likely that groundwater will be encountered during the installation of these piles. Section 16.1.2, Constructability Issues, in *Bridge Design Practice*, February 2015, states that “If ground water is anticipated during construction, drilled shafts must be at least 24 inches in diameter, and PVC inspection pipes should be installed to allow Gamma-Gamma Logging (GGL) or Cross-Hole Sonic Logging (CSL) test of the shafts for quality assurance...” A 24-inches diameter pile will exceed the width dimension (1foot-6 inches) of the wall layout for Case 2, shown on Revised Standard Plan RSP B15-6, by 6-inches. Because the Type 736 SV barrier is a standard design, and cannot be modified, two alternatives are presented:

#### Alternative 1

Construct the wall using 24-inches diameter piles instead of 16-inches diameter piles. Tie the piles together with a grade beam that is properly sized to accommodate the diameter of the piles; after which the Type 736 SV barrier is incorporated into the grade beam. This will fulfill the requirement of Section 16.1.2.

#### Alternative 2

Require using full depth temporary casing during the installation of all 16-inch diameter piles to prevent caving of drilled hole side walls. Clean the bottom of each drilled hole using suitable equipment before placing concrete. If water is present in the hole, place concrete using tremie and slurry methods.

### **Section 2: Type1 SWBP**

*The pile lengths for Section 2 should be no less than 35 feet.*

Pile lateral capacity for this wall should be checked. Use the following for lateral earth pressures:

For wall backfill:

Angle of internal friction,  $\phi = 34^\circ$ , Cohesion,  $C = 0$

Unit weight,  $\gamma = 125 \text{ lbs./ft.}^3$

$K_a = 0.28$ ,  $K_p = 0$

Traffic Load, uniform pressure = 72 psf

The number of pile rows should be determined using California Amendments to AASHTO LRFD Bridge Design Specifications – Sixth Edition, Article 10.7.2.4 – Horizontal Pile

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Foundation Movement. Refer to AASHTO LRFD Bridge Design Specifications, Seventh Edition, 2014, Article 10.7.2.4 – Horizontal Pile Foundation Movement for further information. Both documents are attached in Appendix B.

For Static Design use:

$K_a = 0.28$ ,  
 $\gamma = 125 \text{ lbs/ft}^3$ ,  
Allowable deflection of  $\frac{1}{4}$ -inch.

For Seismic Design use:

$K_{ae} = 0.55$  (*which includes both the static and seismic increment*),  
 $\gamma = 125 \text{ lbs/ft}^3$ ,  
Peak Ground Acceleration (PGA) = 0.71 g,  
Allowable deflection of 1-inch.

For analysis using L-Pile use the following parameters:

Generalized soil profile is Stiff Clay:  
Undrained Shear Strength,  $S_u = 1500 \text{ psf}$  (10.4 psi)  
Strain corresponding to one-half the maximum principle stress,  $\epsilon_{50} = 0.007$   
For *static*,  $k_s = 500 \text{ pci}$ ; for *cyclic*,  $k_c = 200 \text{ pci}$ .  
For group effects in the direction of the lateral backfill pressure, use a pile diameter equivalent to 1.4 times the pile diameter to be constructed; assuming two rows of piles are to be used. An example of this analysis, provided by the Structural Engineer for this project, is also attached in Appendix B.

**Section 3: Type 1 SWBP (Modified)**

Recommendations for Section 3 are the same as those for Section 2. ***The pile lengths for Section 3 should be no less than 35 feet.***

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**RW2–Retaining Wall 2, Type ISWBP (Modified), (CLVR4 Line – Sta. 13+70 to 17+81.4)**

***The pile lengths for Section 2 should be no less than 35 feet.***

Pile lateral capacity for this wall should be checked. Use the following for lateral earth pressures:

For wall backfill:

Angle of internal friction,  $\phi = 34^\circ$ , Cohesion,  $C = 0$

Unit weight,  $\gamma = 125 \text{ lbs./ft.}^3$

$K_a = 0.28$ ,  $K_p = 0$

Traffic Load, uniform lateral pressure = 72 psf

The number of pile rows should be determined using California Amendments to AASHTO LRFD Bridge Design Specifications – Sixth Edition, Article 10.7.2.4 – Horizontal Pile Foundation Movement. Refer to AASHTO LRFD Bridge Design Specifications, Seventh Edition, 2014, Article 10.7.2.4 – Horizontal Pile Foundation Movement for further information. Both documents are attached in Appendix B.

For Static Design use:

$K_a = 0.28$ ,

$\gamma = 125 \text{ lbs/ft}^3$ ,

Allowable deflection of ¼-inch.

For Seismic Design use:

$K_{ac} = 0.55$  (***which includes both the static and seismic increment***),

$\gamma = 125 \text{ lbs/ft}^3$ ,

Peak Ground Acceleration (PGA) = 0.71 g,

Allowable deflection of 1-inch.

For analysis using L-Pile use the following parameters

Generalized soil profile is Stiff Clay:

Undrained Shear Strength,  $S_u = 1500$  psf (10.4 psi)

Strain corresponding to one-half the maximum principle stress,  $\epsilon_{50} = 0.007$

For *static*,  $k_s = 500$  pci; for *cyclic*,  $k_c = 200$  pci.

For group effects, use a pile diameter equivalent to 1.4 times the pile diameter to be constructed; assuming two rows of piles are to be used. An example of this analysis, provided by the Structural Engineer for this project, is also attached in Appendix B.

**RW3 – Retaining Wall 3; Type 736 SV(Modified), (CLVR5 Line – Sta. 11+90 to 15+00)**

Our recommended foundation support for this wall is the same as that described in Section 1 of RW1.

**Signs–Various**

In addition to the proposed walls, three signs are also proposed for this project. Table 10, below shows each sign location, sign type, and recommended foundation type

**Table 10 – Signs – Location, type, recommended foundation**

| <b>Sign Location</b>                     | <b>Sign Type</b>   | <b>Recommended Foundation Type</b>  |
|--|--|---|
| '92EB1'<br>Station 108+25,<br>right side | Cantilever OH Truss Sign<br>Structure, Post Type VIII                  | 5 ft-0 inch diameter CIDH pile with a<br>foundation depth of 25ft.-0 inches.<br>Refer to Standard Plan S8 (attached). |
| 'CLVR1'<br>Station 17+00                 | Lightweight OH Sign<br>Structure Type A-2, Post<br>Type 10" NPS t=1/2" | 3 ft-0 inch diameter CIDH pile with a<br>foundation depth 13 ft-0 inches. Refer<br>to Standard Plan S49 (attached)    |
| 'CLVR4'<br>Station 14+80,<br>left side   | Lightweight OH Sign<br>Structure Type A-2, Post<br>Type 10" NPS t=1/2" | 3 ft-0 inch diameter CIDH pile with a<br>foundation depth 13 ft-0 inches. Refer<br>to Standard Plan S49 (attached)    |

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Attn: Hossein Khodabakhsh  
July 14, 2015  
Page 15

## **CORROSION**

Based on corrosion results from the US 101/Willow Road Overcrossing and the US101/Broadway Interchange Reconstruction Project, which bracket this project (approximately 10-miles to the south and 4-miles to the north, respectively); it is inferred that this site is not corrosive to depths of fifty (50) feet or less.

## **CONSTRUCTION CONSIDERATIONS AND REQUIREMENTS**

The following construction considerations and requirements should be included in the design and construction specifications for the proposed wall:

- Install fluid type settlement platforms at each retaining wall, preferably within the middle of the wall and away from construction traffic.
- Read the settlement platforms as follows:
  - 1) Take baseline readings during settlement platform installation.
  - 2) Perform two readings for each settlement platform; spaced three (3) to four (4) days apart when fill heights reach five (5), ten (10), and twenty (20) feet, depending upon applicable wall heights.
  - 3) It is anticipated that a waiting period of twenty-one (21) days will be required after the settlement platforms have been read for the second time when the fill reaches maximum height for each wall. Perform a final reading of the settlement platforms after the anticipated fourteen (14) day waiting period has completed.
  - 4) Place pavement after the increase in settlement rate becomes insignificant.
- During the drilling operation for the proposed CIDH concrete piles, we believe that some caving of the drilled holes will likely occur. Thus, use of temporary casing is required due to the potential for caving and high groundwater. Require Contractor to furnish temporary casings at the job site before drilling CIDH piles. Use of slurry may be necessary. Construct the CIDH concrete piles in accordance with Section 49-3 of the May 2010 Caltrans Standard Specifications.
- Due to a potential for ground settlement, all surcharge loads placed on the ground by heavy equipment are to be spread uniformly over the contact area and cannot exceed 400 psf. No stockpiling of soil and construction material more than three (3) feet is allowed

MR. KEYHAN MOGHBEL  
Attn: Hossein Khodabakhsh  
July 14, 2015  
Page 16

- Do not construct any temporary back cuts steeper than 1.5(H) to 1.0(V). Make all excavations according to Cal/OSHA excavation requirements.
- Hazardous waste should be assessed by Caltrans District 4 Hazardous Waste Branch.
- Earth materials as well as groundwater conditions can vary between the points of exploration and observations in type, properties, and strength. Therefore, we do not and cannot have full knowledge of the subsurface conditions underlying the site. The recommendations and conclusions presented in this GDR are based on the findings of the points of exploration, interpretation, and extrapolations of information between and beyond these points are subject to confirmation based on the conditions revealed during construction.
- Contact our office immediately, if there are any problems with the installation of the CIDH piles, so we can evaluate the need for additional measures.

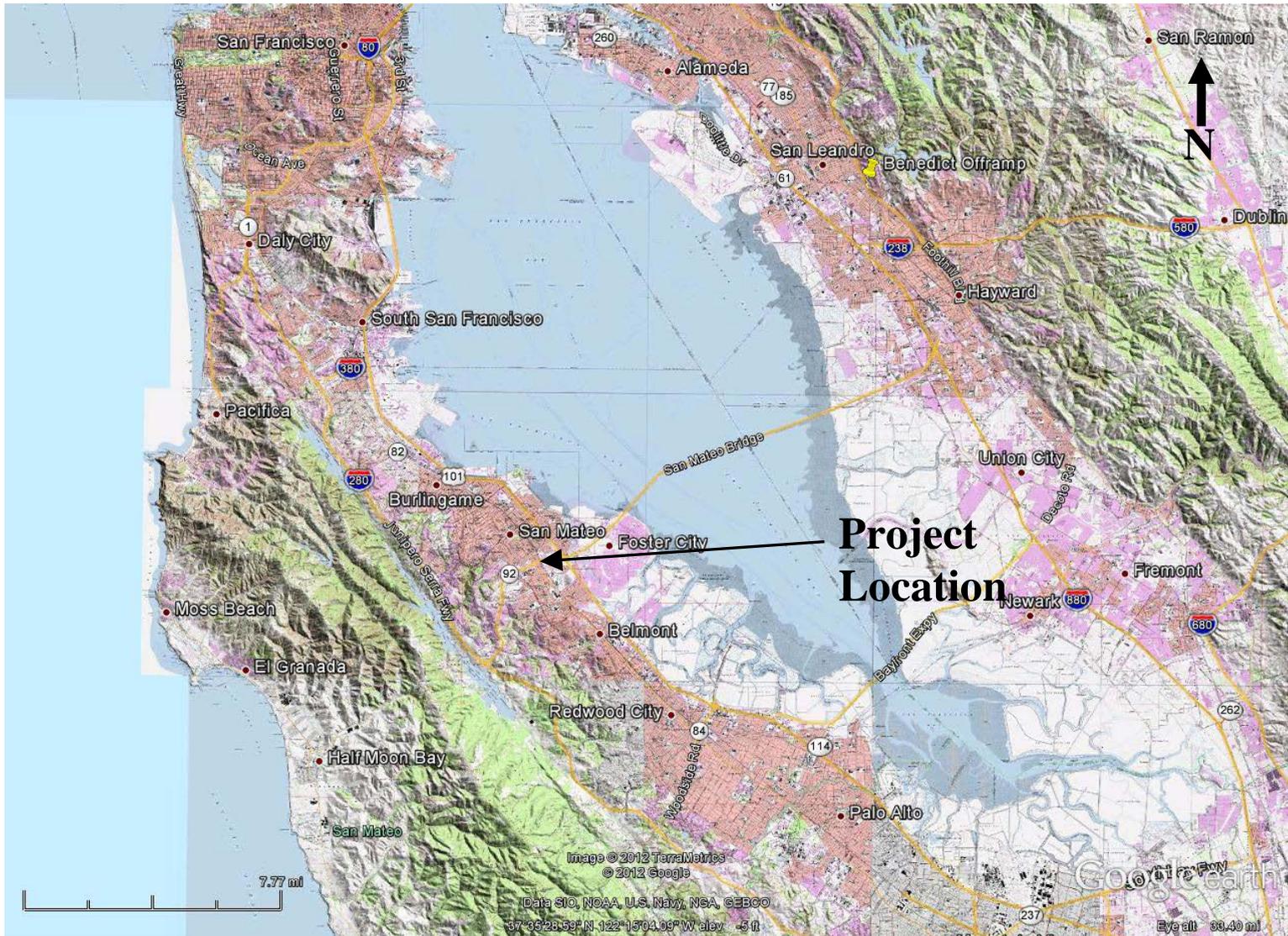
If you have any questions, please call me at (510) 622-8742 or Mahmood Momenzadeh at (510) 286-5732.

Attachments:

c: TPokrywka, MMomenzadeh, KBalan, [RE\\_Pending\\_File@dot.ca.gov](mailto:RE_Pending_File@dot.ca.gov), GSetberg, RWoo, Geotechnical Archive.

JMoore/mm





MAP TAKEN FROM:  
GOOGLE EARTH

SCALE

Not to Scale



**Engineering Service Center**

DIVISION OF ENGINEERING SERVICES  
OFFICE OF GEOTECHNICAL SERVICES  
GEOTECHNICAL DESIGN BRANCH (WEST) – BRANCH B

LOCATION MAP

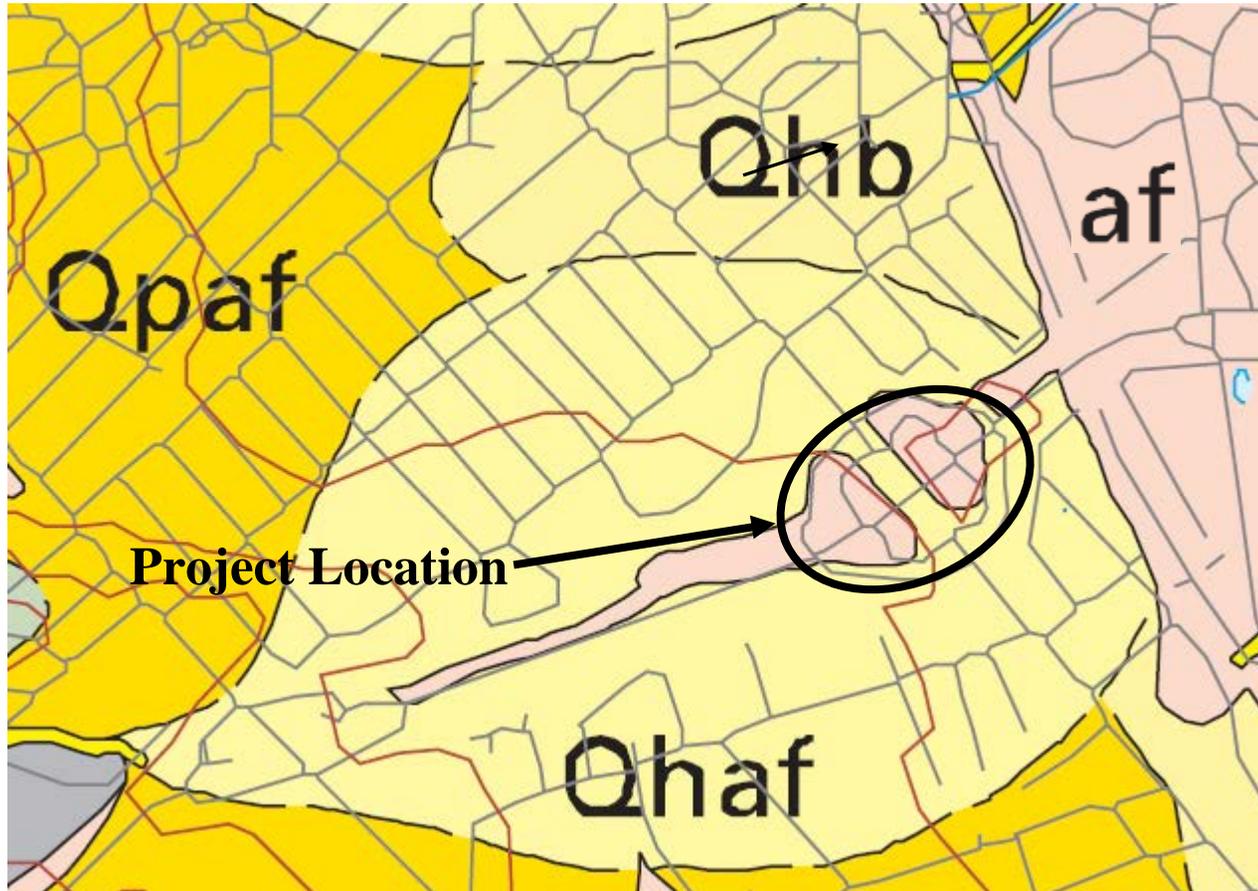
04-SM-92/82

EFIS 0412000496

PM 11/10.3

JULY 2015

FIGURE 1



**KEY**

- af** **Artificial fill (Historic)**—Loose to very well consolidated gravel, sand, silt, clay, rock fragments, organic matter, and man-made debris in various combinations. Thickness is variable and may exceed 30 m in places. Some is compacted and quite firm, but fill made before 1965 is nearly everywhere not compacted and consists simply of dumped materials
- Qhb** **Basin deposits (Holocene)**—Very fine silty clay to clay deposits occupying flat-floored basins at the distal edge of alluvial fans adjacent to the bay mud (Qhbm). Also contains unconsolidated, locally organic, plastic silt and silty clay deposited in very flat valley floors
- Qhaf** **Alluvial fan and fluvial deposits (Holocene)**—Alluvial fan deposits are brown or tan, medium dense to dense, gravelly sand or sandy gravel that generally grades upward to sandy or silty clay. Near the distal fan edges, the fluvial deposits are typically brown, never reddish, medium dense sand that fines upward to sandy or silty clay
- Qpaf** **Alluvial fan and fluvial deposits (Pleistocene)**—Brown dense gravelly and clayey sand or clayey gravel that fines upward to sandy clay. These deposits display variable sorting and are located along most stream channels in the county. All Qpaf deposits can be related to modern stream courses. They are distinguished from younger alluvial fans and fluvial deposits by higher topographic position, greater degree of dissection, and stronger soil profile development. They are less permeable than Holocene deposits, and locally contain fresh water mollusks and extinct late Pleistocene vertebrate fossils. They are overlain by Holocene deposits on lower parts of the alluvial plain, and incised by channels that are partly filled with Holocene alluvium on higher parts of the alluvial plain. Maximum thickness is unknown but at least 50 m.

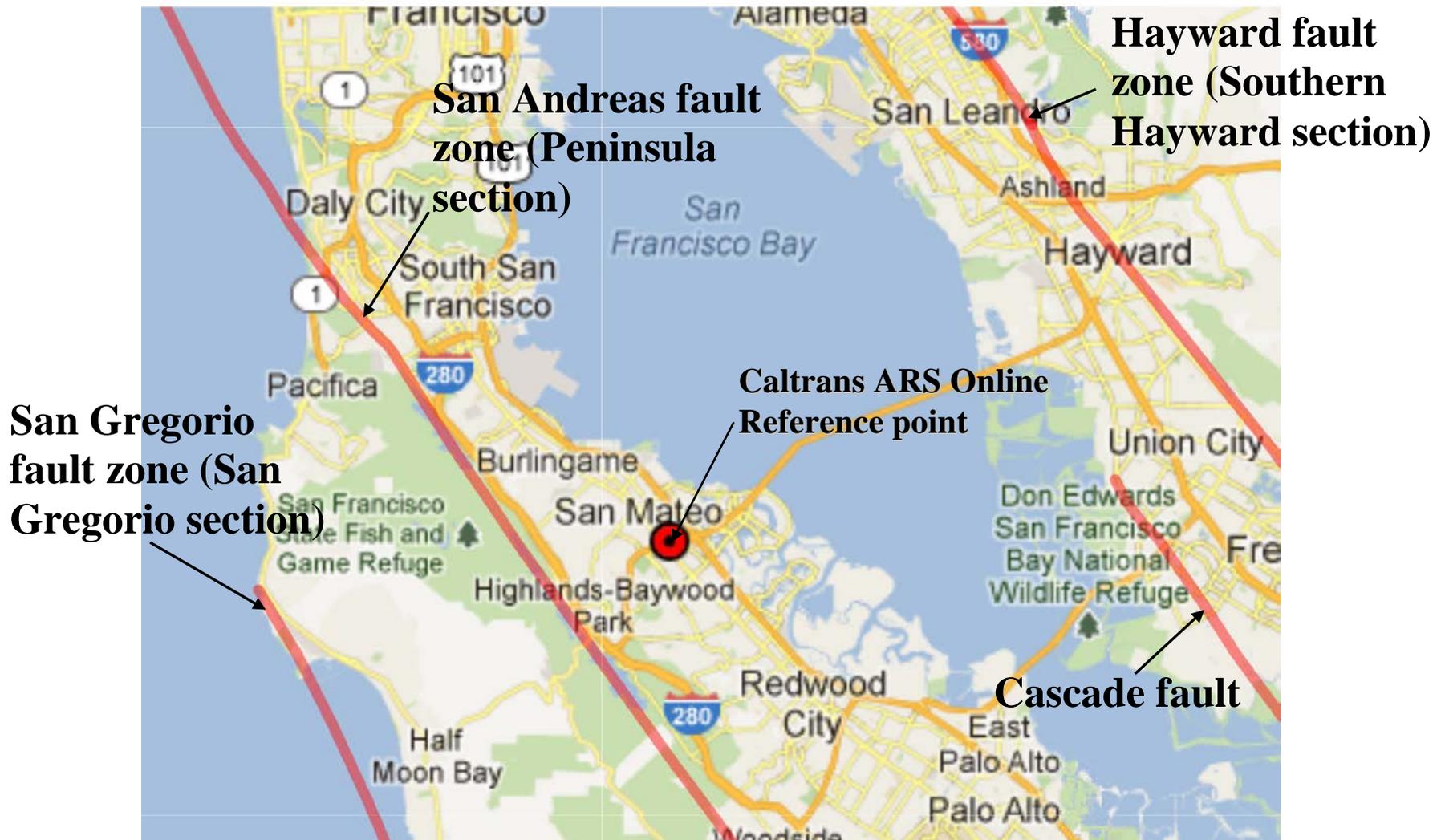
MAP TAKEN FROM: Geology of the Onshore Part of San Mateo County, CA: derived from the digital database open-file 98-137; by E.E Brabb, R.W. Graymer and D.L. Jones; 1998

SCALE  
Not to Scale



**Engineering Service Center**  
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GEOTECHNICAL DESIGN BRANCH (WEST) – BRANCH B

**GEOLOGY MAP**  
04-SM-92 EFIS 0412000496  
PM 11.0-11.3 JULY 2015  
**FIGURE 2**



MAP TAKEN FROM:  
[http://dap3.dot.ca.gov/shake\\_stable/](http://dap3.dot.ca.gov/shake_stable/)

SCALE

Not to Scale



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 GEOTECHNICAL DESIGN BRANCH (WEST) – BRANCH B

**FAULT MAP**

04-SM-92/82

EFIS 0412000496

PM 11/10.3

JULY 2015

FIGURE 3

**Liquefaction Susceptibility Map**

Susceptibility Level

- Very High
- High
- Moderate
- Low
- Very Low
- Major Roads
- Local Roads



Scale: 1 inch = 0.42 miles

This map is intended for planning use only and is not intended to be site-specific. Rather, it depicts the general hazard level of a neighborhood and the relative hazard levels from community to community. Hazard levels are less likely to be accurate if your neighborhood is on or near the border between two zones. This information is not a substitute for a site-specific investigation by a licensed professional.

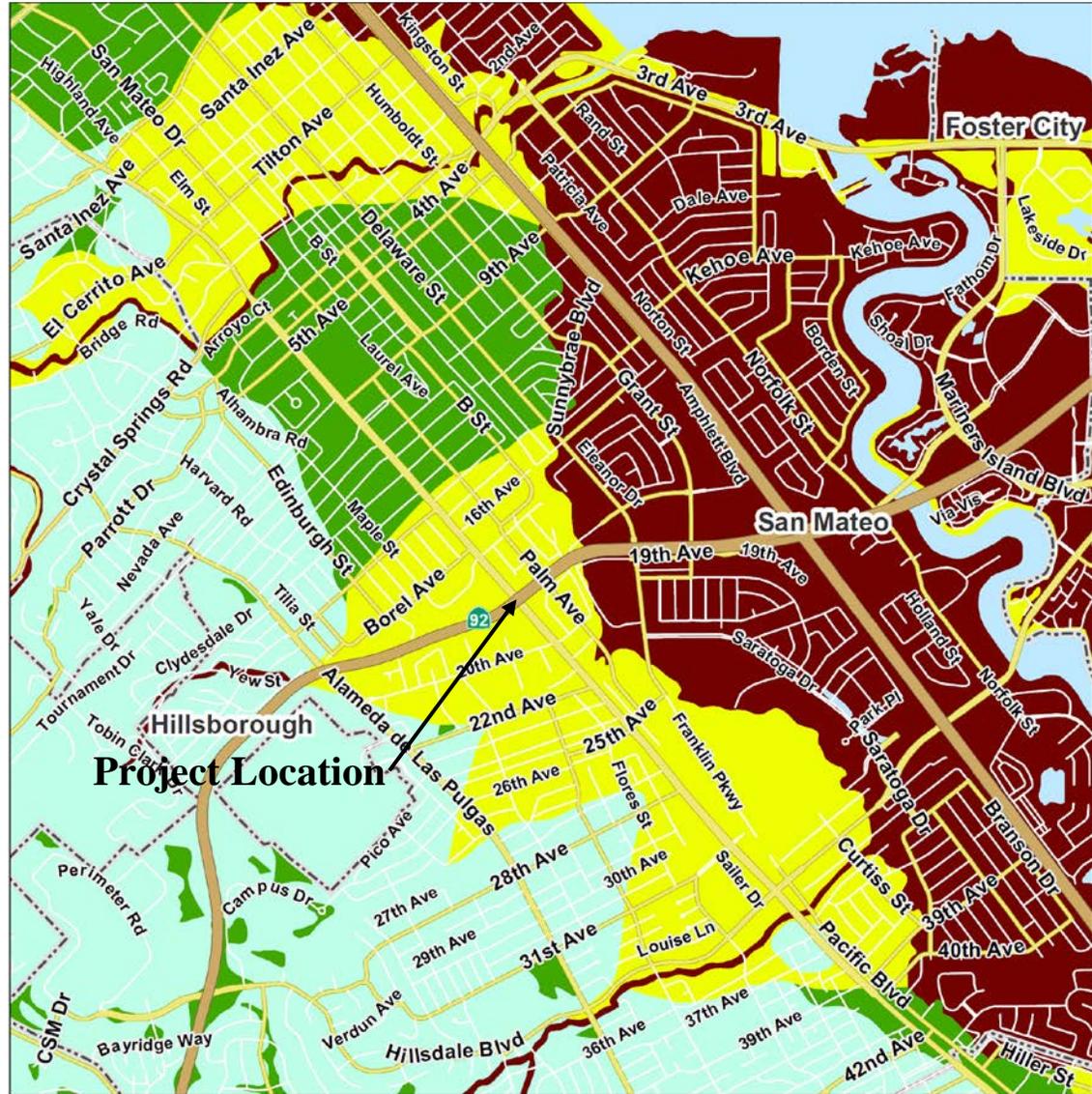
This map is available at <http://quake.abag.ca.gov>

Sources:

This map is based on work by William Lettis & Associates, Inc. and USGS. USGS Open-File Report 00-444, Knudsen & others, 2000 and USGS Open-File Report 2006-1037, Witter & others, 2006

For more information visit:  
<http://pubs.usgs.gov/of/2000/of00-444/>  
<http://pubs.usgs.gov/of/2006/1037/>

ABAG Geographic Information Systems



SCALE

Not to Scale



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DIVISION OF ENGINEERING SERVICES  
 OFFICE OF GEOTECHNICAL SERVICES  
 GEOTECHNICAL DESIGN BRANCH (WEST) – BRANCH B

**LIQUIFACTION MAP**

04-SM-92/82

EFIS 0412000496

PM 11/10.3

JULY 2015

FIGURE 4

## APPENDIX A

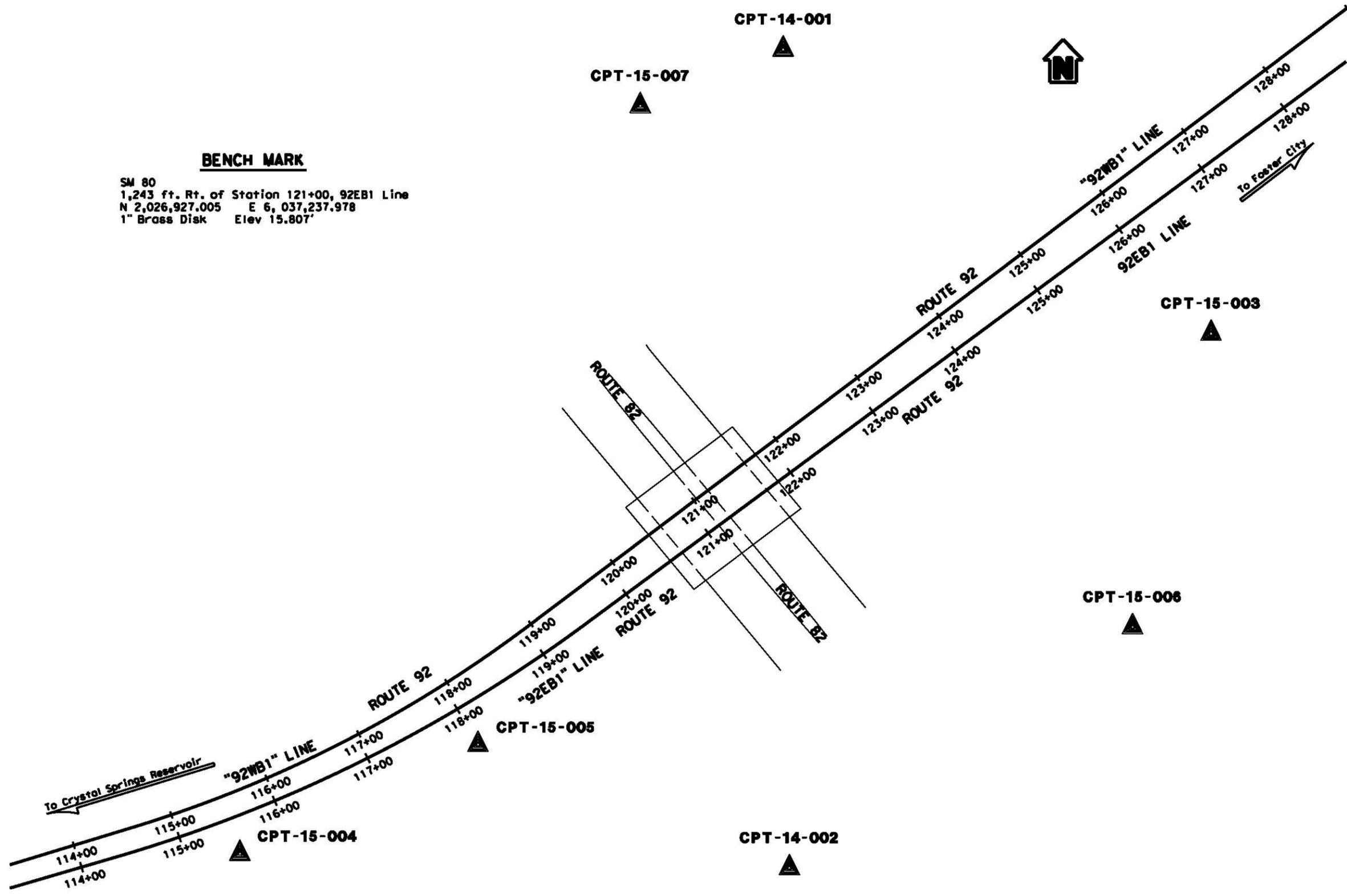
Log of Test Borings (LOTB's)

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO | TOTAL SHEETS |
|------|--------|-------|--------------------------|----------|--------------|
| 04   | SM     | 92/82 | 11.0/11.5<br>10.3/10.7   |          |              |

John C. Moore 06-16-15  
 REGISTERED CIVIL ENGINEER  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 John C. Moore  
 No. C61792  
 Exp. 6-30-17  
 CIVIL  
 STATE OF CALIFORNIA

**BENCH MARK**  
 SM 80  
 1,243 ft. Rt. of Station 121+00, 92EB1 Line  
 N 2,026,927.005 E 6, 037,237.978  
 1" Brass Disk Elev 15.807'



**PLAN**  
 1"=50'

|  |   |                                     |  |   |  |   |  |                            |
|--|---|-------------------------------------|--|---|--|---|--|----------------------------|
| <b>ENGINEERING SERVICES</b>                  |   | <b>GEOTECHNICAL SERVICES</b>        |  | <b>STATE OF CALIFORNIA</b>  | DIVISION OF ENGINEERING SERVICES<br>OFFICE OF GEOTECHNICAL | BRIDGE NO.<br>WALLS                           | <b>ROUTE 92/ 82 INTERCHANGE RECONSTRUCTION PROJECT</b> |                            |
| FUNCTIONAL SUPERVISOR<br>NAME: M. Monenzogen | DRAWN BY: M. Reynolds<br>CHECKED BY: D. Nesbitt | FIELD INVESTIGATION BY:<br>J. Moore |  | DEPARTMENT OF TRANSPORTATION  | DESIGN BRANCH  | POST MILES<br>11.0/11.5<br>10.3/10.7          | <b>LOG OF TEST BORINGS 1 of 6</b>                      |                            |
| ORIGINAL SCALE IN INCHES FOR REDUCED PLANS   |   |                                     |  | UNIT: 3660<br>PROJECT NUMBER & PHASE: 04120004691 CONTRACT NO.: 04-235521 |  | DISCARD POINTS BEARING EARLIER REVISION DATES |  | REVISION DATES<br>06-23-15 |
| 006 CIVIL LOG OF TEST BORINGS SHEET          |   |                                     |  | FILE => REQUEST   |  |   |  | SHEET OF                   |

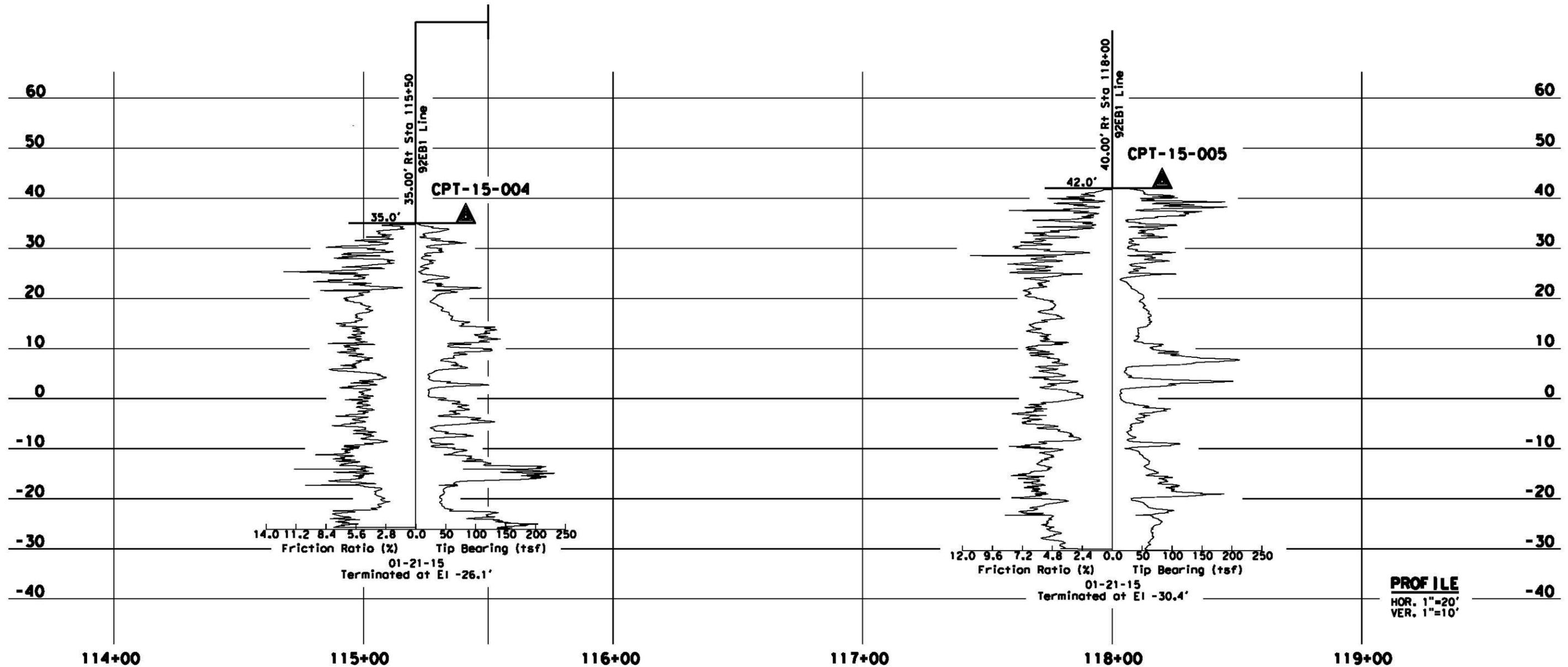
DATE PLOTTED => \$TIME USERNAME => \$USER

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|------|--------|-------|--------------------------|----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO | TOTAL SHEETS |
| 04   | SM     | 92/82 | 11.0/11.5<br>10.3/10.7   |          |              |

*John C. Moore* 06-16-15  
 REGISTERED CIVIL ENGINEER  
 PLANS APPROVAL DATE  


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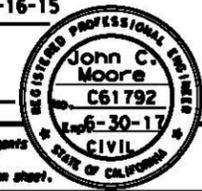
(For Boring Location See Plan, LOTB Sheet 1 of 4)



|   |   |                                     |  |  |  |   |  |
|---|---|-------------------------------------|--|--|--|---|--|
| <b>ENGINEERING SERVICES</b>                   |   | <b>GEOTECHNICAL SERVICES</b>        |  | <b>STATE OF CALIFORNIA</b><br>DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES<br>OFFICE OF GEOTECHNICAL<br><b>DESIGN BRANCH</b> | BRIDGE NO.<br>WALLS                             | <b>ROUTE 92/ 82 INTERCHANGE RECONSTRUCTION PROJECT</b> |
| FUNCTIONAL SUPERVISOR<br>NAME: M. Morsenzodan | DRAWN BY: M. Reynolds<br>CHECKED BY: D. Nesbitt | FIELD INVESTIGATION BY:<br>J. Moore |  |  |  | POST MILES<br>11.0/11.5<br>10.3/10.7            |  |
| DESIGN BRANCH                                 |   |                                     |  | UNIT: 3660   | PROJECT NUMBER & PHASE: 04120004691 CONTRACT NO.: 04-235521                        | DISREGARD PRINTS BEARING EARLIER REVISION DATES |  |
| ORIGINAL SCALE IN INCHES FOR REDUCED PLANS    |   |                                     |  | 0 1 2 3  | FILE => #REQUEST   | REVISION DATES SHEET OF                         |  |

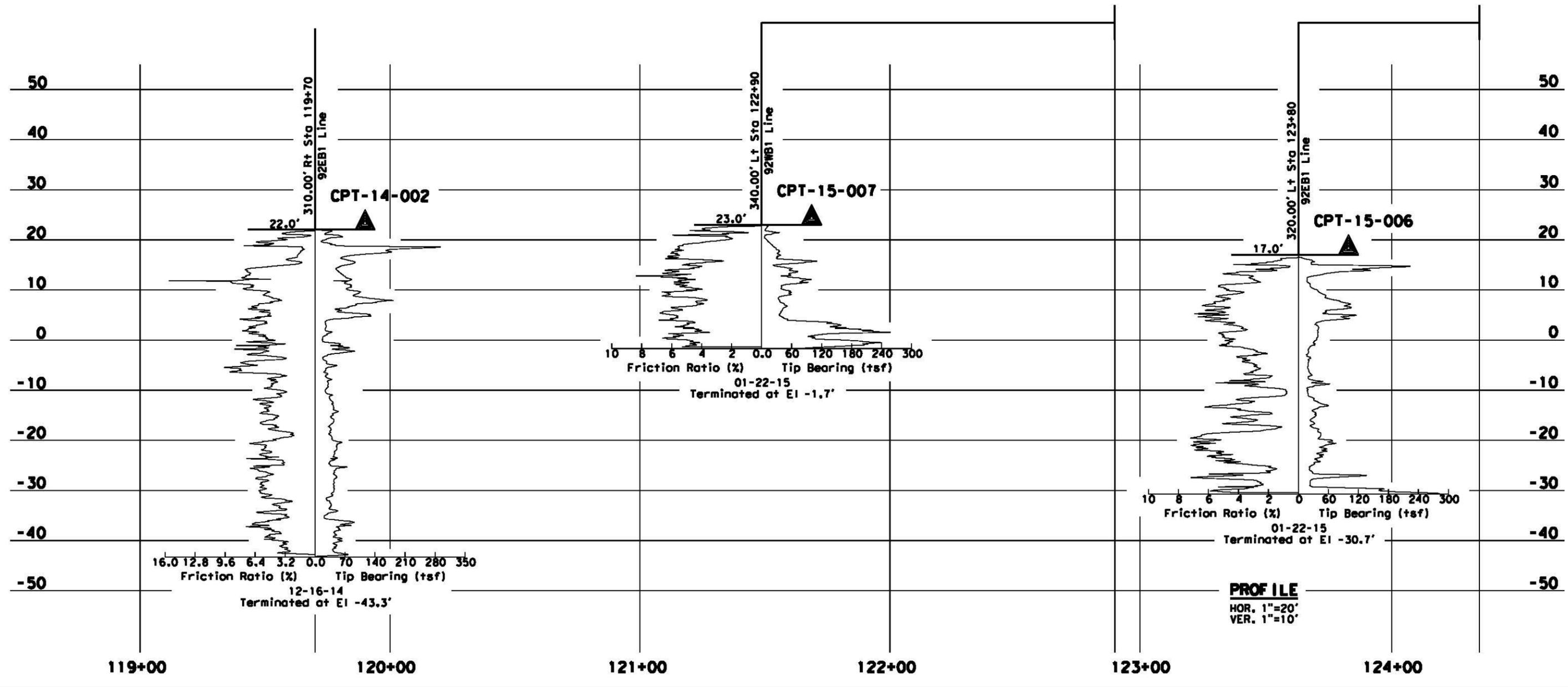
DATE PLOTTED BY: BATE  
USER NAME: BATE

| DIST   | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO | TOTAL SHEETS |
|--|--------|-------|--------------------------|----------|--------------|
| 04   | SM     | 92/82 | 11.0/11.5<br>10.3/10.7   |          |              |
| <i>John C. Moore</i> 06-16-15<br>REGISTERED CIVIL ENGINEER   |        |       |                          |          |              |
| PLANS APPROVAL DATE<br>06-30-17  |        |       |                          |          |              |
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(For Boring Location See Plan, LOTB Sheet 1 of 4)

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).



|                                     |  |  |  |   |  |                                     |  |  |  |
|-------------------------------------|--|--|--|---|--|-------------------------------------|--|--|--|
| <b>ENGINEERING SERVICES</b>         |  | <b>GEOTECHNICAL SERVICES</b>               |  | <b>STATE OF CALIFORNIA</b>                      |  | <b>BRIDGE NO. 92/82</b>             |  | <b>ROUTE 92/ 82 INTERCHANGE RECONSTRUCTION PROJECT</b> |  |
| FUNCTIONAL SUPERVISOR               |  | DRAWN BY: M. Reynolds                      |  | FIELD INVESTIGATION BY: J. Moore                |  | OFFICE OF GEOTECHNICAL              |  | DESIGN BRANCH  |  |
| NAME: M. Momenzadeh                 |  | CHECKED BY: D. Nesbitt                     |  |   |  | DEPARTMENT OF TRANSPORTATION        |  | LOG OF TEST BORINGS 3 of 6                             |  |
| 005 CIVIL LOG OF TEST BORINGS SHEET |  | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS |  | UNIT: 3660                                      |  | PROJECT NUMBER & PHASE: 04120004691 |  | CONTRACT NO.: 04-235521                                |  |
|                                     |  |  |  | DISREGARD PRINTS BEARING EARLIER REVISION DATES |  | REVISION DATES                      |  | SHEET OF   |  |

DATE PLOTTED => 01/15/15 USERNAME => USER

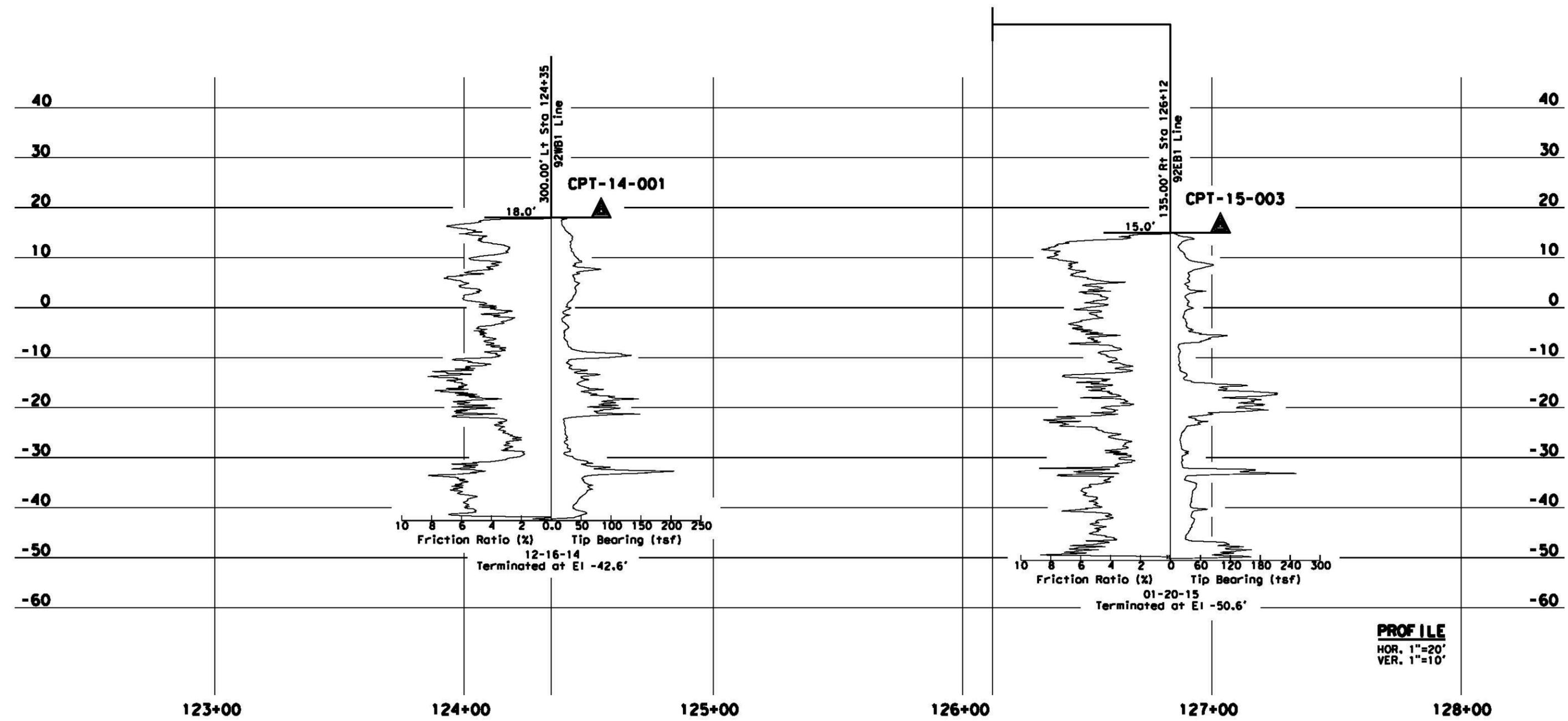
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO | TOTAL SHEETS |
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| 04   | SM     | 92/82 | 11.0/11.5<br>10.3/10.7   |          |              |

*John C. Moore* 06-16-15  
 REGISTERED CIVIL ENGINEER  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
**John C. Moore**  
 C61792  
 Exp 6-30-17  
 CIVIL  
 STATE OF CALIFORNIA

(For Boring Location See Plan, LOTB Sheet 1 of 4)

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).



**PROFILE**  
 HOR. 1"=20'  
 VER. 1"=10'

|   |  |                              |  |                                     |  |   |  |                        |  |  |  |
|---|--|------------------------------|--|-------------------------------------|--|---|--|------------------------|--|--|--|
| <b>ENGINEERING SERVICES</b>                                 |  | <b>GEOTECHNICAL SERVICES</b> |  | <b>STATE OF CALIFORNIA</b>          |  | <b>DIVISION OF ENGINEERING SERVICES</b> |  | <b>BRIDGE NO.</b>      |  | <b>ROUTE 92/ 82 INTERCHANGE RECONSTRUCTION PROJECT</b> |  |
| FUNCTIONAL SUPERVISOR                                       |  | FIELD INVESTIGATION BY:      |  | <b>DEPARTMENT OF TRANSPORTATION</b> |  | <b>OFFICE OF GEOTECHNICAL</b>           |  | <b>WALLS</b>           |  | <b>LOG OF TEST BORINGS 4 of 6</b>                      |  |
| NAME: M. Momenzadeh   |  | J. Moore                     |  |                                     |  | <b>DESIGN BRANCH</b>                    |  | <b>POST MILES</b>      |  |  |  |
| DRAWN BY: M. Reynolds                                       |  |                              |  |                                     |  |   |  | 11.0/11.5<br>10.3/10.7 |  |  |  |
| CHECKED BY: D. Nesbitt                                      |  |                              |  |                                     |  |   |  |                        |  |  |  |
| DESIGNER: M. Momenzadeh                                     |  |                              |  |                                     |  |   |  |                        |  |  |  |
| DATE: 06-16-15  |  |                              |  |                                     |  |   |  |                        |  |  |  |
| PROJECT NUMBER & PHASE: 04120004691 CONTRACT NO.: 04-235521 |  |                              |  |                                     |  |   |  |                        |  |  |  |

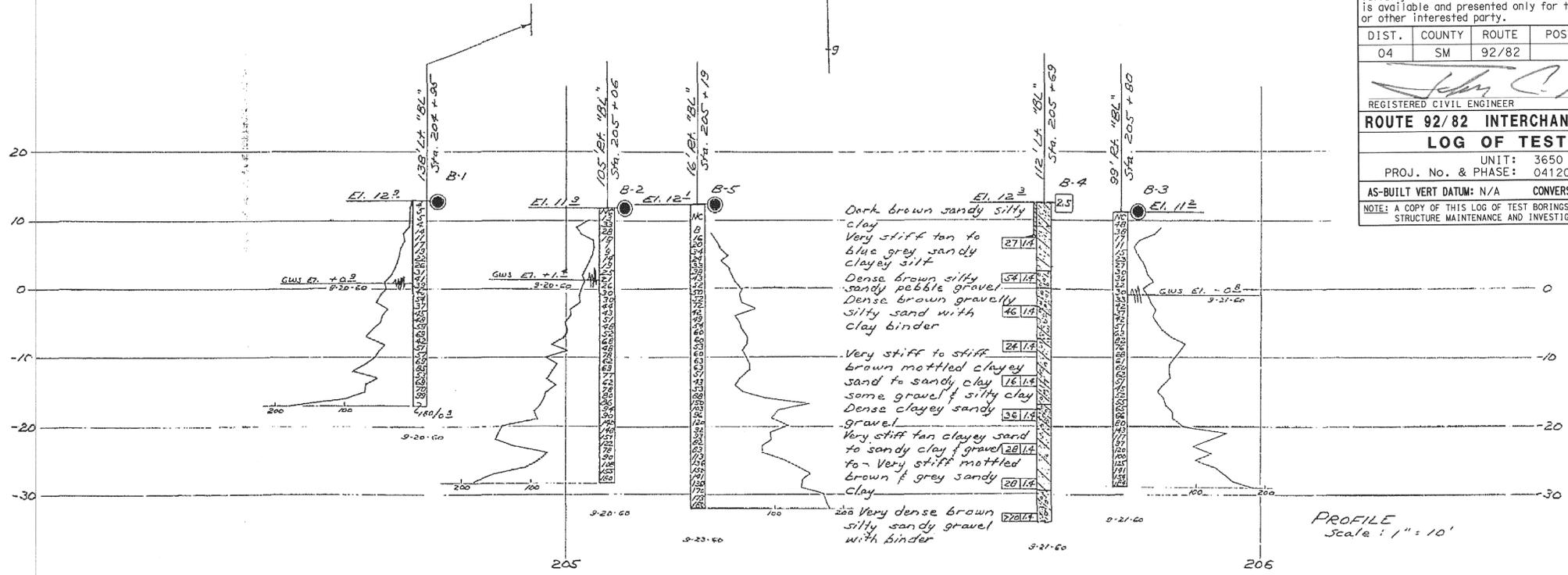
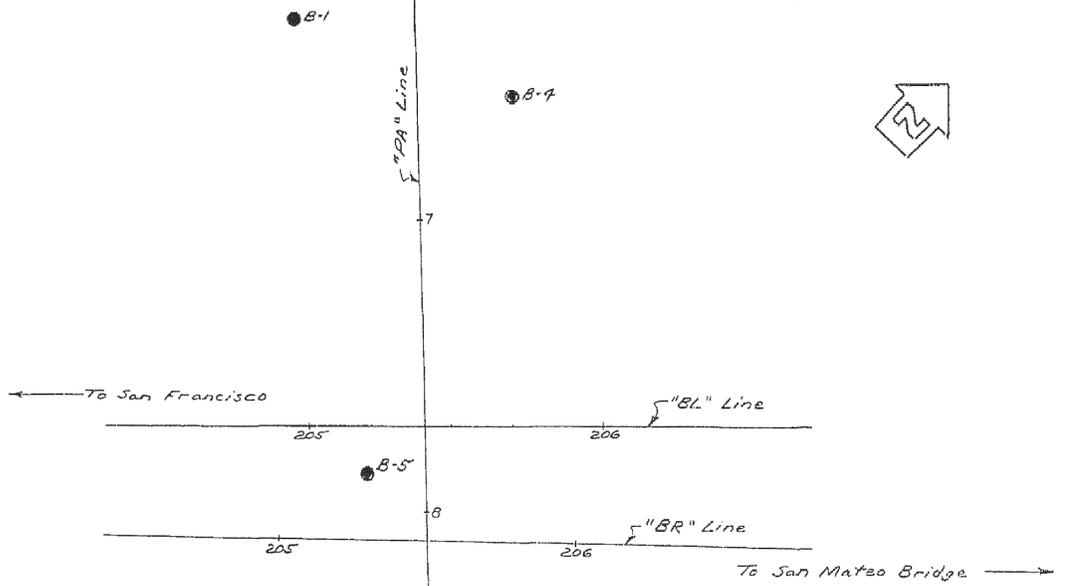
DATE PLOTTED => 06/16/15 USERNAME => JSM

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| 7                   | CAL.  |           |             | 239       | 271          |

| DATE    | PROJECT | POST MILE | SECTION | NO. OF BORINGS | NO. OF TESTS |
|---------|---------|-----------|---------|----------------|--------------|
| 7/24/61 | SM      | 92.82     | SM      | 5              | 6            |

REGISTERED CIVIL ENGINEER  
 John Moore  
 No. C61792  
 Exp. 6-30-17  
 CIVIL  
 STATE OF CALIFORNIA  
 DATE PREPARED July 24, 1961

BM "A" RR Spike in J.P.  
 25' RT. "PA" 9+65"  
 Elev. 12.40



**DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES**

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

|       |        |       |                         |           |              |
|-------|--------|-------|-------------------------|-----------|--------------|
| DIST. | COUNTY | ROUTE | POST MILE-TOTAL PROJECT | Sheet No. | Total Sheets |
| 04    | SM     | 92/82 |                         |           |              |

REGISTERED CIVIL ENGINEER  
 John C. Moore 6/19/2015  
 DATE

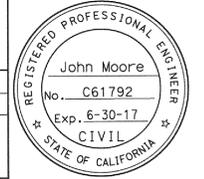
**ROUTE 92/82 INTERCHANGE RECONSTRUCTION PROJECT**

**LOG OF TEST BORINGS 5 OF 6**

|                    |       |              |            |
|--------------------|-------|--------------|------------|
| PROJ. No. & PHASE: | UNIT: | CONTRACT No. | BRIDGE No. |
| 04120004961        | 3650  | 04-235524    | N/A        |

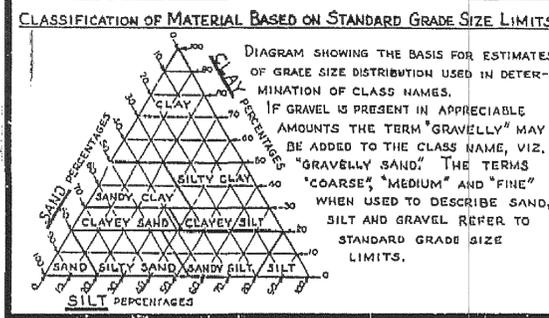
AS-BUILT VERT DATUM: N/A CONVERSION: N/A

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA



**AS BUILT PLANS**  
 Contract No. 62-4713C31  
 Date Completed \_\_\_\_\_  
 Document No. 4000 2491

DRAWN BY: M. Hearnsey 9-29-60  
 CHECKED BY: G. Miller 10-10-60  
 Approved: [Signature]  
 License No. [Number]  
 State of California



**LEGEND OF EARTH MATERIALS**

|                           |                            |
|---------------------------|----------------------------|
| GRAVEL                    | SILTY CLAY OR CLAYEY SILT  |
| SAND                      | PEAT AND/OR ORGANIC MATTER |
| SILT                      | FILL MATERIAL              |
| CLAY                      | IGNEOUS ROCK               |
| SANDY CLAY OR CLAYEY SAND | SEDIMENTARY ROCK           |
| SANDY SILT OR SILTY SAND  | METAMORPHIC ROCK           |

**LEGEND OF BORING OPERATIONS**

- PLAN OF ANY BORING
- PENETROMETER
- 2 1/4" CONE PENETROMETER
- SAMPLER BORING (DRY)
- ROTARY BORING (WET)
- AUGER BORING (DRY)
- JET BORING
- CORE BORING
- TEST PIT

**NOTE**

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 DIVISION OF HIGHWAYS

**PALM AVENUE UNDERCROSSING**

**LOG OF TEST BORINGS**

SCALE As Noted BRIDGE 35-150 FILE DRAWING 35-150-6

39

DATE APPROVED July 24, 1961

**DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES**

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| DIST. | COUNTY | ROUTE | POST MILE-TOTAL PROJECT | Sheet No. | Total Sheets |
|-------|--------|-------|-------------------------|-----------|--------------|
| 04    | SM     | 92/82 |                         |           |              |

REGISTERED CIVIL ENGINEER *John C. Moore* DATE 6/19/2015

**ROUTE 92/82 INTERCHANGE RECONSTRUCTION PROJECT**

**LOG OF TEST BORINGS 6 OF 6**

|                      |             |               |             |
|----------------------|-------------|---------------|-------------|
| PROJ. No. & PHASE:   | UNIT:       | CONTRACT No.: | BRIDGE No.: |
| N/A                  | 3650        | 04120004961   | 04-235524   |
| AS-BUILT VERT DATUM: | CONVERSION: | N/A           |             |
| N/A                  | N/A         | N/A           |             |

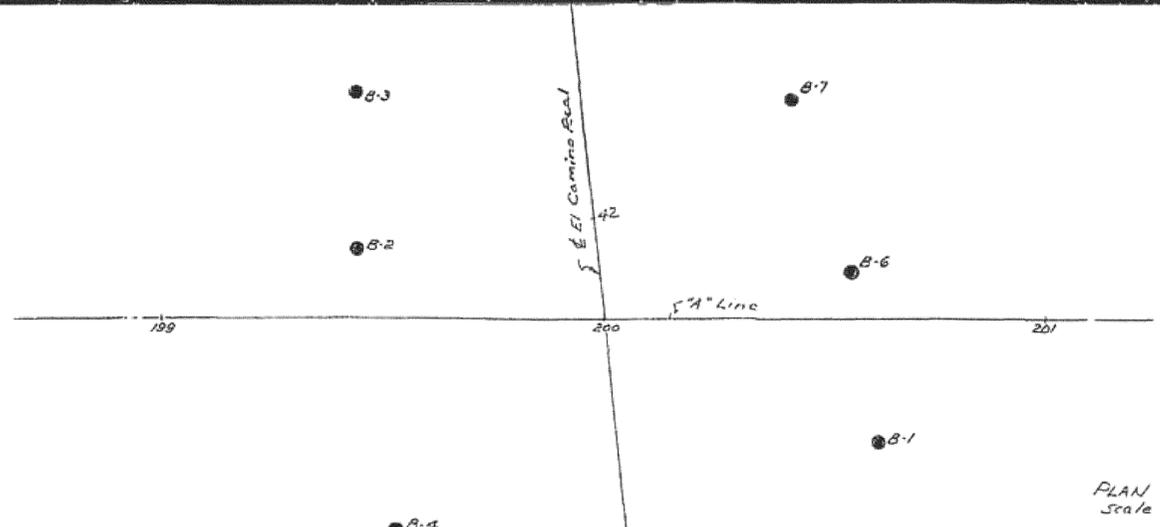
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA



**AS BUILT PLANS**  
 Contract No. 62-4713C31  
 Date Completed \_\_\_\_\_  
 Document No. 4000 2491

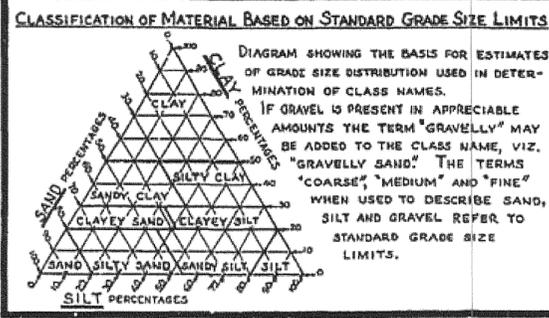
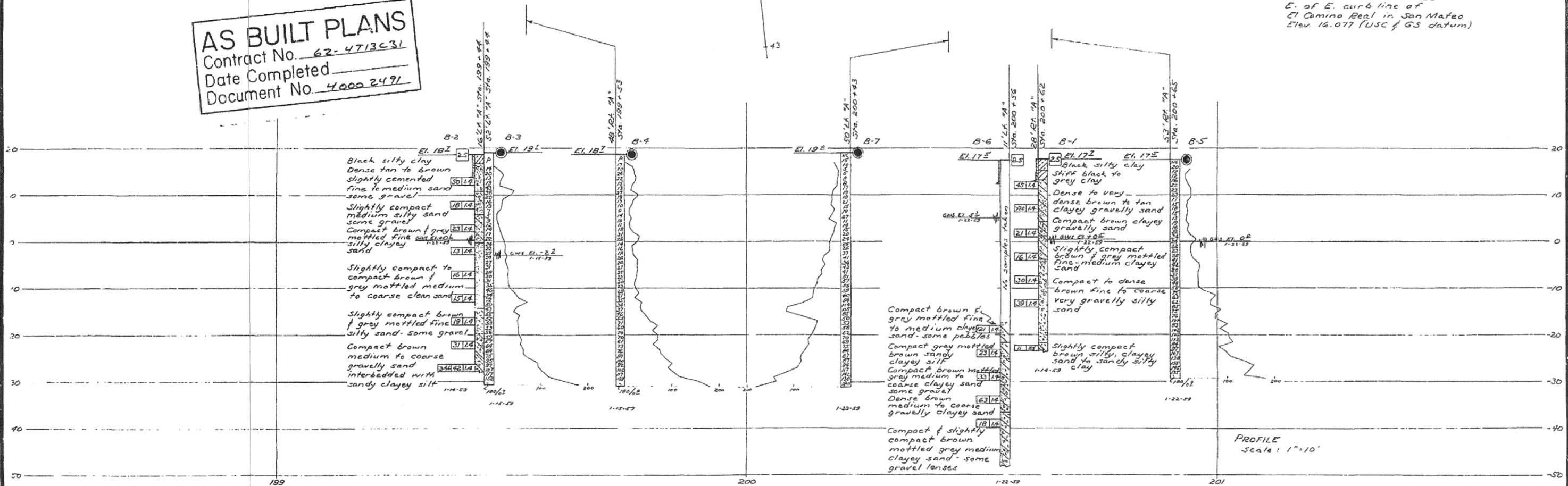
BRIDGE DEPARTMENT

Approved: \_\_\_\_\_  
 Checked: \_\_\_\_\_  
 Date: \_\_\_\_\_



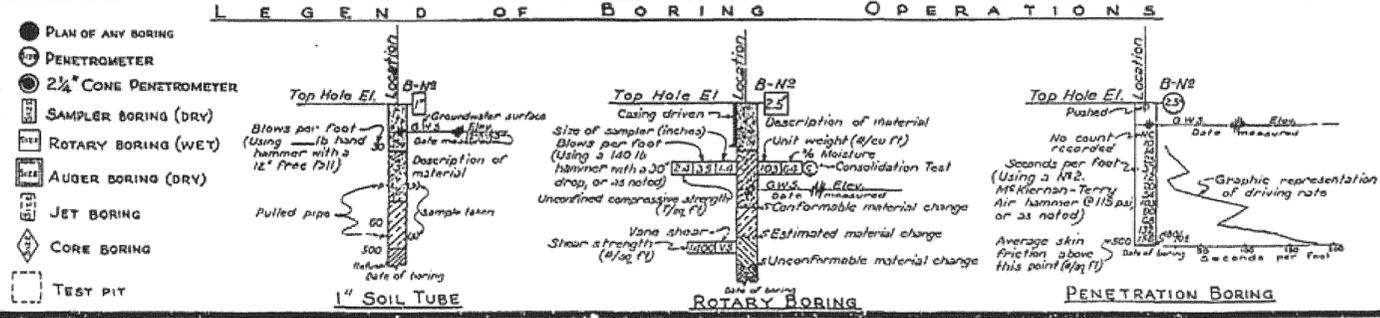
PLAN Scale: 1"=20'

BM "SM #8" Nail set in sidewalk on N. side of 19th Ave. 80's E. of E. curb line of El Camino Real in San Mateo Elev. 16.077 (USC & GS datum)



**LEGEND OF EARTH MATERIALS**

|                           |                            |
|---------------------------|----------------------------|
| GRAVEL                    | SILTY CLAY OR CLAYEY SILT  |
| SAND                      | PEAT AND/OR ORGANIC MATTER |
| SILT                      | FILL MATERIAL              |
| CLAY                      | IGNEOUS ROCK               |
| SANDY CLAY OR CLAYEY SAND | SEDIMENTARY ROCK           |
| SANDY SILT OR SILTY SAND  | METAMORPHIC ROCK           |



**NOTES**

The contractor's attention is directed to Section 2, Article (c) of the Standard Specifications and to the Special Provisions accompanying this set of plans. Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 DIVISION OF HIGHWAYS

ROUTE 92/82 SEPARATION  
 -ROUTE 105/2 SEPARATION

**LOG OF TEST BORINGS**

SCALE As Noted | BRIDGE 35-156 1/2 | FILE E-35 | DRAWING 055130-13

## APPENDIX B

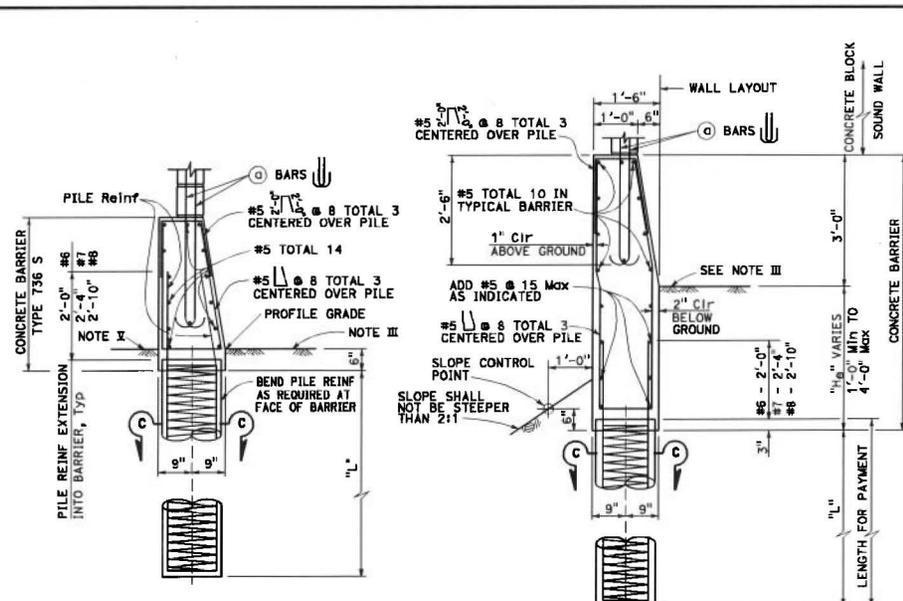
Revised Standard Plans RSP B15-6, B15-7, and B15-8

California Amendments to AASHTO LRFD Bridge Design Specifications – Sixth Edition,  
Article 10.7.2.4 – Horizontal Pile Foundation Movement

AASHTO LRFD Bridge Design Specifications – Seventh Edition,  
Article 10.7.2.4 – Horizontal Pile Foundation Movement

Group Equivalent Pile Analysis

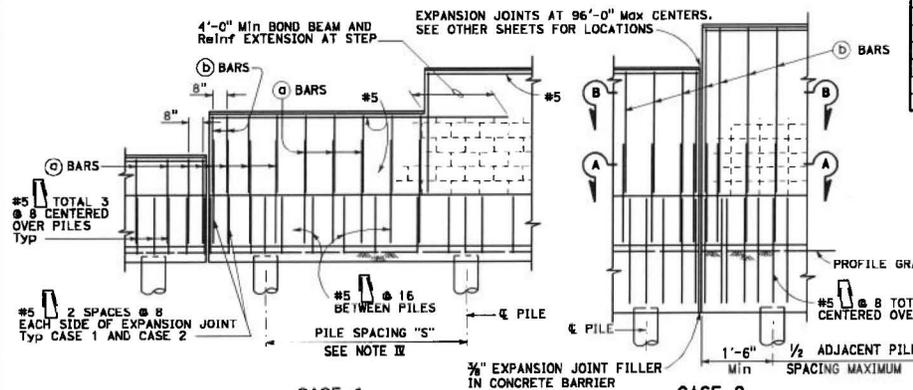
2010 Standard Plans S8 and S49



**CASE 1**  
For details not shown, See Case 2.  
Level ground  $\pm 10\%$  on both sides of barrier.

**CASE 2**  
For details not shown, See Case 1.  
Level ground  $\pm 10\%$  at the traffic side of barrier and sloping ground on the opposite side.

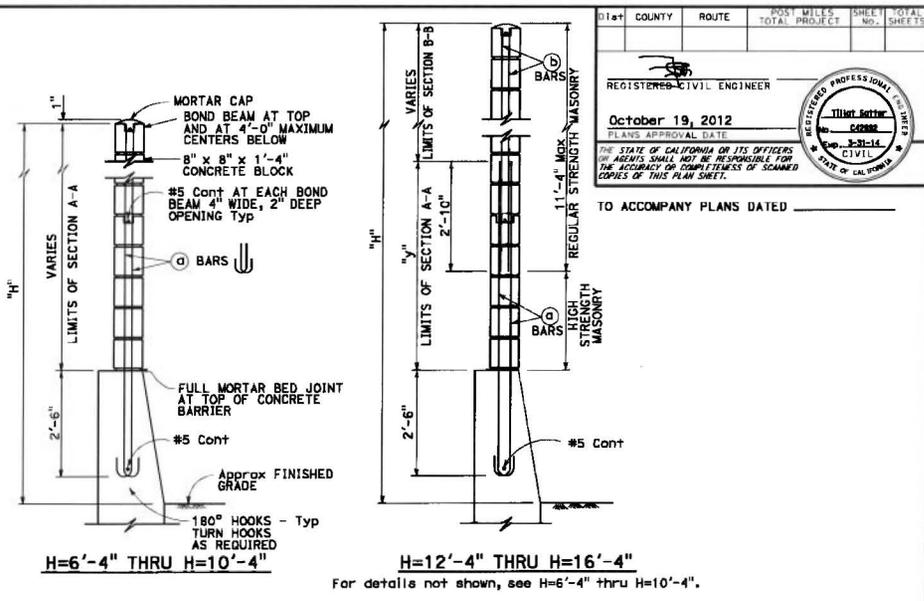
**BARRIER SECTIONS**



**CASE 1**  
For details not shown, See Case 2.

**CASE 2**  
For details not shown, See Case 1.

**PARTIAL ELEVATIONS**



**H=6'-4" THRU H=10'-4"**  
For details not shown, see H=6'-4" thru H=10'-4".

**H=12'-4" THRU H=16'-4"**  
For details not shown, see H=6'-4" thru H=10'-4".

**TYPICAL SECTIONS**

See Standard Plan B15-8 for pile details.

**SOUND WALL REINFORCEMENT TABLE**

| MAXIMUM H | (a) BARS<br>@ 1'-4" Max | (b) BARS<br>@ 1'-4" Max | "y"   | f'm<br>(psi) | COMPRESSIVE STRENGTH OF CMU (psi) | H      |
|-----------|-------------------------|-------------------------|-------|--------------|-----------------------------------|--------|
| 6'-4"     | #4                      | ---                     | ---   | 1500         | 1900                              | 6'-4"  |
| 8'-4"     | #4                      | ---                     | ---   | 1500         | 1900                              | 8'-4"  |
| 10'-4"    | #4                      | ---                     | ---   | 1500         | 1900                              | 10'-4" |
| 12'-4"    | #5                      | #4                      | 5'-0" | 1500         | 1900                              | 12'-4" |
| 14'-4"    | #6                      | #4                      | 7'-0" | 1500         | 1900                              | 14'-4" |
| 16'-4"    | #6                      | #4                      | 9'-0" | 2500         | 3750                              | 16'-4" |

**NOTES I THROUGH VI:**

- I. Details shown are primarily to conform design of sound walls to Type 736S and Type 736 SV Concrete Barriers. For sound wall details conforming with barriers see Standard Plans B15-7 and B15-8.
- II. For details and sections not shown, see Standard Plans B15-7 and B15-8.
- III. Slope ground at traffic side of barrier to drain. Maximum slope  $\pm 10\%$ . See Std Plan B11-56, Note 3.
- IV. Pile spacing may be varied, but shall not exceed the tabular values. See Standard Plan B15-8.
- V. For Case 1 - ground line to be at the same elevation on both sides of the barrier. Barrier shall not be used to retain earth.
- VI. See Standard Plan B15-9 for other details.

**NOTES A THROUGH F:**

- A. For type of block, type of block bond, and joint finish, see other sheets.
- B. When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams.
- C. Horizontal joints shall be tooled concave or may be weathered. Vertical joints shall be tooled concave or may be raked.
- D. For intermediate wall heights (H), or barrier depths (H<sub>a</sub>), that are between the values given, use the tabular information for the next higher (H) or (H<sub>a</sub>).
- E. Concrete to be used for the barrier shall contain not less than 590 pounds of cementitious material per cubic yard.
- F. Masonry strengths are listed in the "SOUND WALL REINFORCEMENT TABLE".

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**SOUND WALL  
MASONRY BLOCK ON  
TYPE 736S/SV BARRIER  
DETAILS (1)**

NO SCALE

RSP B15-6 DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN B15-6 DATED MAY 20, 2011 PAGE 320 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP B15-6**

|       |        |       |                          |           |              |
|-------|--------|-------|--------------------------|-----------|--------------|
| Dist# | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|       |        |       |                          |           |              |

REGISTERED CIVIL ENGINEER

October 19, 2012

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA ON ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED \_\_\_\_\_



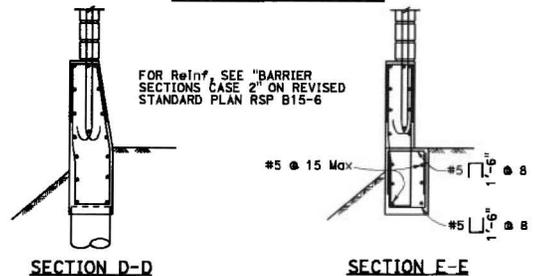
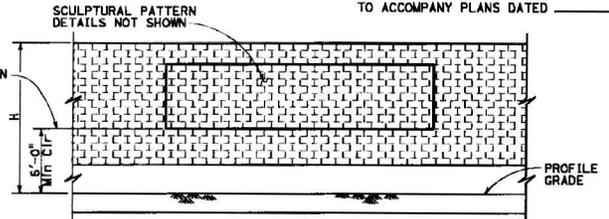
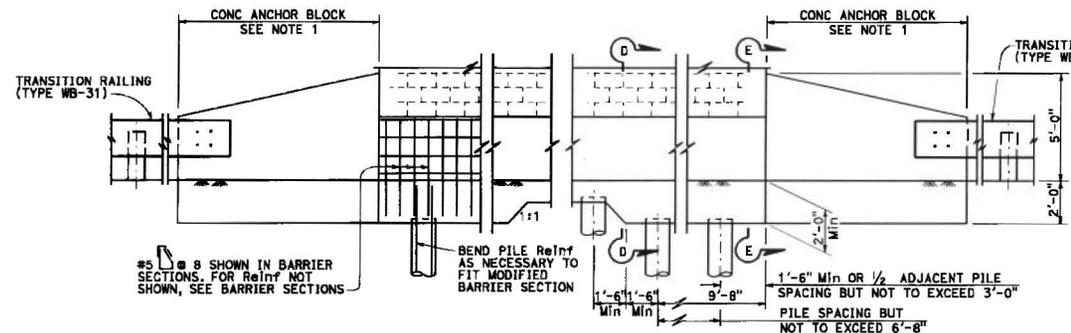
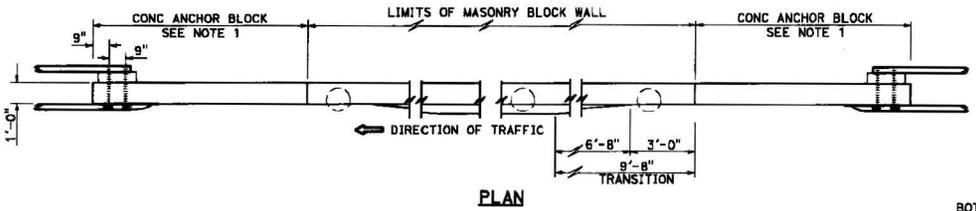
|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|      |        |       |                          |           |              |

REGISTERED CIVIL ENGINEER

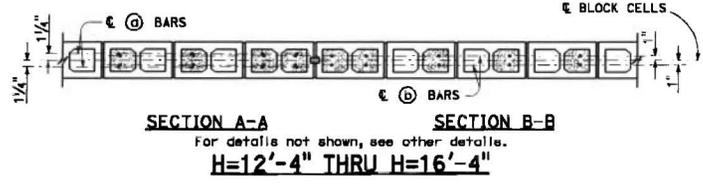
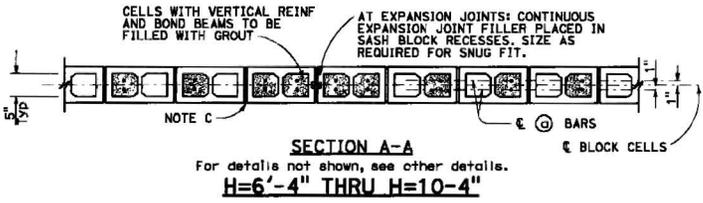
November 15, 2013  
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED \_\_\_\_\_



**MIDWEST GUARDRAIL SYSTEM ANCHORAGE**  
For details not shown, see Revised Standard Plan RSP B11-56.



**NOTE:**  
1. For concrete Anchor Block and connection details, see "connection Detail DD" on Revised Standard Plan RSP A77U3.

**DESIGN NOTES:**

**DESIGN**  
Uniform Building Code, 1997 Edition and the Bridge Design Specifications.

**DESIGN WIND LOAD**  
27 psf

**DESIGN SEISMIC LOAD**  
0.57 Dead load

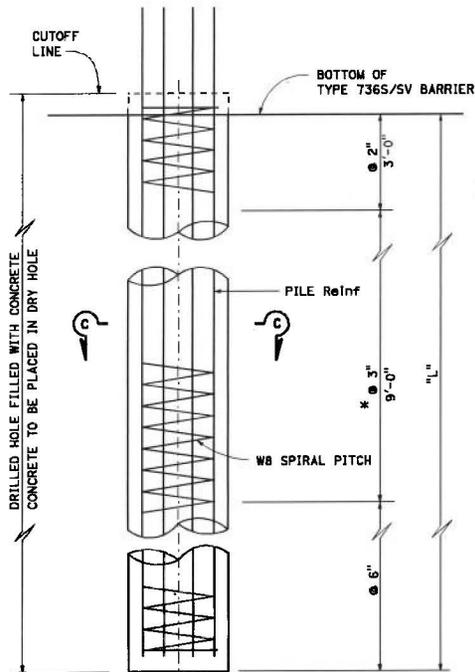
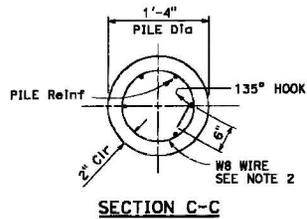
**REINFORCED CONCRETE**  
f'c = 3.6 ksi  
fy = 60 ksi

| CONCRETE MASONRY |                 |                 |
|------------------|-----------------|-----------------|
| REGULAR STRENGTH | HIGH STRENGTH   |                 |
| f'm = 1500 psi   | f'm = 2000 psi  | f'm = 2500 psi  |
| fb = 495 psi     | fb = 660 psi    | fb = 830 psi    |
| fs = 24,000 psi  | fs = 24,000 psi | fs = 24,000 psi |
| n = 25.8         | n = 19.3        | n = 15.5        |

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (2)**  
NO SCALE

RSP B15-7 DATED NOVEMBER 15, 2013 SUPERSEDES RSP B15-7 DATED JULY 19, 2013 AND STANDARD PLAN B15-7 DATED MAY 20, 2011 - PAGE 321 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP B15-7**



**ELEVATION**  
\* @ 2' at option of Contractor.

**CASE 1: PILE DATA TABLE**

| MAXIMUM H | φ = 25 Min |        |            | φ = 30 Min |        |            | φ = 35 Min |       |            | MAXIMUM H |
|-----------|------------|--------|------------|------------|--------|------------|------------|-------|------------|-----------|
|           | S          | L      | PILE Reinf | S          | L      | PILE Reinf | S          | L     | PILE Reinf |           |
| 6'-4"     | 10'-0"     | 8'-6"  | #6 Tot 6   | 10'-0"     | 7'-0"  | #6 Tot 6   | 10'-0"     | 6'-0" | #6 Tot 6   | 6'-4"     |
| 8'-4"     | 10'-0"     | 9'-6"  | #6 Tot 6   | 10'-0"     | 8'-0"  | #6 Tot 6   | 10'-0"     | 7'-0" | #6 Tot 6   | 8'-4"     |
| 10'-4"    | 10'-0"     | 10'-6" | #6 Tot 6   | 10'-0"     | 9'-0"  | #6 Tot 6   | 10'-0"     | 7'-6" | #6 Tot 6   | 10'-4"    |
| 12'-4"    | 10'-0"     | 11'-6" | #7 Tot 6   | 10'-0"     | 9'-6"  | #7 Tot 6   | 10'-0"     | 8'-6" | #6 Tot 6   | 12'-4"    |
| 14'-4"    | 10'-0"     | 12'-6" | #7 Tot 7   | 10'-0"     | 10'-6" | #7 Tot 7   | 10'-0"     | 9'-0" | #7 Tot 7   | 14'-4"    |
| 16'-4"    | 10'-0"     | 13'-0" | #8 Tot 7   | 10'-0"     | 11'-6" | #8 Tot 7   | 10'-0"     | 9'-6" | #7 Tot 7   | 16'-4"    |

**CASE 2: PILE DATA TABLE**

| H <sub>b</sub> | MAXIMUM H | φ = 30 Min |        |            | φ = 35 Min |        |            | MAXIMUM H |
|----------------|-----------|------------|--------|------------|------------|--------|------------|-----------|
|                |           | S          | L      | PILE Reinf | S          | L      | PILE Reinf |           |
| 1'-0"          | 6'-4"     | 10'-0"     | 15'-0" | #7 Tot 6   | 10'-0"     | 12'-0" | #6 Tot 6   | 6'-4"     |
|                | 8'-4"     | 9'-9"      | 16'-0" | #7 Tot 6   | 10'-0"     | 13'-0" | #7 Tot 6   | 8'-4"     |
|                | 10'-4"    | 8'-0"      | 16'-0" | #7 Tot 6   | 10'-0"     | 14'-0" | #7 Tot 6   | 10'-4"    |
|                | 12'-4"    | 6'-9"      | 16'-0" | #7 Tot 6   | 10'-0"     | 15'-0" | #8 Tot 7   | 12'-4"    |
|                | 14'-4"    | 5'-9"      | 16'-0" | #7 Tot 6   | 9'-6"      | 15'-6" | #8 Tot 7   | 14'-4"    |
| 2'-0"          | 6'-4"     | 5'-0"      | 16'-0" | #7 Tot 6   | 8'-9"      | 16'-0" | #8 Tot 7   | 16'-4"    |
|                | 8'-4"     | 8'-3"      | 16'-0" | #7 Tot 6   | 10'-0"     | 13'-6" | #7 Tot 6   | 6'-4"     |
|                | 8'-4"     | 7'-0"      | 16'-0" | #7 Tot 6   | 10'-0"     | 14'-6" | #7 Tot 7   | 8'-4"     |
|                | 10'-4"    | 6'-0"      | 16'-0" | #7 Tot 6   | 10'-0"     | 15'-3" | #8 Tot 7   | 10'-4"    |
|                | 12'-4"    | 5'-3"      | 16'-0" | #7 Tot 6   | 9'-9"      | 16'-0" | #8 Tot 7   | 12'-4"    |
| 3'-0"          | 14'-4"    | 4'-6"      | 16'-0" | #7 Tot 6   | 8'-4"      | 16'-0" | #8 Tot 7   | 14'-4"    |
|                | 16'-4"    | 4'-0"      | 16'-0" | #7 Tot 6   | 7'-4"      | 16'-0" | #8 Tot 7   | 16'-4"    |
|                | 6'-4"     | 6'-0"      | 16'-0" | #7 Tot 6   | 10'-0"     | 15'-3" | #8 Tot 7   | 6'-4"     |
|                | 8'-4"     | 5'-3"      | 16'-0" | #7 Tot 6   | 10'-0"     | 16'-0" | #8 Tot 7   | 8'-4"     |
|                | 10'-4"    | 4'-6"      | 16'-0" | #7 Tot 6   | 8'-10"     | 16'-0" | #8 Tot 7   | 10'-4"    |
| 4'-0"          | 12'-4"    | 4'-0"      | 16'-0" | #7 Tot 6   | 7'-10"     | 16'-0" | #8 Tot 7   | 12'-4"    |
|                | 14'-4"    | 3'-6"      | 16'-0" | #7 Tot 6   | 6'-10"     | 16'-0" | #8 Tot 7   | 14'-4"    |
|                | 16'-4"    | 3'-3"      | 16'-0" | #7 Tot 6   | 6'-2"      | 16'-0" | #8 Tot 7   | 16'-4"    |
|                | 6'-4"     | 4'-3"      | 16'-0" | #7 Tot 6   | 8'-0"      | 15'-6" | #8 Tot 7   | 6'-4"     |
|                | 8'-4"     | 3'-10"     | 16'-0" | #7 Tot 6   | 7'-4"      | 15'-9" | #8 Tot 7   | 8'-4"     |
| 4'-0"          | 10'-4"    | 3'-6"      | 16'-0" | #7 Tot 6   | 6'-10"     | 16'-0" | #8 Tot 7   | 10'-4"    |
|                | 12'-4"    | 3'-2"      | 16'-0" | #7 Tot 6   | 6'-3"      | 16'-0" | #8 Tot 7   | 12'-4"    |
|                | 14'-4"    | 3'-0"      | 16'-3" | #7 Tot 6   | 5'-8"      | 16'-0" | #8 Tot 7   | 14'-4"    |
|                | 16'-4"    | 2'-10"     | 16'-6" | #7 Tot 6   | 5'-0"      | 16'-0" | #8 Tot 7   | 16'-4"    |

**NOTES:**

- For details not shown, see Standard Plans B15-6 and B15-7.
- Lapped splices in spiral reinforcement shall be lapped at least 80 wire diameters. Spiral reinforcement at splices and at ends shall be terminated with a 135° hook with a 6" tail hooked around a longitudinal bar.

|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| D149 | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|      |        |       |                          |           |              |

REGISTERED CIVIL ENGINEER

May 20, 2011  
PLANS APPROVAL DATE

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STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**SOUND WALL MASONRY BLOCK  
ON TYPE 736S/SV BARRIER  
DETAILS (3)**

NO SCALE

**B15-8**

**10.7.2.4—Horizontal Pile Foundation  
 Movement**

**C10.7.2.4**

Revise Table as follows:

**Table 10.7.2.4-1 Pile P-Multipliers,  $P_m$  for Multiple Row Shading (average from Hannigan et al., 2005).**

| Pile CTC spacing (in the Direction of Loading) | P-Multipliers, $P_m$ |                 |                 |
|--|----------------------|-----------------|-----------------|
|  | Row 1                | Row 2           | Row 3           |
| <u>2.0B</u>                                    | <u>0.60</u>          | <u>0.35</u>     | <u>0.25</u>     |
| <u>3.0B</u>                                    | <u>0.75 0.8</u>      | <u>0.55 0.4</u> | <u>0.40 0.3</u> |
| <u>5.0B</u>                                    | <u>1.0</u>           | <u>0.85</u>     | <u>0.70</u>     |
| <u>7.0B</u>                                    | <u>1.0</u>           | <u>1.0</u>      | <u>0.90</u>     |

Revise the 7<sup>th</sup> Paragraph as follows:

Loading direction and spacing shall be taken as defined in Figure 10.7.2.4-1. A P-multiplier of 1.0 shall be used for pile CTC spacing of 8B or greater. If the loading direction for a single row of piles is perpendicular to the row (bottom detail in the Figure), a P-multiplier group reduction factor of less than 1.0 shall only be used if the pile spacing is 54B or less; i.e., a Pm of 0.8 for a spacing of 3B, as shown in Figure 10.7.2.4-1. A P-multiplier of 0.80, 0.90 and 1.0 shall be used for pile spacing of 2.5B, 3B and 4B, respectively.

Revise the 6<sup>th</sup> Paragraph as follows:

The multipliers on the pile rows are a topic of current research and may change in the future. Values from recent research have been tabulated by compiled from Reese and Van Impe (2000), Caltrans (2003), Hannigan et al. (2006), and Rollins et al. (2006).

- $I$  = influence factor of the effective group embedment (dim)
- $D'$  = effective depth taken as  $2D_b/3$  (ft)
- $D_b$  = depth of embedment of piles in layer that provides support, as specified in Figure 10.7.2.3.1-1 (ft)
- $N_{160}$  = *SPT* blow count corrected for both overburden and hammer efficiency effects (blows/ft) as specified in Article 10.4.6.2.4.
- $q_c$  = static cone tip resistance (ksf)

Alternatively, other methods for computing settlement in cohesionless soil, such as the Hough method as specified in Article 10.6.2.4.2 may also be used in connection with the equivalent footing approach.

The corrected *SPT* blow count or the static cone tip resistance should be averaged over a depth equal to the pile group width  $B$  below the equivalent footing. The *SPT* and *CPT* methods (Eqs. 10.7.2.3.2-1 and 10.7.2.3.2-2) shall only be considered applicable to the distributions shown in Figure 10.7.2.3.1-1b and Figure 10.7.2.3.1-2.

#### 10.7.2.4—Horizontal Pile Foundation Movement

Horizontal movement induced by lateral loads shall be evaluated. The provisions of Article 10.5.2.1 shall apply regarding horizontal movement criteria.

The horizontal movement of pile foundations shall be estimated using procedures that consider soil-structure interaction. Tolerable horizontal movements of piles shall be established on the basis of confirming compatible movements of structural components, e.g., pile to column connections, for the loading condition under consideration.

The effects of the lateral resistance provided by an embedded cap may be considered in the evaluation of horizontal movement.

The orientation of nonsymmetrical pile cross-sections shall be considered when computing the pile lateral stiffness.

Lateral resistance of single piles may be determined by static load test. If a static lateral load test is to be performed, it shall follow the procedures specified in ASTM D3966.

The effects of group interaction shall be taken into account when evaluating pile group horizontal movement. When the  $P$ - $y$  method of analysis is used, the values of  $P$  shall be multiplied by  $P$ -multiplier values,  $P_m$ , to account for group effects. The values of  $P_m$  provided in Table 10.7.2.4-1 should be used.

#### C10.7.2.4

Pile foundations are subjected to lateral loads due to wind, traffic loads, bridge curvature, vessel or traffic impact and earthquake. Batter piles are sometimes used but they are somewhat more expensive than vertical piles, and vertical piles are more effective against dynamic loads.

Methods of analysis that use manual computation were developed by Broms (1964a and 1964b). They are discussed in detail by Hannigan et al. (2006). Reese developed analysis methods that model the horizontal soil resistance using  $P$ - $y$  curves. This analysis has been well developed and software is available for analyzing single piles and pile groups (Reese, 1986; Williams et al., 2003; and Hannigan et al., 2006).

Deep foundation horizontal movement at the foundation design stage may be analyzed using computer applications that consider soil-structure interaction. Application formulations are available that consider the total structure including pile cap, pier and superstructure (Williams et al., 2003).

If a lateral static load test is used to assess the site specific lateral resistance of a pile, information on the methods of analysis and interpretation of lateral load tests presented in the *Handbook on Design of Piles and Drilled Shafts Under Lateral Load*, Reese (1984) and *Static Testing of Deep Foundations*, Kyfor et al. (1992) should be used.

Table 10.7.2.4-1—Pile P-Multipliers,  $P_m$ , for Multiple Row Shading (averaged from Hannigan et al., 2006)

| Pile CTC spacing (in the direction of loading) | P-Multipliers, $P_m$ |       |                  |
|--|----------------------|-------|------------------|
|  | Row 1                | Row 2 | Row 3 and higher |
| $3B$   | 0.8                  | 0.4   | 0.3              |
| $5B$   | 1.0                  | 0.85  | 0.7              |

Loading direction and spacing shall be taken as defined in Figure 10.7.2.4-1. If the loading direction for a single row of piles is perpendicular to the row (bottom detail in the Figure), a group reduction factor of less than 1.0 should only be used if the pile spacing is  $5B$  or less, i.e., a  $P_m$  of 0.8 for a spacing of  $3B$ , as shown in Figure 10.7.2.4-1.

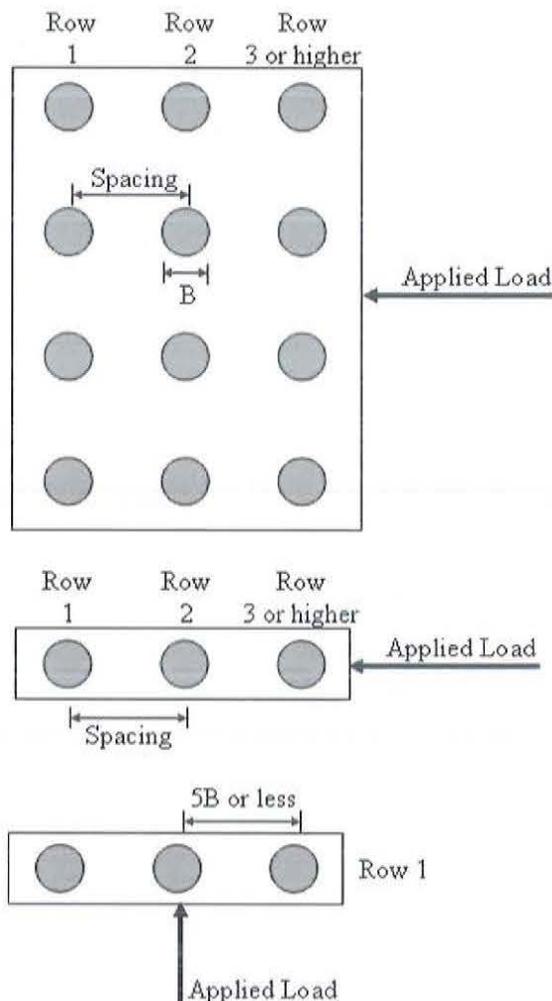


Figure 10.7.2.4-1—Definition of Loading Direction and Spacing for Group Effects

Since many piles are installed in groups, the horizontal resistance of the group has been studied and it has been found that multiple rows of piles will have less resistance than the sum of the single pile resistance. The front piles “shade” rows that are further back.

The P-multipliers,  $P_m$ , in Table 10.7.2.4-1 are a function of the center-to-center (CTC) spacing of piles in the group in the direction of loading expressed in multiples of the pile diameter,  $B$ . The values of  $P_m$  in Table 10.7.2.4-1 were developed for vertical piles only.

Lateral load tests have been performed on pile groups, and multipliers have been determined that can be used in the analysis for the various rows. Those multipliers have been found to depend on the pile spacing and the row number in the direction of loading. To establish values of  $P_m$  for other pile spacing values, interpolation between values should be conducted.

The multipliers are a topic of current research and may change in the future. Values from recent research have been tabulated by Hannigan et al. (2006).

Note that these  $P$ - $y$  methods generally apply to foundation elements that have some ability to bend and deflect. For large diameter, relatively short foundation elements, e.g., drilled shafts or relatively short stiff piles, the foundation element rotates rather than bends, in which case strain wedge theory (Norris, 1986; Ashour et al., 1998) may be more applicable. When strain wedge theory is used to assess the lateral load response of groups of short, large diameter piles or shaft groups, group effects should be addressed through evaluation of the overlap between shear zones formed due to the passive wedge that develops in front of each shaft in the group as lateral deflection increases. Note that  $P_m$  in Table 10.7.2.4-1 is not applicable if strain wedge theory is used.

Batter piles provide a much stiffer lateral response than vertical piles when loaded in the direction of the batter.

**GROUP EQUIVALENT PILE ANALYSIS / DISTRIBUTION TO SINGLE PILE DONE AFTER**

Single Pile Moment of Inertia = 16286 in4  
 Equivalent Single Pile Inertia factor for Group and Tributary Effects = 1.39  
 Equivalent Inertia = 22706.5 in4  
 Equivalent Diameter = 26.1 inch  
 Equivalet Area = 534.2 in2  
 Group Shear Vu at top = 71.5 kips  
 Group Axial Vu at top = 180 kips

**L-PILE MODEL INPUT**

**Pile Section Properties**

| Row | Depth (in) | Diameter (in) | Mom. of Inertia (in <sup>4</sup> ) | Area (in <sup>2</sup> ) | Mod. of Elasticity (lbs/in <sup>2</sup> ) |
|-----|------------|---------------|------------------------------------|-------------------------|---|
| 1   | 0          | 26            | 22706                              | 534                     | 3600000                                   |
| 2   | 480        | 26            | 22706                              | 534                     | 3600000                                   |

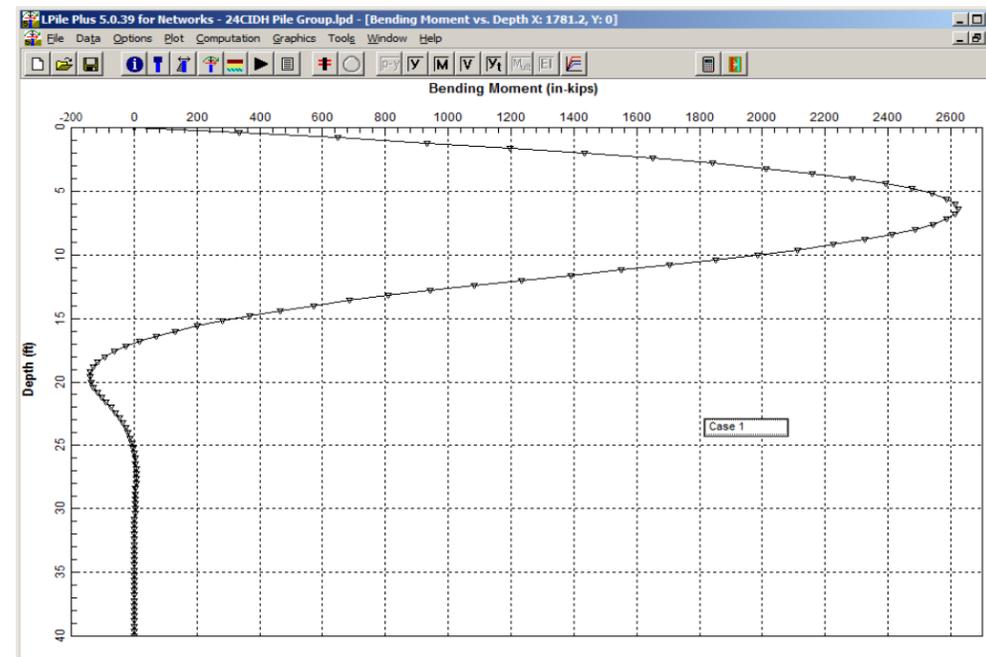
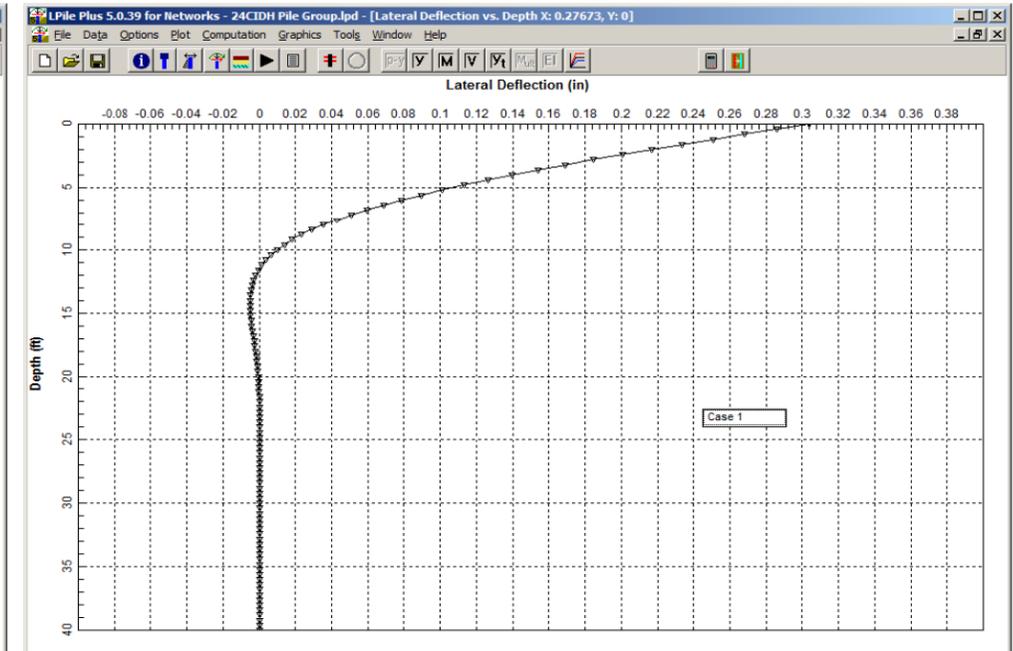
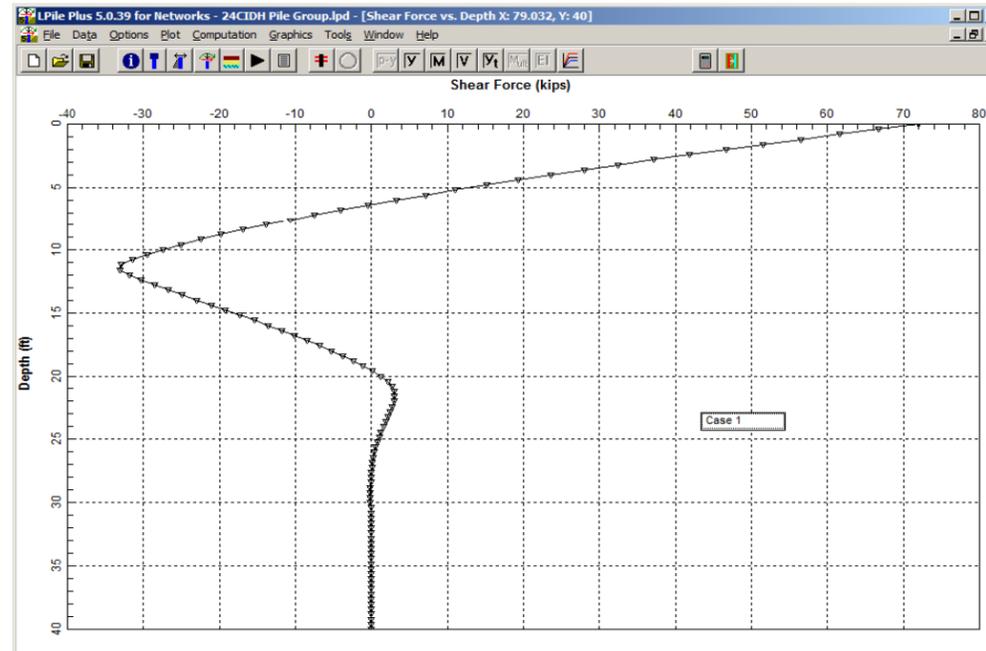
**Pile-Head Boundary Conditions & Loading**

|   | Pile-Head Conditions         | Condition 1 | Condition 2 | Axial Load (lbs) |
|---|------------------------------|-------------|-------------|------------------|
| 1 | 1 Shear [F] & 2 Moment [F-L] | 72000       | 0           | 180000           |

**Stiff Clay w/o Free Water 1**

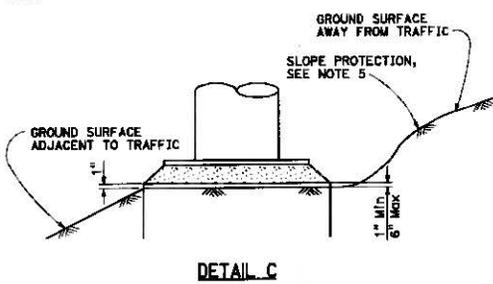
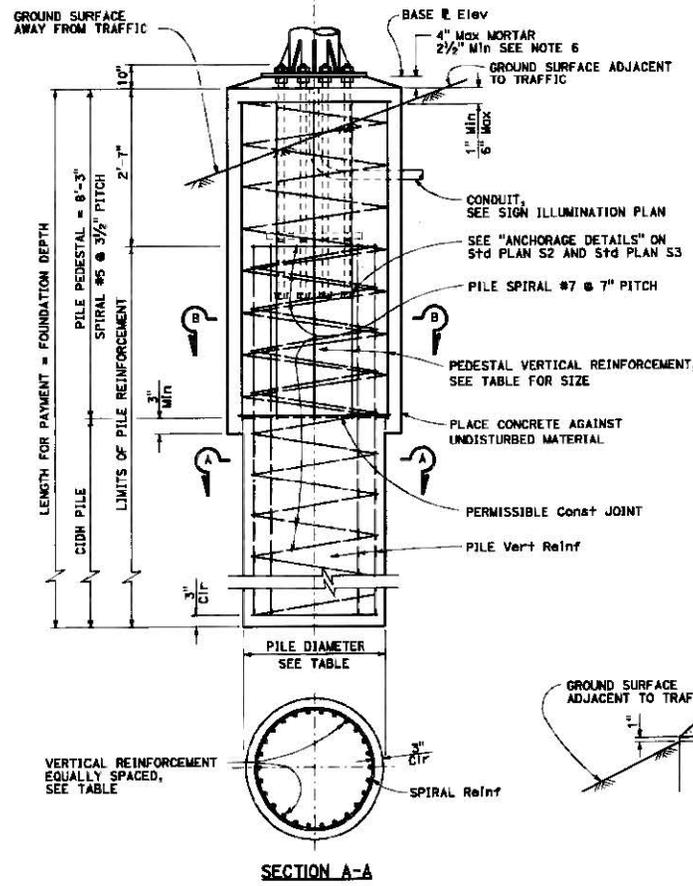
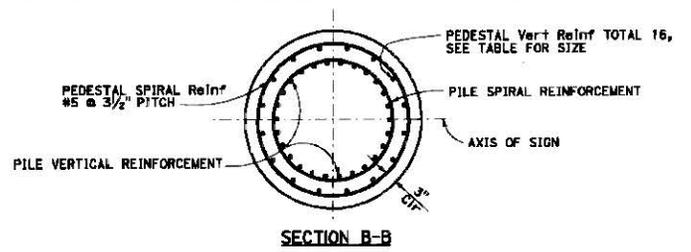
| 1=Top, 2=Bottom | Eff. Unit Weight, (lbs/in <sup>3</sup> ) | Undrained Cohesion, c, (lbs/in <sup>2</sup> ) | Strain Factor, E50 |
|-----------------|--|---|--------------------|
| 1               | 125                                      | 10.4  | 0.007              |
| 2               | 125                                      | 10.4  | 0.007              |

L-Pile linearly interpolates with depth to compute values between the top and bottom of the layer. L-Pile will use default values for E50 if the input value equals zero.



Mu Max = 2620 kips - in  
 218.3 kips - ft

**Mu Demand per Pile = 156.6 k-ft**



| POST TYPE No. | ANCHOR BOLTS |                    |              | ROUND PILE PEDESTAL |                      |          |          | CIDH PILE |          |                      |          | FOUNDATION DEPTH ** |          |        |
|---------------|--------------|--------------------|--------------|---------------------|----------------------|----------|----------|-----------|----------|----------------------|----------|---------------------|----------|--------|
|               | BOLT CIRCLE  | BOLT TOTAL AND Dia | TOTAL LENGTH | Dia                 | VERTICAL REINFORCING |          | SPIRAL   |           | PILE Dia | VERTICAL REINFORCING |          |                     | SPIRAL   |        |
|               |              |                    |              |                     | TOTAL                | BAR SIZE | BAR SIZE | PITCH     |          | TOTAL                | BAR SIZE |                     | BAR SIZE | PITCH  |
| II            | 2'-0"        | 12-2"              | 4'-2"        | 5'-3"               | 16                   | #10      | #5       | 3 1/2"    | 4'-6"    | 28                   | #10      | #5                  | 3 1/2"   | 14'-9" |
| III           | 2'-0"        | 12-2"              |              |                     |                      |          |          |           |          |                      |          |                     |          | 16'-0" |
| IV            | 2'-0"        | 12-2"              |              |                     |                      |          |          |           |          |                      |          |                     |          | 18'-0" |
| V             | 2'-10"       | 14-2"              |              |                     |                      |          |          |           |          |                      |          |                     |          | 19'-0" |
| VI            |              | 16-2 1/2"          | 5'-0"        | 5'-9"               |                      | #11      |          |           | 5'-0"    | 28                   | #11      |                     |          | 22'-0" |
| VII           |              |                    |              |                     |                      |          |          |           |          |                      |          |                     |          | 23'-0" |
| VIII          |              |                    |              |                     |                      |          |          |           |          |                      |          |                     |          | 25'-0" |

\*\* Use Foundation Depth shown in table unless otherwise shown on the Project Plans.

- NOTES:**
1. For anchor bolt layout, see Standard Plan S3.
  2. For "Base E elevation" see Project Plans.
  3. Prior to erection of the post, backfill which is equivalent to the surrounding material shall be in place.
  4. Pedestal shall be formed 6" minimum below ground surface. Remainder to be placed against undisturbed material.
  5. Slope protection required when indicated on the Project Plans.
  6. For drain holes and central void in mortar see Standard Plan ES-68 detail N.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**OVERHEAD SIGNS-TRUSS  
SINGLE POST TYPE  
ROUND PEDESTAL PILE FOUNDATION**  
NO SCALE

STATE COUNTY ROUTE TOTAL PROJECT SHEET NO. S8E-13

*Henry P. Johnson*  
REGISTERED CIVIL ENGINEER

May 20, 2011  
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA DEPT. OF TRANSPORTATION  
THE AGENT SHALL MEET BY RESPONSIBLE FOR  
THE ACCURACY OF ALL DIMENSIONS OF DRAWINGS  
MADE OF THIS PLAN SHEET.

Henry P. Johnson  
CIVIL  
CIVIL

| POST | PILE FOUNDATION | SPREAD FOOTING  |                        |               |                |               |                        |     |        |   |     |
|------|-----------------|-----------------|------------------------|---------------|----------------|---------------|------------------------|-----|--------|---|-----|
|      |                 | PEDESTAL        | FOOTING WIDTH x LENGTH | REINFORCEMENT |                |               |                        |     |        |   |     |
| NPS  | "x"             | PEDESTAL        | PILE Dia               | PILE DEPTH    | VERTICAL Reinf | PEDESTAL      | FOOTING WIDTH x LENGTH | TOP | BOTTOM | L | BAR |
| 6    | 1/2"            | 2'-10" x 2'-10" | 30"                    | 10'-0"        | #6             | 2'-6" x 2'-6" | 4'-0" x 6'-0"          | #5  | #5     |   | #5  |
| 6    | 3/4"            |                 |                        | 10'-0"        | #6             |               | 4'-0" x 7'-0"          |     |        |   |     |
| 8    | 5/8"            |                 |                        | 10'-0"        | #6             |               | 5'-0" x 8'-0"          |     |        |   |     |
| 8    | 1/2"            |                 |                        | 11'-0"        | #7             |               | 6'-0" x 9'-0"          |     |        |   |     |
| 10   |                 | 3'-4" x 3'-4"   | 36"                    | 13'-0"        | #8             | 3'-0" x 3'-0" | 7'-0" x 10'-0"         |     |        |   | #8  |
| 12   |                 |                 |                        | 15'-0"        | #10            |               | 7'-0" x 12'-0"         | #6  | #8     |   |     |
| 14   |                 |                 |                        | 15'-0"        | #10            |               | 7'-0" x 13'-0"         | #8  | #9     |   |     |
| 14   | 3/4"            |                 |                        | 16'-0"        | #10            |               | 8'-0" x 14'-0"         | #8  | #9     |   |     |

"x" = WALL THICKNESS

**NOTES:**

1. Backfill shall be in place prior to erection of post.
2. Slope protection required when indicated on the plans.
3. Pile pedestal shall be formed 6" minimum below ground surface. Remainder to be placed against undisturbed material.

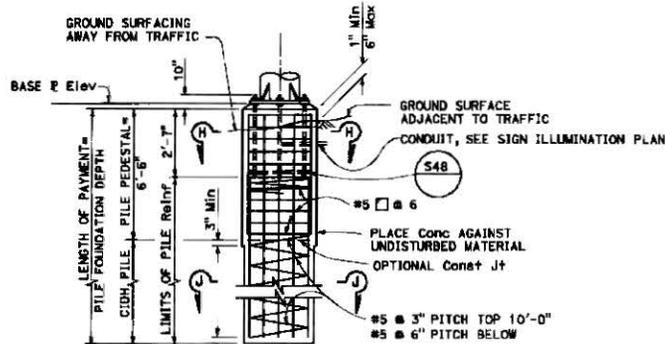
|       |        |       |     |      |       |       |
|-------|--------|-------|-----|------|-------|-------|
| STATE | COUNTY | ROUTE | ROW | DTES | SHEET | TOTAL |
|       |        |       |     |      |       |       |

REGISTERED CIVIL ENGINEER

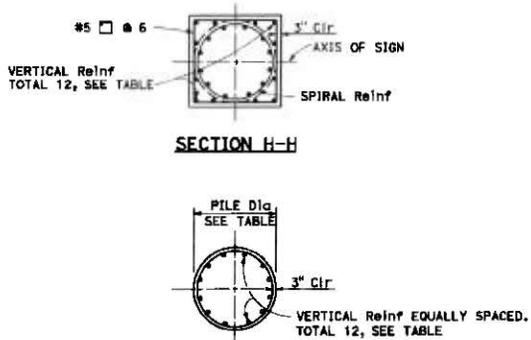
May 20, 2011

THIS IS AN APPROVAL DATE

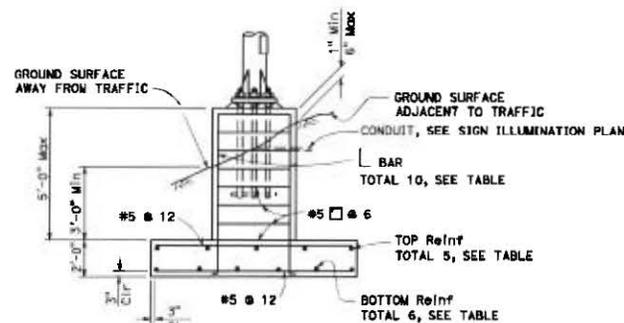
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF STAMPED COPIES OF THIS PLAN SHEET.



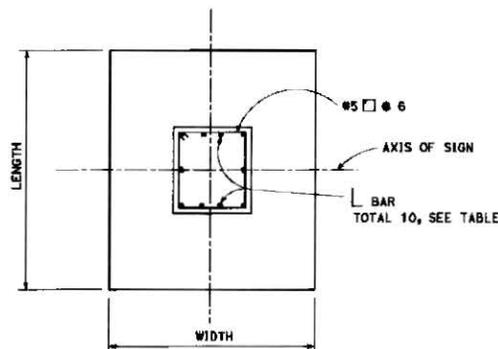
**ELEVATION**



**SECTION H-H**  
**SECTION J-J**  
**6 NPS THRU 14 NPS POSTS**  
**PILE FOUNDATION**



**ELEVATION**



**PLAN**  
**SPREAD FOOTING**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**OVERHEAD SIGNS-LIGHTWEIGHT**  
**FOUNDATION DETAILS**  
NO SCALE

# Memorandum

*Serious drought.  
Help Save Water!*

To: ABOLFAZL EMADZADEH  
District Branch Chief  
Office Design South-Peninsula

Date: May 13, 2015

File: 04-SM-92/82  
PM 11-11.5/10.3-10.7  
EA: 04-235520  
Proj. ID 0412000496  
Route 92/82 Interchange  
Improvement Project

Attention: Ravi Singh



From:  KAN WONG, P.E.  
Materials Design Engineer  
Engineering Services – Materials B

Concurred by:  RICHARD CHAN, P.E.  
District Materials Engineer  
Branch Chief, Materials B

Subject: **MATERIALS RECOMMENDATION FOR TEMPORARY PAVEMENT**

This memo is a supplement to our previous Materials Recommendations and in response to your email request on May 6, 2015 requesting materials recommendation for temporary roadway pavement sections for stage construction. Previously, we have provided the following materials recommendations for this project:

1. Widening and New Construction of Ramps (dated February 21, 2013)
2. CHP Enforcement Areas and MVPs (dated September 21, 2013)
3. Route 92/82 Roadway Structural Sections (dated February 13, 2014)
4. PCC Replacement (dated December 5, 2014)

The project is proposed three options to construct new and modified ramps and two new signalized intersections on El Camino Real. The project is located in the City and County of San Mateo with project limits on Route 92 from PM 11.0 to PM 11.5 and on Route 82 from PM 10.3 to PM 10.7.

## TEMPORARY PAVEMENT RECOMMENDATIONS

### Design Factors

#### A. Traffic Index

Per your email on May 7, 2015, the temporary roadway pavement sections to be used for a maximum period of 6 months stage construction. We have used a minimum Traffic Index of 5.0 from Highway Design Manual, Table 613.3C Conversion of ESAL to Traffic Index, to design the temporary roadway pavement sections.



**WATER QUALITY INFORMATION HANDOUT**  
**CONTRACT NO: 04-235524**  
**04-SM-92/82-PM (11-11.5) / (10.3-10.7)**  
**INETERCHANGE IMPROVEMENT**

California Department of Transportation  
District 04  
Office of Water Quality  
111 Grand Avenue, Oakland, CA 94612

May, 2016

## **Disclaimer**

A "Disclaimer" is required specifying that the information provided in the Water Quality Information Handout is just a guideline and is to be used for information purposes only and should not be considered a sole source document to adhere to the requirements of the conditions of the Construction General Permit (NPDES No. CAS000002) and new Caltrans Statewide NPDES Permit (Order No. 2012-0011-DWQ), and address the temporary water quality impacts resulting from the construction activities in this project. The contractor is required to provide water quality monitoring, sampling and implement best management practices (BMPs) based on standard industry operations, field conditions and conditions encountered based on the contractor's means and methods. The information in this handout is not to be construed in any way as a waiver of the provisions in the CGP. Bidders and contractors are cautioned to make independent investigations and examinations as they deem necessary to satisfy the conditions encountered in performance of work, with respect to the following: sampling and monitoring locations, distribution of watershed areas for sizing of BMPs, and selection of BMPs in order to conform to the requirement of the contract documents and the CGP.

**TABLE OF CONTENTS**  
**CONTRACT NO: 04-235524**

**1 PROJECT INFORMATION**

- 1A Project Description
- 1B Receiving Water Bodies
- 1C Climate and Rainfall Data

**2 CONSTRUCTION GENERAL PERMIT**

- 2A Risk Level

**3 TEMPORARY CONSTRUCTION SITE BMPs**

- 3A Water Quality Monitoring
- 3B Run-on Discharges
- 3C Temporary Creek Diversion System
- 3D Temporary Dewatering and Non-Storm Water Discharge Control System
- 3E Temporary ESA Fencing

**4 PERMITS**

- 4A General

**5 ATTACHMENTS**

- A LOCATION MAP
- B RISK LEVEL DETERMINATION
- C RAINFALL DATA
- D PROJECT DISCHARGE LOCATION PLAN
- E SAN MATEO COUNTY - POTW PROVIDER LIST
- F SAN MATEO COUNTY - POTW SERVICE AREA MAP
- G SEEPAGE RATE
- H LOG OF TEST BORING
- I SITE INVESTIGATION REPORT
- J WATER POLLUTION CONTROL PLAN

# 1 Project Information

## 1A Project Description

It is proposed to improve and reconstruct the existing SR 92/SR 82 interchange to a partial cloverleaf interchange (L9). The project is located on SR 92 and SR 82 (El Camino Real; aka ECR) in the City of San Mateo and the project limits are from post mile 11.0 to 11.5 on SR 92 and 10.3 (at intersection of ECR/W. 20th Avenue) to 10.7 (at intersection of ECR/17th Avenue & Bovet Avenue) on SR 82. In general, the following major components are proposed:

- Realign and widen the diagonal off-ramps to provide additional storage and construct signalized intersections at the off-ramp terminals.
- Add exclusive right turn lanes to the loop onramps on SR 82.
- Construct concrete barrier between the onramps and diagonal off-ramps in the southwest quadrant and northeast quadrant.
- Realign and widen the diagonal and loop onramps to add storage lanes for future ramp metering.
- Provide maintenance vehicle pullouts and CHP enforcement areas on the onramps.
- Construct soundwall and retaining walls at the diagonal onramps and off-ramps as needed.
- Add provisions for safe bicyclist travel in the northbound and southbound direction on SR 82 within the ramp intersections.

|                         |                   |
|-------------------------|-------------------|
| Construction Start Date | <u>08/29/2016</u> |
| Construction End Date   | <u>12/28/2018</u> |
| Project Area            | <u>20.0 ac</u>    |
| Disturbed Soil Area     | <u>12.00 ac</u>   |

This project is within the San Mateo Phase 2 MS4 Permit requirements. The project is within the area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year flood ((FEMA 2012).

## 1B Receiving Water Bodies

The indirect receiving water body of this project is the Marina Lagoon located about 1.5 miles east of the project limits and the Lagoon eventually discharges to Central San Francisco Bay. The Marina Lagoon is on the Clean Water Act (CWA) Section 303(d) list of Water Quality Limited Segments (SWRCB 2010) for Coliform Bacteria. Whereas Central San Francisco Bay is on the 303(d) list for the Chlordane, DDT, Delran, Dioxin Compounds, Exotic Species, Furan Compounds, Mercury, PCBs, and Selenium as the pollutant of concern. All the listed pollutants are on the Total Maximum Daily Load (TMDL) required list except mercury is being addressed by USEPA approved TMDL.

The Water Quality Control Plan (Basin Plan) of the RWQCB designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater SF BAY RWQCB 2011). The designated beneficial uses for the Marina Lagoon includes estuarine habitat, wildlife habitat, water contact recreation and non-contact water creation. On the other hand, Central San Francisco Bay has the beneficial uses for industrial service supply, industrial

process supply, ocean, commercial and sport fishing, shellfish harvesting, estuarine habitat, fish migration, presence of rare and endangered species, , spewing, reproduction and early development, wildlife habitat, water contact recreation and non-contact water creation and navigation.

In addition, the San Mateo Sub-basin (groundwater) has beneficial uses for municipal and domestic water supply, industrial process water supply, industrial service water supply and agricultural water supply.

**1C Climate and Rainfall Data**

A National Oceanic and Atmospheric Administration (NOAA) weather station located in San Mateo, CA was used to obtain an estimated number of rainy days per year and qualifying rain events. The Compliance Storm Event was also downloaded from the NOAA website.

|  |                     |
|--|---------------------|
| Rainy days per year (precipitation 0.10 inches or greater) | <u>35.2</u> days    |
| Qualifying rain events per year                            | <u>35.2</u> days    |
| Average Annual Precipitation                               | <u>19.66</u> inches |

**2 Construction General Permit**

A Storm Water Pollution Prevention Plan is required since the disturbed soil area is 12.0 acres and R value is 135.0.

**2A Risk Level**

|                           |                     |
|---------------------------|---------------------|
| R factor                  | <u>135.0</u>        |
| K factor                  | <u>0.32</u>         |
| LS factor                 | <u>0.29</u>         |
| Sediment Risk             | <u>12.528 (low)</u> |
| Receiving Water Body Risk | <u>Yes/High</u>     |
| <b>Risk Level</b>         | <b><u>2</u></b>     |

A project-specific Spill Containment, Cleanup Plan, which should be prepared and included as part of Section 500 (500.1.1) in the Storm Water Pollution Prevention Plan (SWPPP). Please see Materials Management Plan under Section 500 (500.1.1) of the SWPPP template. This Plan also needs to address Drilling Slurries and Fluids per Standard Specifications section 13-4.03D (5) Liquid Waste.

**3 Temporary Construction Site BMPs**

The estimated quantities of temporary construction site BMPs are in the PSE package. Various soil stabilization, sediment control and tracking control are proposed are listed below.

- Temporary Cover
- Temporary Drainage Inlet Protection
- Temporary Hydraulic Mulch (Bonded Fiber Matrix)
- Temporary Fiber Roll
- Temporary Silt Fence
- Temporary Construction Entrance
- Street Sweeping

### **3A Water Quality Monitoring**

Since there is no in-water work including the installation and removal of the temporary creek diversion system, Water Quality Monitoring is not applicable.

### **3B Run-on Discharges**

Run-on discharges are off-site storm water that can potentially run to the site. Run-on discharges should be calculated based on a rainfall intensity for a 2-year 24-hour event per the PPDG. The Rational Method is typically used to calculate run-on discharges.

Equation:  $Q=Ciao$

Where Q = Run-on discharge (cubic feet per second)

C = Runoff coefficient (see HDM Figure 819.2A)

i = 2-year, 24-hour rainfall intensity (inches/hour)

The project cross-sections in the PSE package do not show areas of run-on adjacent to the roadway that would flow into the project work area; however, the Contractor needs to verify all run-on for the proposed project.

### **3C Temporary Creek Diversion System**

Since there is no creek at the job site, the temporary creek diversion system is not applicable in this project.

### **3D Temporary Dewatering and Non-Storm Water Discharge Control System**

The groundwater depth information mentioned in received memo from Office of Geotechnical is around at -0.2 ft. and 0.5 ft. in elevation whereas pile tips elevation ranges around 30.0ft and 39.0 ft. So dewatering is required for this project. The memo for seepage rate is included in appendix. The groundwater at job site is contaminated with Volatile organic compounds and petroleum hydrocarbon products. Temporary Dewatering and Non-Storm Water Discharge Control System is required for this project.

### **3E Temporary ESA Fencing**

Temporary ESA fencing is depicted on the layouts and on the USACE and CDFG impact maps. Adhere to the ESA fencing on the layout plans. The ESA fencing will depict areas where no construction activity can occur, except water quality monitoring and sampling. In many locations where temporary silt fence was also required, ESA fencing may be combined with temporary silt fence as temporary reinforced silt fence type 1. These locations will be depicted on the layout maps.

## **4 Permits**

No 401 Certification from the Regional Water Quality Board, Biological Opinion from the U.S. Fish and Wildlife and 1600 Permit from the CA Department of Fish and Game are applicable to this project.

## 5 ATTACHMENTS

ATTACHMENT A

LOCATION MAP

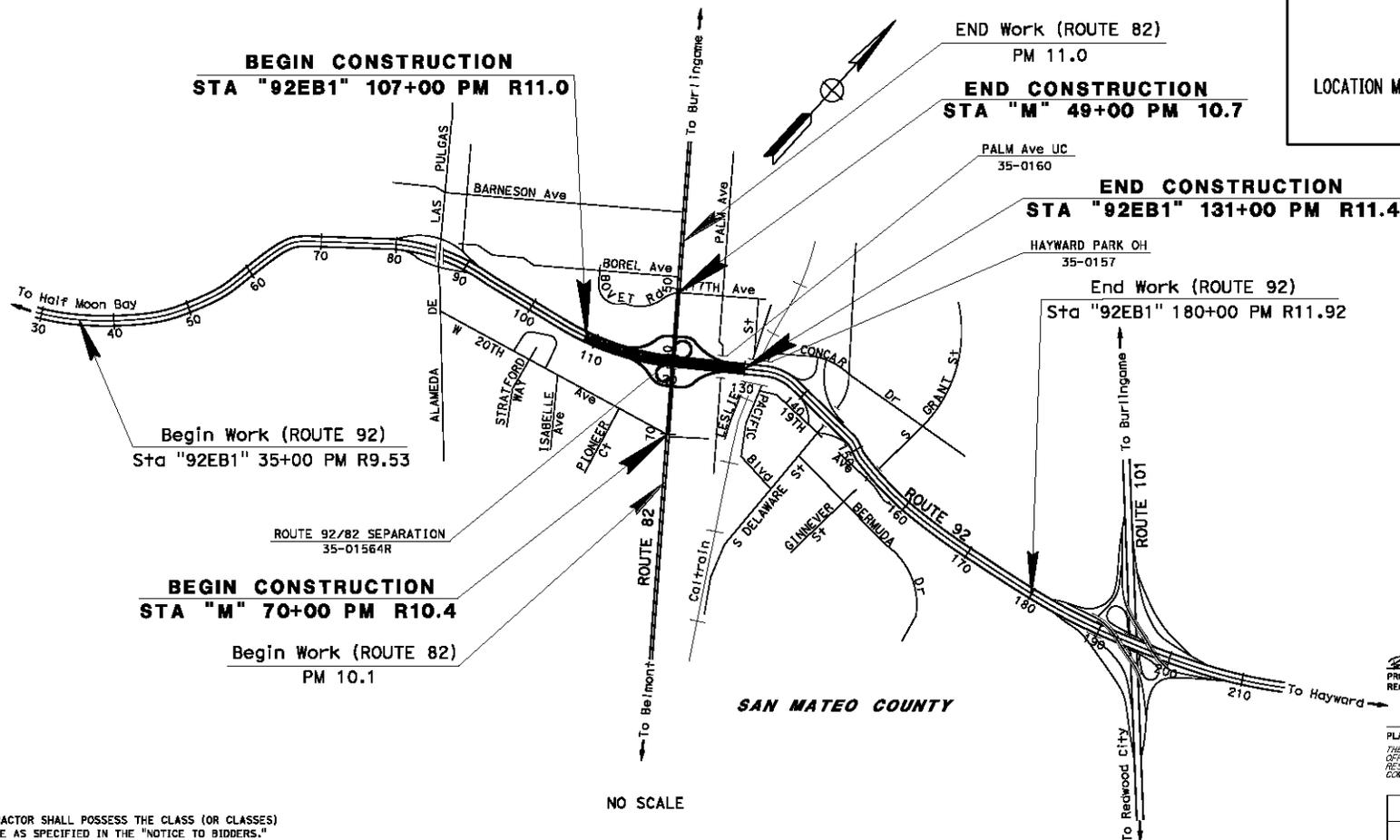
INDEX OF PLANS

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**PROJECT PLANS FOR CONSTRUCTION ON  
STATE HIGHWAY**  
IN SAN MATEO COUNTY IN SAN MATEO  
ON ROUTE 92 FROM THE ALAMEDA DE LAS PULGAS  
OVER CROSSING TO THE HAYWARD PARK OVERHEAD  
AND ON ROUTE 82 FROM  
WEST 20TH AVENUE TO 17TH AVENUE  
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

| Dist | COUNTY | ROUTE  | POST MILES TOTAL PROJECT  | SHEET No. | TOTAL SHEETS |
|------|--------|--------|---------------------------|-----------|--------------|
| 04   | SM     | 92, 82 | R11.0/R11.4,<br>10.4/10.7 |           |              |

**Caltrans**



PROJECT MANAGER  
KANNU BALAN

DESIGN ENGINEER  
AROLF AZL EMOZABEH

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

**12-29-15**  
DATE  
PROJECT ENGINEER  
REGISTERED CIVIL ENGINEER  
**Broder B. Underwood**  
No. 43093  
Exp. 3-31-16  
CIVIL  
STATE OF CALIFORNIA

PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

|              |                   |
|--------------|-------------------|
| CONTRACT No. | <b>04-235524</b>  |
| PROJECT ID   | <b>0412000496</b> |

## ATTACHMENT B

### RISK LEVEL DETERMINATION

|    | A   | B                      | C            |
|----|---|------------------------|--------------|
| 1  | <b>Sediment Risk Factor Worksheet</b>   |                        | <b>Entry</b> |
| 2  | <b>A) R Factor</b>  |                        |              |
| 3  | Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.   |                        |              |
| 4  | <a href="http://water.epa.gov/polwaste/npdes/stormwater/Welcome-to-the-Rainfall-Erosivity-Factor-Calculator.cfm">http://water.epa.gov/polwaste/npdes/stormwater/Welcome-to-the-Rainfall-Erosivity-Factor-Calculator.cfm</a>   |                        |              |
| 5  |   | <b>R Factor Value</b>  | 135          |
| 6  | <b>B) K Factor (weighted average, by area, for all site soils)</b>  |                        |              |
| 7  | The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted. |                        |              |
| 8  | <a href="#">Site-specific K factor guidance</a>   |                        |              |
| 9  |   | <b>K Factor Value</b>  | 0.32         |
| 10 | <b>C) LS Factor (weighted average, by area, for all slopes)</b>   |                        |              |
| 11 | The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.   |                        |              |
| 12 | <a href="#">LS Table</a>  |                        |              |
| 13 |   | <b>LS Factor Value</b> | 0.29         |
| 14 |   |                        |              |
| 15 | <b>Watershed Erosion Estimate (=RxKxLS) in tons/acre</b>  |                        | 12.528       |
| 16 | <b>Site Sediment Risk Factor</b>  |                        | <b>Low</b>   |
| 17 | Low Sediment Risk: < 15 tons/acre   |                        |              |
| 18 | Medium Sediment Risk: >=15 and <75 tons/acre  |                        |              |
| 19 | High Sediment Risk: >= 75 tons/acre   |                        |              |
| 20 |   |                        |              |

| Receiving Water (RW) Risk Factor Worksheet   | Entry      | Score       |
|--|------------|-------------|
| <b>A. Watershed Characteristics</b>  | yes/no     |             |
| <p>A.1. Does the disturbed area discharge (either directly or indirectly) to a <b>303(d)-listed waterbody impaired by sediment</b> (For help with impaired waterbodies please visit the link below) or has a <b>USEPA approved TMDL implementation plan for sediment</b>?:</p> <p><a href="http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml">http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml</a></p> <p style="text-align: center;"><b>OR</b></p> | <b>yes</b> | <b>High</b> |
| <p>A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN &amp; COLD &amp; MIGRATORY? (For help please review the appropriate Regional Board Basin Plan)</p> <p><a href="http://www.waterboards.ca.gov/waterboards_map.shtml">http://www.waterboards.ca.gov/waterboards_map.shtml</a></p>  |            |             |
| <p><a href="#">Region 1 Basin Plan</a></p> <p><a href="#">Region 2 Basin Plan</a></p> <p><a href="#">Region 3 Basin Plan</a></p> <p><a href="#">Region 4 Basin Plan</a></p> <p><a href="#">Region 5 Basin Plan</a></p> <p><a href="#">Region 6 Basin Plan</a></p> <p><a href="#">Region 7 Basin Plan</a></p> <p><a href="#">Region 8 Basin Plan</a></p> <p><a href="#">Region 9 Basin Plan</a></p>   |            |             |

# Combined Risk Level Matrix

|                             |      | <u>Sediment Risk</u> |         |         |
|-----------------------------|------|----------------------|---------|---------|
|                             |      | Low                  | Medium  | High    |
| <u>Receiving Water Risk</u> | Low  | Level 1              | Level 2 |         |
|                             | High | Level 2              |         | Level 3 |

Project Sediment Risk: **Low**  
Project RW Risk: **High**  
Project Combined Risk: **Level 2**

## ATTACHMENT C

### RAINFALL DATA

Rainfall Intensity can be obtained by the following link:

<http://www.wrcc.dri.edu/pcpnfreq/nca5y24.gif>

Refer to chapters 800, Highway Drainage Design of Highway Design Manual for information on runoff coefficient and shed map. The weighted runoff coefficient of 0.55 is recommended for the project area.

Rainfall/precipitation detail of the San Mateo station which is close to job site is given as below

SAN MATEO

Elevation: 20 feet

Start Year: 1948

End Year: 1978

Number of Years: 31

Average number of days per month with precipitation:

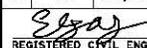
| Month        | $\geq 0.1$ in | $\geq 0.5$ in |
|--------------|---------------|---------------|
| January      | 7.2           | 2.9           |
| February     | 5.3           | 1.9           |
| March        | 5.4           | 1.8           |
| April        | 3.3           | 0.8           |
| May          | 1             | 0.2           |
| June         | 0.4           | 0.1           |
| July         | 0.1           | 0             |
| August       | 0.2           | 0             |
| September    | 0.3           | 0.1           |
| October      | 1.6           | 0.5           |
| November     | 4.4           | 1.8           |
| December     | 6.1           | 2.5           |
| Yearly Total | 35.2          | 12.6          |

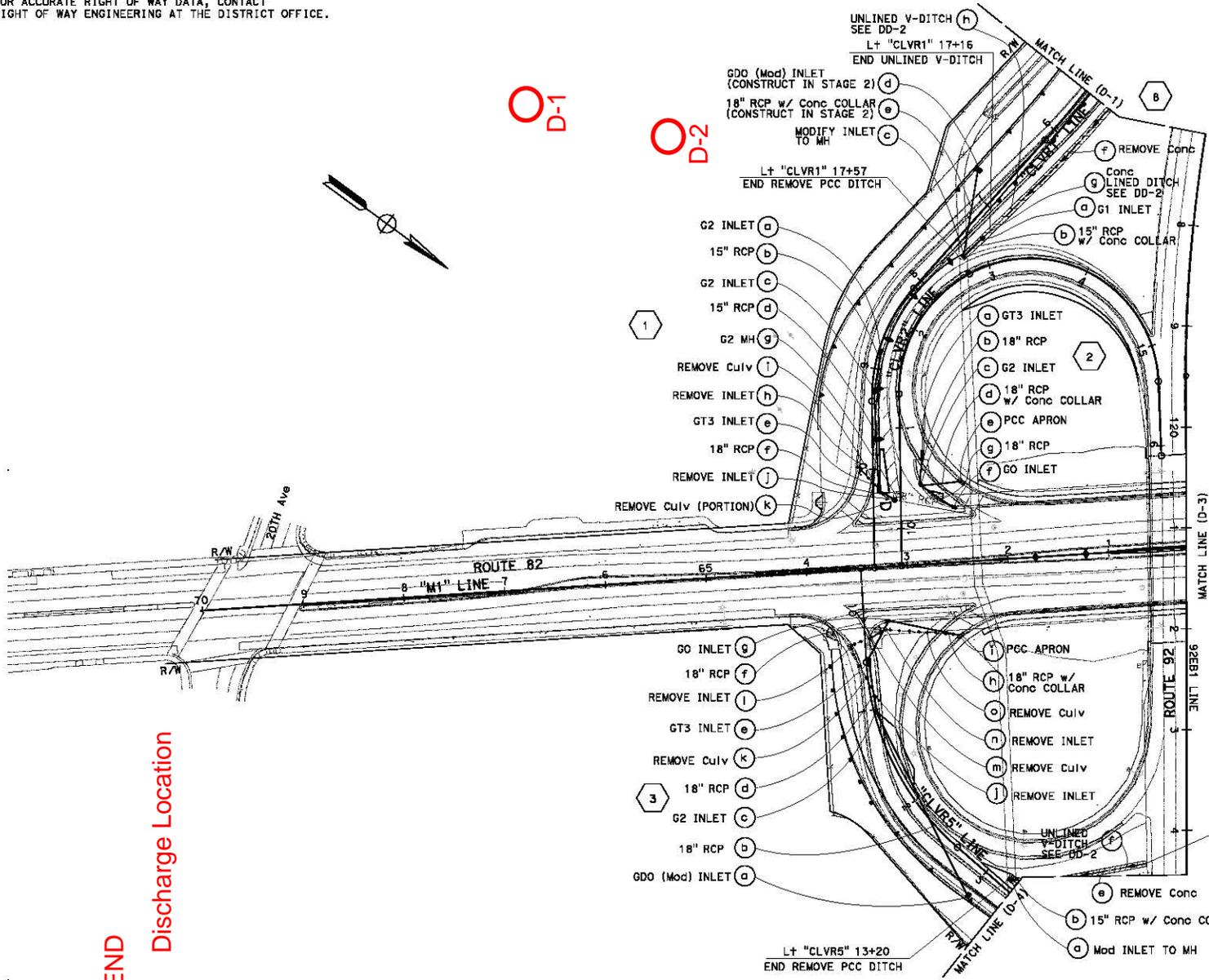
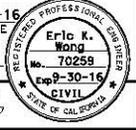
## ATTACHMENT D

### PROJECT DISCHARGE LOCATION PLAN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 HYDRAULICS  
 FUNCTIONAL SUPERVISOR  
 DIXON LAU  
 ERIC K. WONG  
 DIXON LAU  
 REVISOR  
 DATE REVISOR  
 8/26/13  
 DESIGNED BY  
 CHECKED BY

**NOTE:**  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

| DIST  | COUNTY | ROUTE  | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|--------|--------|--------------------------|-----------|--------------|
| 04  | SM     | 92, 82 | R11.0/R11.4<br>10.4/10.7 |           |              |
| <br>REGISTERED CIVIL ENGINEER  |        |        | 1-15-16                  | DATE      |              |
| PLANS APPROVAL DATE<br><small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SPANNED COPIES OF THIS PLAN SHEET.</small> |        |        |                          |           |              |



**LEGEND**  
 Discharge Location  
 D-X

FOR NOTES, ABBREVIATIONS  
 AND LEGEND, SEE SHEET L-1

**DRAINAGE PLAN**  
 SCALE: 1" = 50'

**D-2**

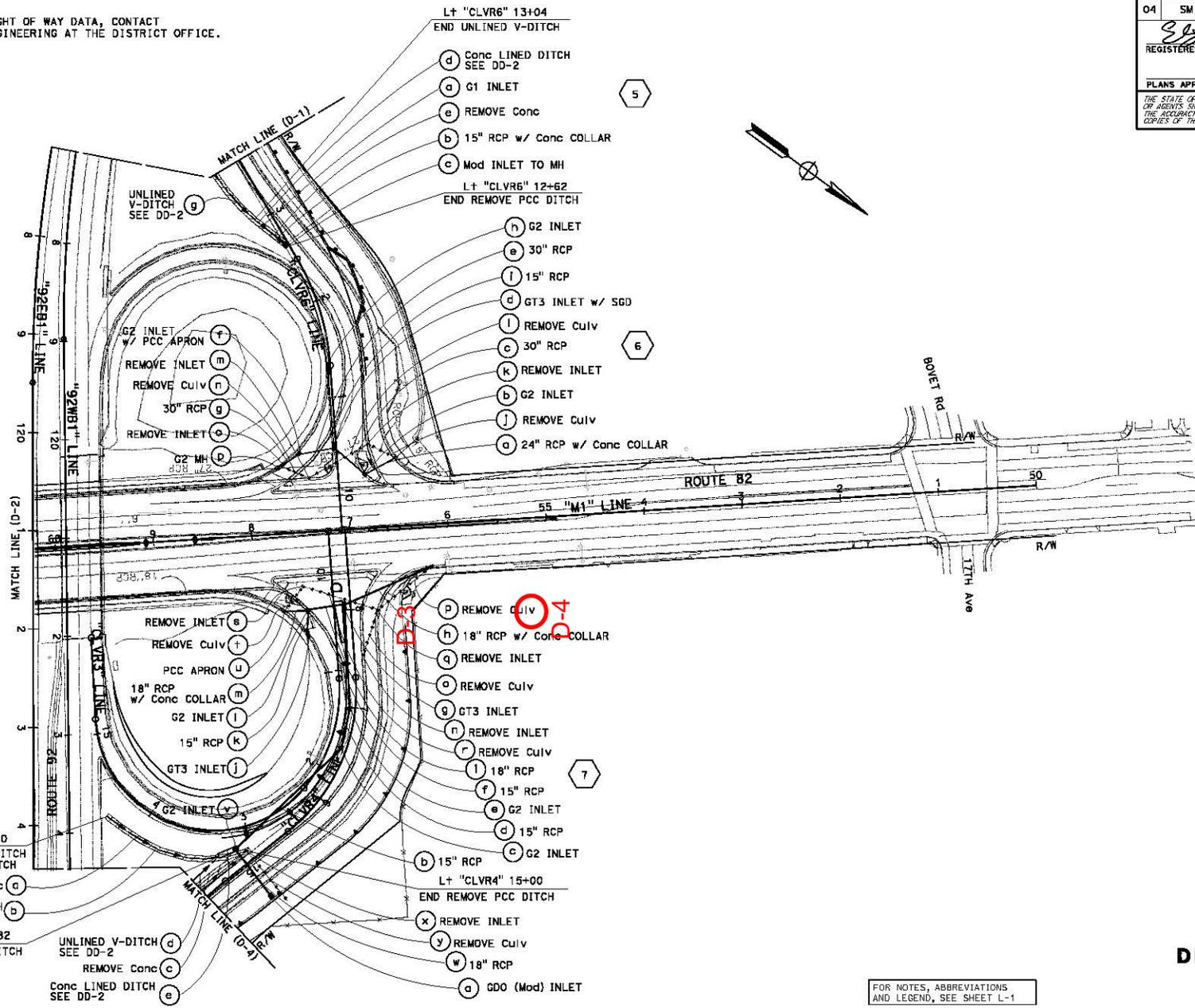
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**HYDRAULICS**  
 ERIC K. WONG  
 DIXON LAU  
 DIXON LAU  
 8/28/13

**NOTE:**  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

| DIST | COUNTY | ROUTE  | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|--------|--------------------------|-----------|--------------|
| 04   | SM     | 92, 82 | R11.0/R11.4<br>10.4/10.7 |           |              |

REGISTERED CIVIL ENGINEER DATE 1-15-16  
 Erlo K. Wong No. 70259 Exp 9-30-16 CIVIL  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF DRAWN COPIES OF THIS PLAN SHEET.



- L+ "CLVR6" 13+04  
 END UNLINED V-DITCH
- (d) Conc LINED DITCH SEE DD-2
  - (a) G1 INLET
  - (e) REMOVE Conc
  - (b) 15" RCP w/ Conc COLLAR
  - (c) Mod INLET TO MH
- L+ "CLVR6" 12+62  
 END REMOVE PCC DITCH
- (h) G2 INLET
  - (e) 30" RCP
  - (i) 15" RCP
  - (d) GT3 INLET w/ SGD
  - (l) REMOVE Cuiv
  - (c) 30" RCP
  - (k) REMOVE INLET
  - (b) G2 INLET
  - (j) REMOVE Cuiv
  - (a) 24" RCP w/ Conc COLLAR

- L+ "CLVR3" 14+30  
 Beg REMOVE PCC DITCH  
 Beg UNLINED V-DITCH
- (a) REMOVE Conc
  - (d) UNLINED V-DITCH SEE DD-2
- L+ "CLVR4" 14+82  
 END UNLINED V-DITCH
- (d) UNLINED V-DITCH SEE DD-2
  - (c) REMOVE Conc
  - (e) Conc LINED DITCH SEE DD-2
- L+ "CLVR4" 15+00  
 END REMOVE PCC DITCH
- (x) REMOVE INLET
  - (y) REMOVE Cuiv
  - (w) 18" RCP
  - (a) GDO (Mod) INLET

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

**DRAINAGE PLAN**  
 SCALE: 1" = 50'  
**D-3**

DATE PLOTTED => 18-FEB-2016  
 TIME PLOTTED => 10:40

ATTACHMENT E

SAN MATEO COUNTY - POTW PROVIDER

|    | City Discharger                          | Treatment Plant Name  | WDR Discharger Name                      | Discharger Contact Name      | Contact Phone No.          | Contact Email   | Mail Address   | Ct Contact for Groundwater & De-Watering Discharges  | Service Area of the POTW  |
|----|--|---|--|------------------------------|----------------------------|---|--|--|---|
| 26 | San Francisco International Airport WQCP | San Francisco International Airport WQCP                        | San Francisco International Airport WQCP | Sam Mehta                    | 650-821-7841               | <a href="mailto:sam.mehta@flysfo.com">sam.mehta@flysfo.com</a>  |  | They would not allow, except if the Reg. Board insisted. Would have to be checked for TPH - contact Stormwater "guru" / Utilities head Mark Costanza @ 650-821-7809  | Just the S.F.I. Airport - they said no parts of Hwys 101 or 380 enter their system  |
| 27 | San Mateo                                | San Mateo Waste Water Treatment Plant (formerly San Mateo WQCP) | San Mateo WQCP                           | Kacey Karmendy               | 650-522-7388               | <a href="mailto:karmendy@ci.sanmateo.ca.us">karmendy@ci.sanmateo.ca.us</a>  |  | Per "Best Contact" Vern Bessey @ 650-522-7342 new org. name is SMWTP and serves Cities of San Mateo and Foster City. They disallow clean groundwater and SW if it just has sediment, prefers Baker tanks and discharge to storm drain. Will accept IF contaminated - permit and testing needed, including "site history" | They cover: "San Mateo, half of Hillsborough, Foster City, unincorporated S.M. County, and a very small part of Belmont." Contact Otis Chan 650-522-7305 for GIS information. |
| 28 | South S.F                                | South S.F./San Bruno WQCP                                       | City of South San Francisco              | Dave Castagnola; Terry White | 650-829-3844; 650-877-8551 | <a href="mailto:dcastagnola@wqcp.ci.ssf.ca.us">dcastagnola@wqcp.ci.ssf.ca.us</a> ; <a href="mailto:terry.white@ssf.net">terry.white@ssf.net</a> | Dave Castagnola, City of South San Francisco, 195 Belleair Road, South San Francisco, CA 94080; Terry White, Deputy Director, Maintenance Service, City of South San Francisco, 550 North Canal St., South San Francisco, CA 94080 | Contact : Kevin Maffei for permit information at 650-829-3881. Permit can be expedited, a WQ profile is needed, one-time permit fee of \$ 60.00, then \$1.83 per 100 Cu ft.  | They cover: "South San Francisco, San Bruno, Colma, and a very small part of Daly City." No GIS available. Plant phone # 650-877-8555.  |
| 29 | San Bruno                                |   | City of San Bruno                        | Scott Munns                  | 650-616-7066               | <a href="mailto:smunns@ci.sanbruno.ca.us">smunns@ci.sanbruno.ca.us</a>  | Scott Munns, Director, Public Works, City of San Bruno, 567 El Camino Real, San Bruno, CA 94066  | Same as South S.F. / San Bruno WQCP - see line # 28  | Part of South S.F. / San Bruno WQCP - see line # 28   |
| 30 | Colma                                    |   | Colma City                               | Ellen Ellsworth              | 650-757-8888               | <a href="mailto:ellen.ellsworth@colma.ca.gov">ellen.ellsworth@colma.ca.gov</a>  | Richard Mao, City Engineer, Town of Colma, 1188 El Camino Real, Colma, CA 94014  | Same as South S.F. / San Bruno WQCP - see line # 28  | Part of South S.F. / San Bruno WQCP - see line # 28   |
| 31 | Millbrae                                 | Millbrae WPC  | Millbrae WPC                             | Thomas Colletti              | 650-259-2381               | <a href="mailto:tcolletti@ci.millbrae.ca.us">tcolletti@ci.millbrae.ca.us</a>  | Thomas Colletti, City of Millbrae, 621 Magnolia Ave., Millbrae, CA 94030   | Best contacts: Dick York, 650-259-2393, Supt. Of WWTP; and/or David Ocampo 650-259-2392 Lab Supt. (issues g-water permit) Permit needed, sampling for contaminates needed, etc., -they have done this in the past.   | Just the City of Millbrae. Plant phone # is 650-259-2388  |
| 32 | Pacifica                                 | Calera CRK Water Recycling Plant                                | Calera CRK Water Recycling Plant         | Dave Gromm                   | 650-738-4663               | <a href="mailto:grommd@ci.pacificaca.us">grommd@ci.pacificaca.us</a>  |  | Handles the City of Pacifica. Best contact is Brian Martinez @ 650-738-4669. Per Dave Gromm: "new plant has lots of capacity" will accept discharge after permit, testing, etc.  | The city of Pacifica and a small part of Daly City  |
| 33 | Burlingame                               | Veolia Water [formerly Burlingame WWTP]                         | Burlingame WWTP                          | Phil Scott,                  | 650-558-7673; 650-558-7679 | <a href="mailto:pscott@burlingame.org">pscott@burlingame.org</a> ; <a href="mailto:bsalzon@burlingame.org">bsalzon@burlingame.org</a>           | Phil Scott, Public Work Superintendent, 501 Primrose, Burlingame, CA 94010   | Contact Doug Bell @ 558-7245 or dbell@burlingame.org: "not straightforward" he would need to "run it by 3-4 people" - it could be "handled in different ways" - would probably have to check out the ways this was handled the previous times...etc.   | Burlingame and half of Hillsborough. Plant phone # is 650-342-3727  |

|    |                                     |                                     |   |                              |                            |   |  |   |   |
|----|-------------------------------------|-------------------------------------|---|------------------------------|----------------------------|---|--|---|---|
| 34 | Hillsborough                        |                                     | Town of Hillsborough                    | David Bishop                 | 650-375-7411               | <a href="mailto:dbishop@hillsc.a.org">dbishop@hillsc.a.org</a>  | Kevin Oconnell, Public Work Director, Town of Hillsborough, 1600 Flibunda Ave., Hillsborough, CA 94010-6418              | Hillsborough sends their WW to Burlingame and SMWWT plants for treatment- see Lines # A -27 and 33.   | Hillsborough sends their WW to Burlingame and SMWWT plants for treatment- see Lines # A -27 and 33.   |
| 55 | Maj-Sam WWTP                        | Maj-Sam WWTP                        | Sewer Authority Mid-Coastside           | Tony Pullin                  | 650-726-0124               | <a href="mailto:tony@samcleanswater.org">tony@samcleanswater.org</a>  |  | Contact :Brenda Donald 650-726-0124x105 she will mail packet of info \$50 fee, 10 cents per Gal. Brenda@samcleanswater.org  | Rural San Mateo Coast - Hwy 001 from Montara to Half Moon Bay "8 or 9 miles of Coast - and a little bit of Hwy 92" - per Tony Pullin  |
| 56 |                                     |                                     | City of Half Moon Bay                   | Ed Marlow                    | (650) 726-8260             | <a href="mailto:emarlow@psomas.com">emarlow@psomas.com</a>  | Ed Marlow - Interim Assistant City Manager, Department of Public Works, 501 Main Street, City of Half Moon Bay, CA 94019 | Same as Maj-Sam - see Line #55  | Same as Maj-Sam - see Line #55  |
| 57 |                                     |                                     | Granada Sanitary District               | Gina Holmes                  | (650) 726-7093             | <a href="mailto:gsd@netwiz.net">gsd@netwiz.net</a>  | Gina Holms, Administrator, Granada Sanitary District, 455 Avenue, P.O. Box 335, El Granada, CA 94018                     | Same as Maj-Sam - see Line #55  | Same as Maj-Sam - see Line #55  |
|    |                                     |                                     | Dudek Associate (Granada SD consultant) | chuck Duffy                  | (760)942-5147              | <a href="mailto:cduffy@dudek.com">cduffy@dudek.com</a>  | 605 3rd St., Encinitas, CA 92024   | Same as Maj-Sam - see Line #55  | Same as Maj-Sam - see Line #55  |
| 58 |                                     |                                     | Montara Sanitary District               | George Irving                | (650) 728-3545             | <a href="mailto:msd@montara.com">msd@montara.com</a>  | George Irving, District Manager, Montara Sanitary District, 8888 Cabrillo Highway, P.O. Box, Montara, CA 94037           | Same as Maj-Sam - see Line #55  | Same as Maj-Sam - see Line #55  |
|    | Treasure Island WPCP                | Treasure Island WPCP                | SF PUC                                  | Nathan Brennan               | (415)242-2256 X1358        | <a href="mailto:mcarlin@sfr.org">mcarlin@sfr.org</a><br><a href="mailto:nbrennan@sfrwater.org">nbrennan@sfrwater.org</a>                    | Michael Carlin, SFPUC, Planning Bureau Manager, 1141 Market St., Suite 401, San Francisco, CA 94103, 415-934-5787        | Best contact is Vic Vista @ 415-274-0318 at the "very small" plant on TI. Would want Chloride levels checked - and other sampling, and permit required.                     | Yerba Buena Island and Treasure Island  |
| 59 | South Bayside System Authority WWTP | South Bayside System Authority WWTP | South Bayside System Authority          | Bob Donaldson                | 650-594-8411x127           | <a href="mailto:rdonaldson@sbsa.org">rdonaldson@sbsa.org</a>  | Robert Donaldson, South Bayside Ssystem Authority, 1400 Radio Road, Redwood City, CA 94065                               | Contact Ken Kaufman @ 650-594-8411 x 128 or kkaufman@sbsa.org "Individual Evaluation" No website, Need permit and water analysis "usually 1 to 3 day turn-around for Permit | SBSA takes WW from Belmont, San Carlos, all of Redwood City, and Redwood Shores. Has joint operating agreement with "WestBay" and also treats waste from Woodside, Atherton, Portola Valley, and Menlo Park. Good Contacts: Bob Donaldson and Jim Bewley @ 650-591-7121 |
| 60 |                                     |                                     | City of Belmont                         | Kathleen E. Phalen           | 650-595-7469               | <a href="mailto:kphalen@ci.belmont.ca.us">kphalen@ci.belmont.ca.us</a>  | Kathleen E. Phalen, Associate Civil Engineer, City of Belmont, 1070 Sixth Ave. Suite 306, Belmont, CA 94002              | Same as SBSA Authority WWTP - see line 59   | Same as SBSA -see Line # A-59   |
| 61 |                                     |                                     | City of Redwood City                    | Peter Ingram; Marilyn Harang | 650-780-7466; 650-780-7477 | <a href="mailto:pingram@redwoodcity.org">pingram@redwoodcity.org</a> ; <a href="mailto:mharang@redwoodcity.org">mharang@redwoodcity.org</a> | Peter Ingram, Director, Public Works Services, City of Redwood City, 1400 Broadway, Redwood City, CA 94063-2505          | Same as SBSA Authority WWTP - see line 59   | Same as SBSA - see Line # A-59  |
| 62 |                                     |                                     | City of San Carlos                      | Parviz Mokhtari              | 650-802-4202               | <a href="mailto:parviz.mokhtari@ci.san-carlos.ca.us">parviz.mokhtari@ci.san-carlos.ca.us</a>  | Parviz Mokhtari, Director of Public Works, City of San Carlos, 600 Elm St., San Carlos, CA 94070                         | Same as SBSA Authority WWTP - see line 59   | Same as SBSA - see Line # A-59  |
| 63 |                                     |                                     | Town of Woodside                        | Kent Dewell                  | 650-851-6790               |   | Kent Dewell, Town Engineer, Toen of Woodside, P.O. Box 94062, Woodside, CA 94062   | Same as SBSA Authority WWTP - see line 59   | Same as SBSA - see Line # A-59  |

|     |   |   |                        |                   |              |  |   |  |  |
|-----|---|---|------------------------|-------------------|--------------|--|---|--|--|
| 64  |   |   | West Bay SD            | Tim Clayton       | 650-321-0384 | <a href="mailto:tclayton@westbaydst.com">tclayton@westbaydst.com</a>   | Tim Clayton, District Manager, West Bay Sanitary District, 500 Laurel St., Menlo Park, CA 94025   | Same as SBSA Authority WWTP - see line 59  | Same as SBSA - see Line # A-59   |
| 65  | For collection system in unincorporated areas             | For collection system in unincorporated areas             | San Mateo County       | Brian Lee         | 650-599-1497 | <a href="mailto:blee@anmateo.ca.us">blee@anmateo.ca.us</a>             | Brian Lee, Department of Public Works, 555 County Center, 5th Floor, Redwood City, CA 94063-1665  | Same as SBSA Authority WWTP - see line 59  | Same as SBSA - see Line # A-59   |
| 66  | North San Mateo WWTP                                      | North San Mateo WWTP                                      | North San Mateo County | Patrick Sweetland | 650-991-8201 | <a href="mailto:psweetland@dalycity.org">psweetland@dalycity.org</a>   | Patrick Sweetland, Director of Water and Wastewater Resources, North San Mateo Sanitary District, 153 Lake Merced Blv., Daly City, CA 94015 | Same as SBSA Authority WWTP - see line 59  | Same as SBSA - see Line # A-59   |
| 106 | Satellite system of City and County of SF treatment plant | Satellite system of City and County of SF treatment plant | City of Brisbane       | Matthew Fabry     | 415-508-2134 | <a href="mailto:mfabry@ci.brisbane.ca.us">mfabry@ci.brisbane.ca.us</a> | Matthew Fabry, City of Brisbane, Public Works Department, 50 Park Place, Brisbane, CA 94005-1310  | Per Matt Fabry @ 415-508-2134 "they would accept in accordance with the regulations of the permit for SMCO. They would accept some non - Storm Water discharge" - he would like to hear more specifics before assuring acceptance. | Services Brisbane and the Guadalupe Canal area. They send their WW to the SF Combined System. [Only Ct ROW is US 101] They have their service electronically - call Matt Lee at 415-508-2132 |

ATTACHMENT F

SAN MATEO COUNTY - POTW SERVICE AREA



**ATTACHMENT G**

**SEEPAGE RATE**

# Memorandum

*Serious drought.  
Help Save Water!*

**To:** MR. HARDEEP TAKHAR  
District Office Chief  
Office of Water Quality

**Date:** April 16, 2015

**Attention:** J. Chen

**File:** 04- SM- 92/82, PM 11/10.3  
E-FIS # 04120000496  
R92/R82 Interchange Reconstruction  
(Seepage Rate)

**From:** RIFAAT NASHED *RN*  
Engineering Geologist  
Office of Geotechnical Design – West  
Geotechnical Services  
Division of Engineering Services

CHRIS RISDEN *CR*  
Chief, Branch B  
Office of Geotechnical Design – West  
Geotechnical Services  
Division of Engineering Services



**Subject:** SEEPAGE RATE (LOW RATE) ESTIMATE AT SAN MATEO R92/82 INTERCHANGE

This memo is in response to your request to provide the approximate groundwater seepage rate for the construction of one soundwall and four retaining walls at the above mentioned site. It is our understanding that this information will be used in estimating dewatering quantities.

It should be noted that our estimates are based on the following:

- 1- The subsurface information from three As-Built borehole logs (B-1 and B-2 at 92/82 separation & B-4 at Palm Avenue Undercrossing) used for estimating the seepage rate of three sections containing one soundwall (SW1) and four retaining walls (RW1a, RW1b, RW3& RW4) are as follows:
  - Soundwall (SW1), Retaining Walls (RW1a and RW1b) utilize Borehole No. B-2 of 92/82 Separation.
  - Retaining Wall (RW2) utilizes Borehole No. B-4 of Palm Avenue Undercrossing.
  - Retaining Wall (RW3) utilizes Borehole No. B-1 of 92/82 Separation.
- 2- The groundwater elevation in the project area ranges between - 0.2 ft (multiple borings at Palm Avenue) and 0.5 ft (at B-1 at 92/82 Separation). In our calculations, we consider the groundwater elevation to be 0.15 m (0.5), as the more conservative scenario.

MR. HARDEEP TAKHAR

Attn: J. Chen

April 16, 2015

Page 2

- 3- The lowest point of the ground surface elevation in each section is considered the ground surface elevation (the pile top) of this section as follows:
- First Section (SW1, RW1a, RW1b): Ground surface elevation ranges between - 1.37 m (- 4.49 ft) and 11.8 m (38.8 ft). We considered - 1.37 m (- 4.49 ft) to be the ground surface elevation for this section.
  - Second Section (RW2): Ground surface elevation ranges between 2.97 m (9.77 ft) and 3.28 m (10.77 ft). We considered 2.97 m (9.76 ft) to be the ground surface elevation for this section.
  - Third Section (RW3): Ground surface elevation ranges between 1.04 m (-3.52ft) and 1.5 m (4.92 ft). We considered 1.04 m (-3.52ft) to be the ground surface elevation for this section.
- 4- The length of all piles is 10.67m (35 ft), except RW2 (second section) is 12.19 m (40 ft) and the diameter is 1.016 m (24 inch).
- 5- The pile tip elevation is -12.04 m (-39.49 ft) for the first section, -9.22 m (-30.24 ft) for the second section, and -11.7m (-38.52 ft) for the third section.

Based on three borehole (B-1 and B-2 at 92/82 Separation & B-4 at Palm Avenue Undercrossing), the soils encountered are as follows: silty clayey sand (SP-SC), clean sand (SW), silty sand with gravel (SM), gravelly sand (SP), clayey sand (SC), sandy clay with gravel (CL), and silty sandy gravel (GP-GM).

In our estimates, we used the Coefficient of Permeability, K value  $4.94015e^{-07}$  (0.14 ft/day) for the following soil units: silty clayey sand (SP-SC), gravelly sand with clayey silt (SP), Clayey sand (SC).

We used K value  $4.94015e^{-06}$  (1.4 ft/day) for well graded sand (SW), silty sand with gravel (SM) & gravelly silty sand (SM), and  $4.94015e^{-05}$  (1.14 ft/day) for silty sandy gravel (GP-GM).

We used K value  $9.52744e^{-09}$  ( $2.7 \times 10^{-3}$  ft/day) for sandy clay (CL).

According to the Federal Highway Report NO. FHWA-TS-80-224, Page 48-49” the Coefficient of Permeability K (ft/day) for the soils encountered are as follows:

MR. HARDEEP TAKHAR

Attn: J. Chen

April 16, 2015

Page 3

| Unified Soil Classification         | Coefficient of Permeability K (ft./day)      | Coefficient of Permeability K (m/s)  |
|-------------------------------------|--|--------------------------------------|
| Poorly graded gravel (GP)           | 13.7 to 27,400                               | $4.94015e^{-05}$ to 0.096685863      |
| Poorly graded gravel with silt (GM) | $2.7 \times 10^{-4}$ to 27                   | $9.52744e^{-10}$ to $9.52744e^{-05}$ |
| Clayey sand (SC)                    | $2.7 \times 10^{-5}$ to 0.14                 | $9.52744e^{-11}$ to $4.94015e^{-07}$ |
| Well graded sand (SW)               | 1.4 to 137                                   | $4.94015e^{-06}$ to 0.000483429      |
| Silt (ML)                           | $2.7 \times 10^{-5}$ to 0.14                 | $9.52744e^{-11}$ to $4.94015e^{-07}$ |
| Silty sand (SM)                     | $2.7 \times 10^{-4}$ to 1.4                  | $9.52744e^{-10}$ to $4.94015e^{-06}$ |
| Poorly-graded sand (SP)             | 0.14 to 1.4                                  | $4.94015e^{-07}$ to $4.94015e^{-06}$ |
| Lean clay (CL)                      | $2.7 \times 10^{-5}$ to $2.7 \times 10^{-3}$ | $9.52744e^{-11}$ to $9.52744e^{-09}$ |

For First Section: (SW1, RW1) :Our estimate of the seepage rate (flow rate) for this section is approximately 6,760 gallon /day/ hole.

For Second Section (RW2): Our estimate of the seepage rate (flow rate) for this section is approximately 1,650 Gallon /day/ hole.

For Third Section (RW3): Our estimate of the seepage rate (flow rate) for this section is approximately 5,400 Gallon /day/ hole.

This seepage rate (flow rate) estimate is provided for cost estimate purposes only.

If you have any questions or need additional information, please call Rifaat Nashed at (510) 622-1773 or Cris Riden at (510) 622-8757.

c: TPokrywka, CRiden, JMoor, HKhodabakhsh, Daily File

RNashed/mm

**SM-R92/82 IC - Soundwall and Retaining Walls - SEEPAGE RATE**

| Construction element | Soil Type                         | Bed thickness (m) | K m/s       | $\sqrt{k}$  | GW ELEV. (m) | Pile Tip elev. (m) | H     | H <sup>2</sup> | hw <sup>2</sup> | R <sub>0</sub> | T <sub>w</sub> (m) | Q m <sup>3</sup> /s | Q ft <sup>3</sup> /sec | Q ft <sup>3</sup> /day | Q Gallon/day  |
|----------------------|-----------------------------------|-------------------|-------------|-------------|--------------|--------------------|-------|----------------|-----------------|----------------|--------------------|---------------------|------------------------|------------------------|---------------|
| <b>1st section</b>   |                                   |                   |             |             |              |                    |       |                |                 |                |                    |                     |                        |                        |               |
| including SW1, RW1   | Silty clayey sand (Sp-SC)         | 1.20              | 4.94015E-07 | 0.000702862 | 0.15         | -12.04             | 1.2   | 1.44           | 0               | 2.530303       | 1.016              | 2.44802E-06         | 8.64512E-05            | 7.46938038             | 55.7          |
|                      | well graded sand (SW)             | 3.00              | 4.94015E-06 | 0.002222645 | 0.15         | -12.04             | 4.2   | 17.64          | 0               | 28.00532       | 1.016              | 8.2506E-05          | 0.002913672            | 251.741298             | 1878.7        |
|                      | silty sand w/gravel (SM)          | 1.58              | 4.94015E-06 | 0.002222645 | 0.15         | -12.04             | 5.8   | 33.4084        | 0               | 38.54066       | 1.016              | 0.000142535         | 0.005033566            | 434.900129             | 3245.5        |
|                      | gravelly sand w/ clayey silt (SP) | 6.2               | 4.94015E-07 | 0.000702862 | 0.15         | -12.04             | 12.0  | 143.5204       | 0               | 25.26086       | 1.016              | 6.92821E-05         | 0.002446674            | 211.392632             | 1577.6        |
| Average              |                                   |                   |             |             |              |                    |       |                |                 |                |                    |                     |                        |                        | <b>6757.5</b> |
| <b>2nd Section</b>   |                                   |                   |             |             |              |                    |       |                |                 |                |                    |                     |                        |                        |               |
| including RW2        | gravelly silty sand w/clay (SM)   | 2.2               | 4.94015E-06 | 0.002222645 | 0.15         | -9.22              | 2.2   | 4.84           | 0               | 14.66946       | 1.016              | 2.81204E-05         | 0.000993062            | 85.8005352             | 640.3         |
|                      | clayey sand (SC)                  | 3.00              | 4.94015E-07 | 0.000702862 | 0.15         | -9.22              | 5.2   | 27.04          | 0               | 10.96465       | 1.016              | 1.76327E-05         | 0.000622692            | 53.8005745             | 401.5         |
|                      | Clayey sand w/gravell (SC)        | 1.10              | 4.94015E-07 | 0.000702862 | 0.15         | -9.22              | 6.3   | 39.69          | 0               | 13.28409       | 1.016              | 2.39497E-05         | 0.000845777            | 73.0750994             | 545.3         |
|                      | sandy clay w/gravwl (CL)          | 2.40              | 9.52744E-09 | 9.76086E-05 | 0.15         | -9.22              | 8.7   | 75.69          | 0               | 2.547585       | 1.016              | 2.4632E-06          | 8.69872E-05            | 7.51569368             | 56.1          |
|                      | silty sandy gravel (GP-GM))       | 0.60              | 4.94015E-05 | 0.00702862  | 0.15         | -9.22              | 9.3   | 86.49          | 0               | 196.0985       | 1.016              | 0.002549315         | 0.090028209            | 7778.43726             | 58048.0       |
| Average              |                                   |                   |             |             |              |                    |       |                |                 |                |                    |                     |                        |                        | <b>1643.2</b> |
| <b>3rd Section</b>   |                                   |                   |             |             |              |                    |       |                |                 |                |                    |                     |                        |                        |               |
| including RW3        | Clayey sand (SC)                  | 1.46              | 4.94015E-07 | 0.000702862 | 0.15         | -11.7              | 1.46  | 2.1316         | 0               | 3.078536       | 1.016              | 2.98269E-06         | 0.000105333            | 9.10074794             | 67.9          |
|                      | gravelly silty sand (SM)          | 4.87              | 4.94015E-06 | 0.002222645 | 0.15         | -11.7              | 6.33  | 40.0689        | 0               | 42.20803       | 1.016              | 0.000166782         | 0.005889842            | 508.882306             | 3797.6        |
|                      | Silty clayey sand (SP-SC)         | 5.40              | 4.94015E-07 | 0.000702862 | 0.15         | -11.7              | 11.73 | 137.5929       | 0               | 24.73371       | 1.016              | 6.68595E-05         | 0.00236112             | 204.000783             | 1522.4        |
| Average              |                                   |                   |             |             |              |                    |       |                |                 |                |                    |                     |                        |                        | <b>5387.9</b> |
| Project Average      |                                   |                   |             |             |              |                    |       |                |                 |                |                    |                     |                        |                        | <b>4596.2</b> |

\*Q =  $\pi K (H^2 - hw^2) / \ln (R_0 / T_w)$ ..... Dupuit Forcheimer Equation

**Notes**

Length = bed thickness

k = Soil permeability (from Hwy Subdrainage Design Report No. FHWA - TS-80-224- Page 48-49)

H = Hydraulic head of the original table

h<sub>w</sub> = the pile tip (bottom of the hole)

R<sub>0</sub> = radius of influence of hole or point source

= 3000(H-hw)  $\sqrt{k}$  for radial flow

= 1500 (H-hw)  $\sqrt{k}$  for trench / linear flow

T<sub>w</sub> = hole diameter

=  $\sqrt{\text{length of excavation area} \times \text{width of excavation area}} / \pi$

Q = pumping rate

\* Equation obtained from powers, J.P., A.B. Corwin, P.C. Schmall, and W.E. Kaeck, 2007. Construction Dewatering and Groundwater Control, New methods and applications. John Wiley & Sons, Inc., 3rd Edition.

# ATTACHMENT H

## LOG OF TEST BORING

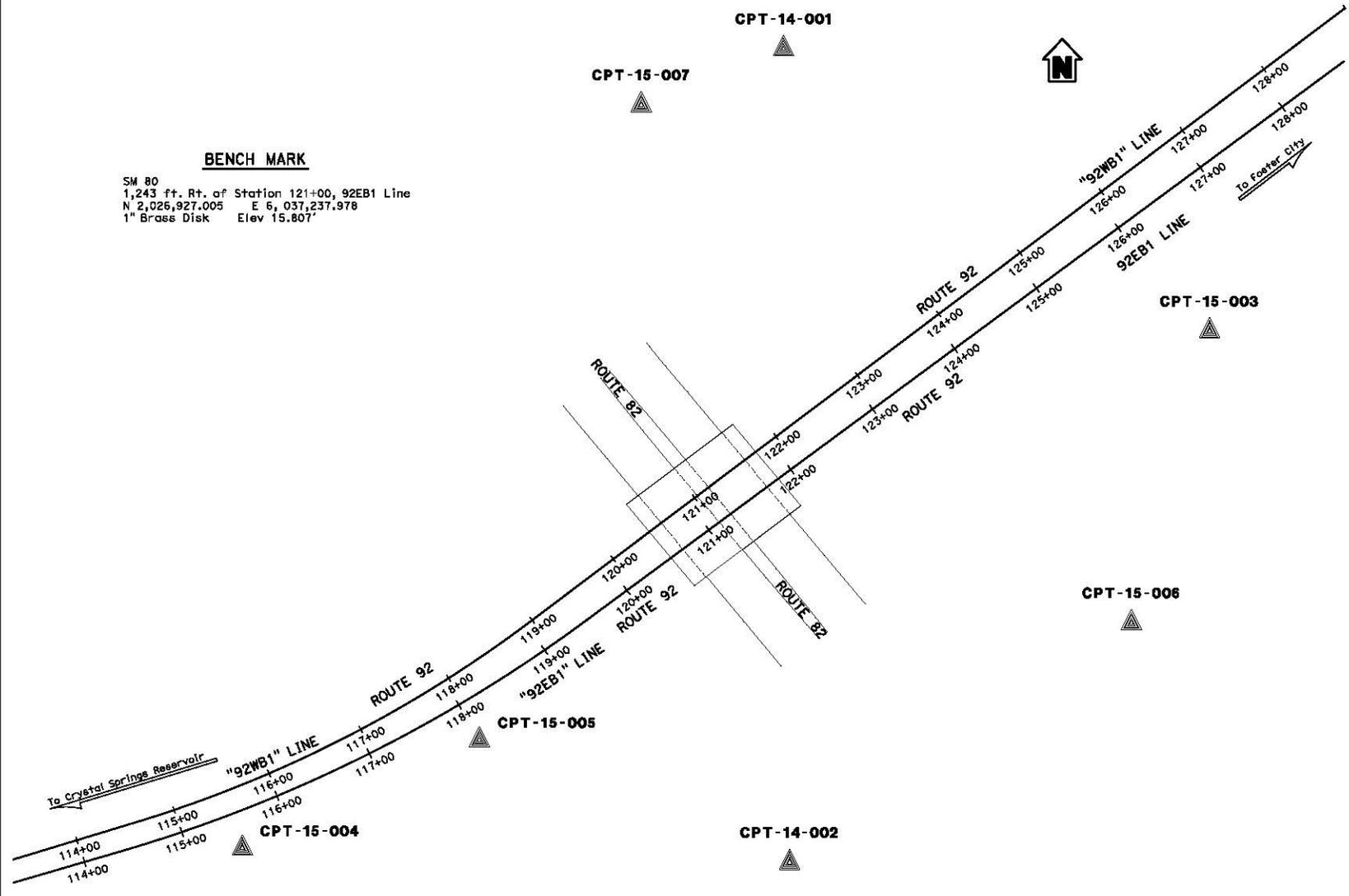
| DIST  | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|--------|-------|--------------------------|----------|--------------|
| 04  | SM     | 92/82 | 11.0/11.5<br>10.3/10.7   |          |              |
| REGISTERED CIVIL ENGINEER<br><i>John C. Moore</i> 06-16-15<br>No. C61792<br>Exp-6-30-17<br>CIVIL<br>STATE OF CALIFORNIA |        |       |                          |          |              |
| PLANS APPROVAL DATE   |        |       |                          |          |              |

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This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

**BENCH MARK**

SM 80  
 1,243 ft. Rt. of Station 121+00, 92EB1 Line  
 N 2,026,927.005 E 6, 037,237.976  
 1" Brass Disk Elev 15.807'



**PLAN**  
 1"=50'

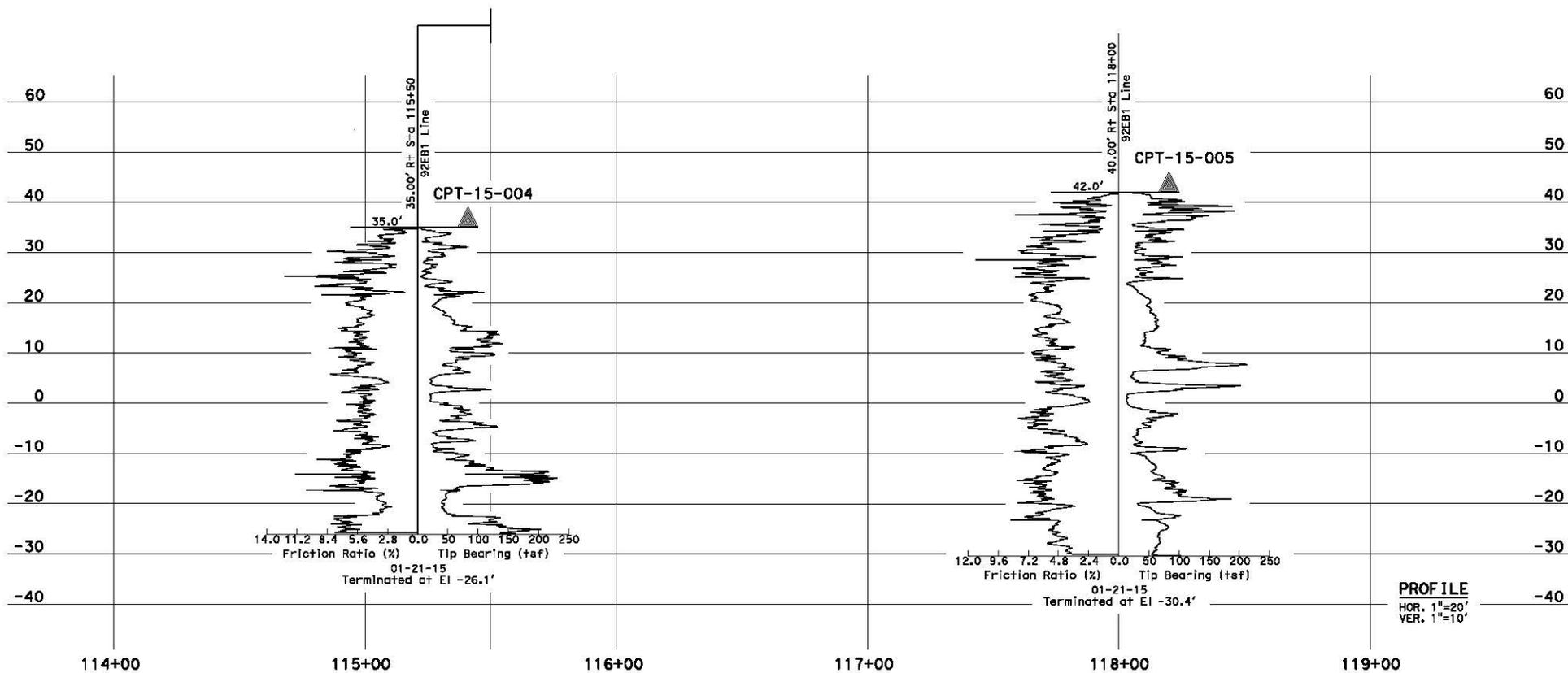
|                                     |  |  |  |                                  |  |   |  |  |  |  |  |
|-------------------------------------|--|--|--|----------------------------------|--|---|--|--|--|--|--|
| <b>ENGINEERING SERVICES</b>         |  | <b>GEOTECHNICAL SERVICES</b>               |  | <b>STATE OF CALIFORNIA</b>       |  | <b>DIVISION OF ENGINEERING SERVICES</b>                     |  | <b>BRIDGE NO.</b>                                    |  | <b>ROUTE 92/ 82 INTERCHANGE RECONSTRUCTION PROJECT</b> |  |
| FUNCTIONAL SUPERVISOR               |  | DRAWN BY: M. Reynolds                      |  | OFFICE OF GEOTECHNICAL           |  | DESIGN BRANCH   |  | WALLS  |  | LOG OF TEST BORINGS 1 of 6                             |  |
| NAME: M. Momenzadeh                 |  | CHECKED BY: D. Nesbitt                     |  | FIELD INVESTIGATION BY: J. Moore |  | DEPARTMENT OF TRANSPORTATION                                |  | POST MILES   |  | SIGNATURE  |  |
|                                     |  |  |  |                                  |  |   |  | 11.0/11.5<br>10.3/10.7                               |  | DATE   |  |
| ONE CIVIL LOG OF TEST BORINGS SHEET |  | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS |  | UNIT: 3660                       |  | PROJECT NUMBER & PHASE: 04120004691 CONTRACT NO.: 04-235521 |  | DISSEMINATED PRINTING BEARING EARLIER REVISION DATES |  | REVISION DATES   |  |
|                                     |  | 0 1 2 3                                    |  | FILE: >> 04120004691.dgn         |  |   |  |  |  | SHEET OF   |  |

USERNAME: P3130819 DATE PLOTTED: 08-JUL-2015 TIME PLOTTED: 08:18:18

| DIST   | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO | TOTAL SHEETS |
|--|--------|-------|--------------------------|----------|--------------|
| 04   | SM     | 92/82 | 11.0/11.5<br>10.3/10.7   |          |              |
| REGISTERED CIVIL ENGINEER<br><i>John C. Moore</i> 06-16-15<br>No. C61792<br>Exp. 6-30-17<br>CIVIL<br>STATE OF CALIFORNIA                             |        |       |                          |          |              |
| PLANS APPROVAL DATE  |        |       |                          |          |              |
| The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet. |        |       |                          |          |              |

(For Boring Location See Plan, LOTB Sheet 1 of 4)

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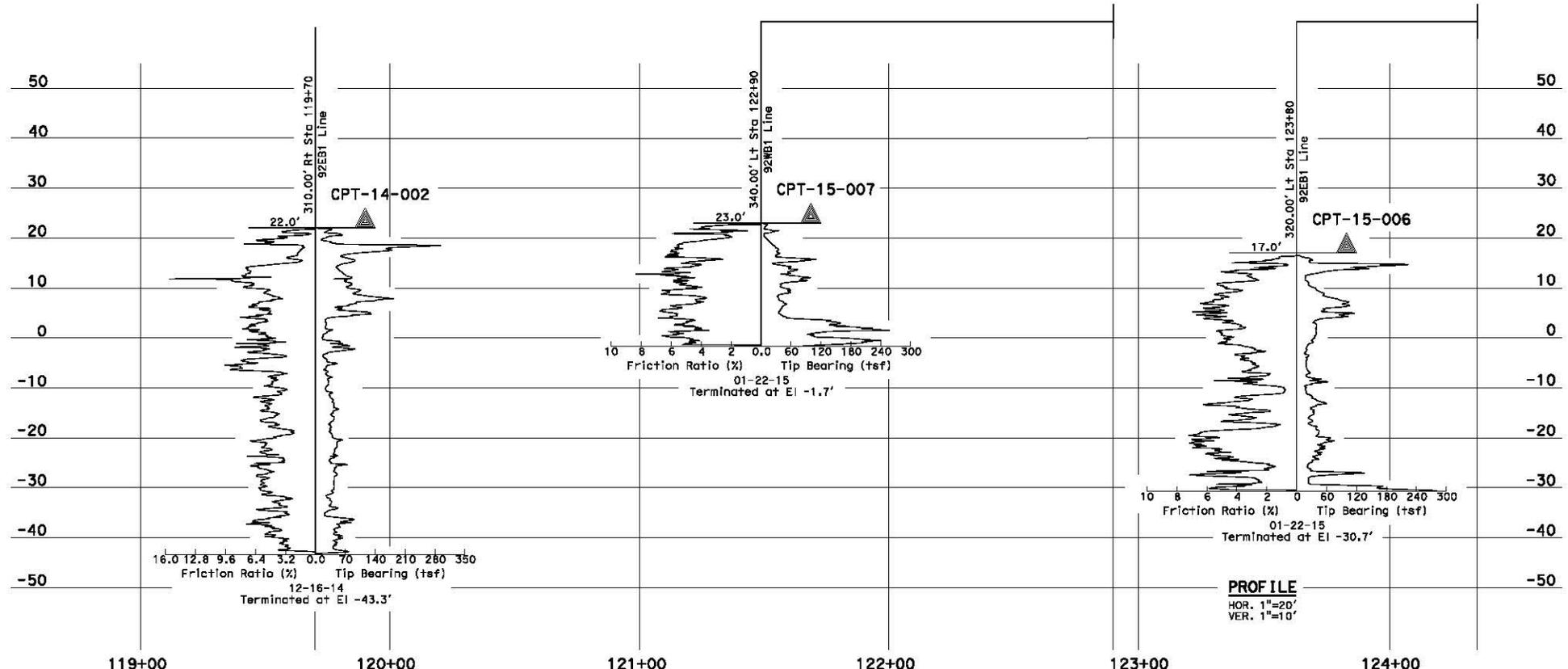
**PROFILE**  
 HOR. 1"=20'  
 VER. 1"=10'

|                                     |  |  |  |                                  |  |   |  |  |  |  |  |
|-------------------------------------|--|--|--|----------------------------------|--|---|--|--|--|--|--|
| <b>ENGINEERING SERVICES</b>         |  | <b>GEOTECHNICAL SERVICES</b>               |  | <b>STATE OF CALIFORNIA</b>       |  | <b>DIVISION OF ENGINEERING SERVICES</b>                     |  | <b>BRIDGE NO.</b>                                |  | <b>ROUTE 92/ 82 INTERCHANGE RECONSTRUCTION PROJECT</b> |  |
| FUNCTIONAL SUPERVISOR               |  | DRAWN BY: M. Reynolds                      |  | OFFICE OF GEOTECHNICAL           |  | DESIGN BRANCH   |  | WALLS  |  | POST MILES   |  |
| NAME: M. Momenzadeh                 |  | CHECKED BY: D. Nesbitt                     |  | FIELD INVESTIGATION BY: J. Moore |  | DEPARTMENT OF TRANSPORTATION                                |  | 11.0/11.5  |  | 10.3/10.7  |  |
| ONE CIVIL LOG OF TEST BORINGS SHEET |  | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS |  | UNIT: 3660                       |  | PROJECT NUMBER & PHASE: D4120004691 CONTRACT NO.: D4-235521 |  | DISREGARD PRINTED BEARING EARLIER REVISION DATES |  | REVISION DATES   |  |
|                                     |  |  |  | 0 1 2 3                          |  | FILE >> D4120004691002.dgn                                  |  | 8-2-15   |  | SHEET 2 OF 6   |  |

USERNAME: 0130819 DATE PLOTTED: 08-JUL-2015 TIME PLOTTED: 15:18

| DIST  | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|--------|-------|--------------------------|----------|--------------|
| 04  | SM     | 92/82 | 11.0/11.5<br>10.3/10.7   |          |              |
| <i>John C. Moore</i> 06-16-15<br>REGISTERED CIVIL ENGINEER<br>No. CE1792<br>Exp. 6-30-17<br>CIVIL<br>STATE OF CALIFORNIA  |        |       |                          |          |              |
| PLANS APPROVAL DATE   |        |       |                          |          |              |
| <small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small> |        |       |                          |          |              |

(For Boring Location See Plan, LOTB Sheet 1 of 4)



**PROFILE**  
 HOR. 1"=20'  
 VER. 1"=10'

|                                     |  |  |  |                              |  |   |  |  |  |
|-------------------------------------|--|--|--|------------------------------|--|---|--|--|--|
| <b>ENGINEERING SERVICES</b>         |  | <b>GEOTECHNICAL SERVICES</b>               |  | <b>STATE OF CALIFORNIA</b>   |  | <b>DIVISION OF ENGINEERING SERVICES</b> |  | <b>ROUTE 92/ 82 INTERCHANGE RECONSTRUCTION PROJECT</b> |  |
| FUNCTIONAL SUPERVISOR               |  | FIELD INVESTIGATION BY:                    |  | DEPARTMENT OF TRANSPORTATION |  | OFFICE OF GEOTECHNICAL                  |  | BRIDGE NO.   |  |
| NAME: M. Momenzadeh                 |  | J. Moore                                   |  |                              |  | DESIGN BRANCH                           |  | WALLS  |  |
| DRAWN BY: M. Reynolds               |  |  |  |                              |  |   |  | POST MILES   |  |
| CHECKED BY: D. Nesbitt              |  |  |  |                              |  |   |  | 11.0/11.5<br>10.3/10.7                                 |  |
| ONE CIVIL LOG OF TEST BORINGS SHEET |  | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS |  | UNIT: 3660                   |  | PROJECT NUMBER & PHASE: 04120004691     |  | CONTRACT NO.: 04-235521                                |  |
|                                     |  |  |  |                              |  |   |  | DISREGARD PRINTED BEARING EARLIER REVISION DATES       |  |
|                                     |  |  |  |                              |  |   |  | REVISION DATES   |  |
|                                     |  |  |  |                              |  |   |  | SHEET 02   |  |

USERNAME: 04120004691 DATE PLOTTED: 08-JUL-2015 TIME PLOTTED: 15:18

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|------|--------|-------|--------------------------|----------|--------------|
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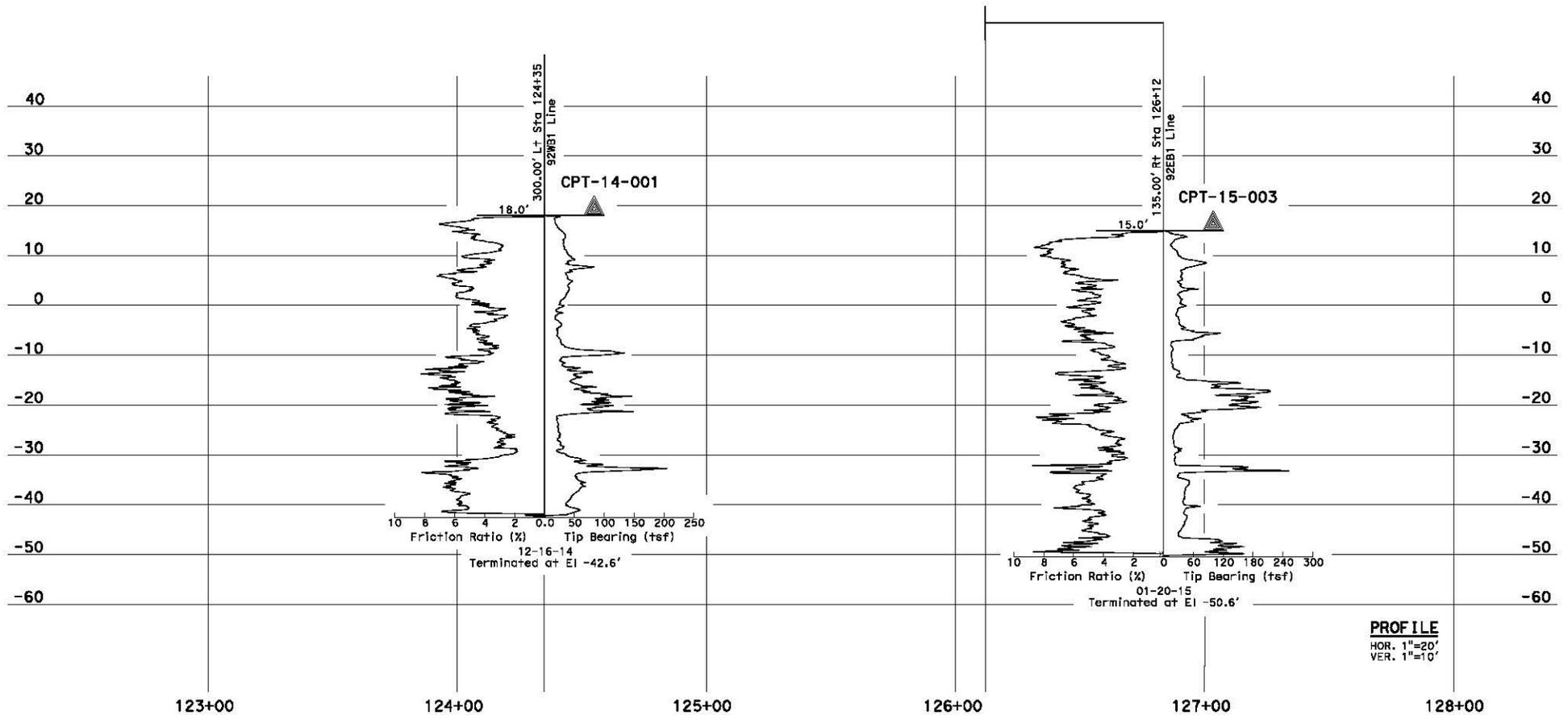
John C. Moore 06-16-15  
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

John C. Moore  
No. C61792  
Exp. 6-30-17  
CIVIL  
STATE OF CALIFORNIA

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(For Boring Location See Plan, LOTB Sheet 1 of 4)



PROFILE  
HOR. 1"=20'  
VER. 1"=10'

|                                     |                        |  |          |   |  |   |  |   |  |   |  |
|-------------------------------------|------------------------|--|----------|---|--|---|--|---|--|---|--|
| ENGINEERING SERVICES                |                        | GEOTECHNICAL SERVICES                      |          | STATE OF CALIFORNIA<br>DEPARTMENT OF TRANSPORTATION |  | DIVISION OF ENGINEERING SERVICES<br>OFFICE OF GEOTECHNICAL<br>DESIGN BRANCH |  | BRIDGE NO.<br>WALLS<br>POST MILES<br>11.0/11.5<br>10.3/10.7 |  | ROUTE 92/ 82 INTERCHANGE RECONSTRUCTION PROJECT                           |  |
| FUNCTIONAL SUPERVISOR               | DRAWN BY: M. Reynolds  | FIELD INVESTIGATION BY:                    | J. Moore |   |  |   |  |   |  | LOG OF TEST BORINGS 4 of 6  |  |
| NAME: M. Momenzadeh                 | CHECKED BY: D. Nesbitt |  |          |   |  |   |  |   |  | UNIT: 3660<br>PROJECT NUMBER & PHASE: D4120004691 CONTRACT NO.: D4-235521 |  |
| ONE CIVIL LOG OF TEST BORINGS SHEET |                        | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS |          | 0 1 2 3   |  | DISREGARD PRINTED BEARING EARLIER REVISION DATES                            |  | REVISION DATES  |  | SHEET OF  |  |

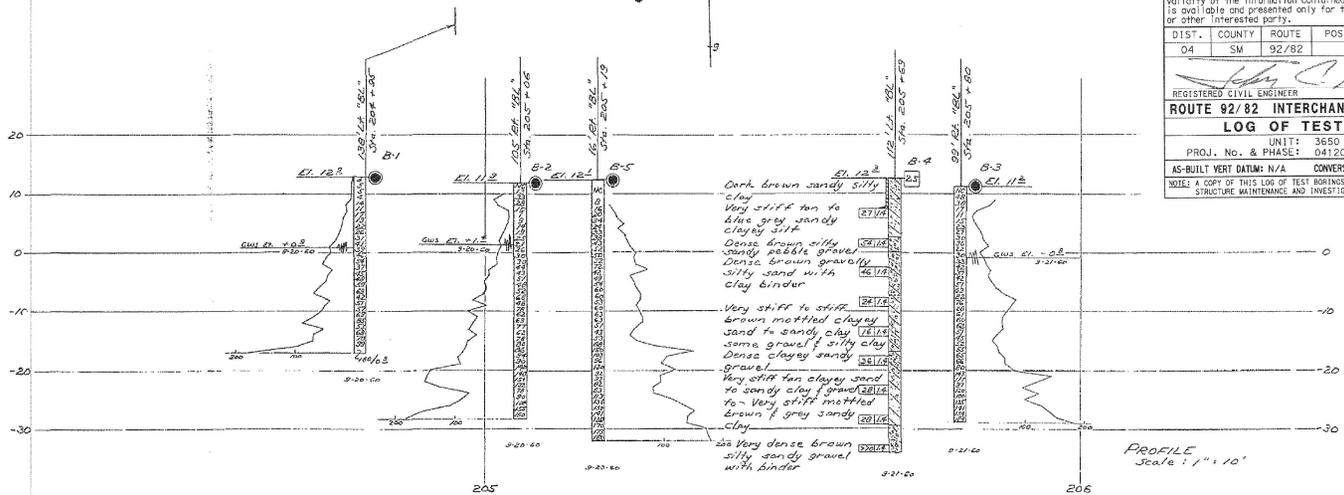
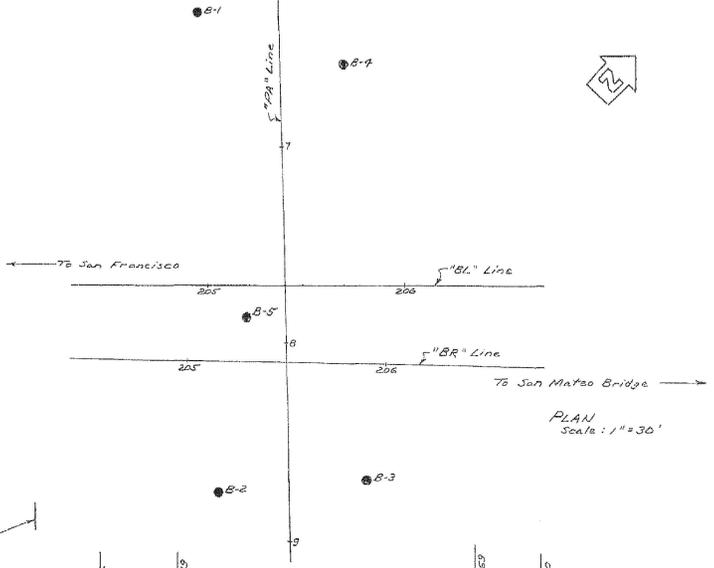
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JUL 24 1961 92 U-0108(1)

| NO. | DATE | BY | REVISION |
|-----|------|----|----------|
| 7   | QAL  |    |          |

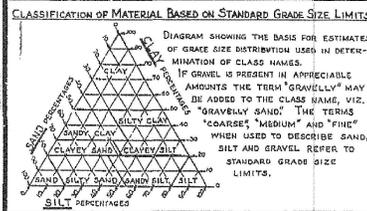
REGISTERED CIVIL ENGINEER  
 John Moore  
 No. C61792  
 Exp. 6-30-17  
 CIVIL  
 STATE OF CALIFORNIA  
 July 24, 1961

BM "A" RR Spike in J.R.  
 25' RA "A" 9' 65"  
 Elev. 12.40



|  |        |                        |                         |
|--|--------|------------------------|-------------------------|
| DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES   |        |                        |                         |
| As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirms that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party. |        |                        |                         |
| DIST.  | COUNTY | ROUTE                  | POST MILE-TOTAL PROJECT |
| 04   | SM     | 92/82                  |                         |
| Sheet No.  |        | Total Sheets           |                         |
| 5  |        | 8                      |                         |
| REGISTERED CIVIL ENGINEER  |        |                        |                         |
| John C. Moore  |        | DATE 6/19/61           |                         |
| ROUTE 92/82 INTERCHANGE RECONSTRUCTION PROJECT   |        |                        |                         |
| LOG OF TEST BORINGS 5 OF 6   |        |                        |                         |
| UNIT: 3650   |        | CONTRACT No. 04-235524 |                         |
| PROJ. No. & PHASE: 04120004961   |        | BRIDGE No. N/A         |                         |
| AS-BUILT VERT DATUM: N/A   |        | CONVERSION: N/A        |                         |
|  |        | Sheet of               |                         |
| NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA  |        |                        |                         |

AS BUILT PLANS  
 Contract No. 62-4713-31  
 Date Completed  
 Document No. 4000 2491



| LEGEND OF EARTH MATERIALS |                            |
|---------------------------|----------------------------|
| GRAVEL                    | SILTY CLAY OR CLAYEY SILT  |
| SAND                      | PEAT AND/OR ORGANIC MATTER |
| SILT                      | FILL MATERIAL              |
| CLAY                      | IGNEOUS ROCK               |
| SANDY CLAY OR CLAYEY SAND | SEDIMENTARY ROCK           |
| SANDY SILT OR SILTY SAND  | METAMORPHIC ROCK           |

| LEGEND OF BORING OPERATIONS |                     |                    |
|-----------------------------|---------------------|--------------------|
| PLAN OF ANY BORING          | Top Hole EL.        | Penetration Boring |
| PENETROMETER                | Groundwater surface | Rotary Boring      |
| 2 1/2" CONE PENETROMETER    | Blows per foot      | Jet Boring         |
| SAMPLER BORING (DRY)        | Blows per foot      | Core Boring        |
| ROTARY BORING (WET)         | Blows per foot      | Test Pit           |
| AUGER BORING (DRY)          | Blows per foot      |                    |
| JET BORING                  | Blows per foot      |                    |
| CORE BORING                 | Blows per foot      |                    |
| TEST PIT                    | Blows per foot      |                    |

NOTE  
 Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 DIVISION OF HIGHWAYS

PALM AVENUE UNDERCROSSING  
 LOG OF TEST BORINGS

SCALE As Noted BRIDGE 35-150 FILE DRAWING 35-150-8

BRIDGE DEPARTMENT

Checked  
 Approved  
 Date

39

1 SM 92 U-0108(1)

| REV. NO. | DATE | BY | CHKD. BY |
|----------|------|----|----------|
| 7        | CAL  |    | 831 271  |

Dist. County Route Station Station  
 7 SM 92 100+00 100+00  
 Date Reported July 21, 1961

**DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES**  
 As-built log of test borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST. COUNTY ROUTE POST MILE-TOTAL PROJECT SHEET No. TOTAL SHEETS  
 04 SM 92/82 200 7/3

REGISTERED CIVIL ENGINEER DATE 8/19/25  
**John C. Moore**

**ROUTE 92/82 INTERCHANGE RECONSTRUCTION PROJECT**  
**LOG OF TEST BORINGS 6 OF 6**

UNIT: 3650 CONTRACT No. N/A BRIDGE No. N/A  
 PROJ. No. & PHASE: 04120004961 04-235524

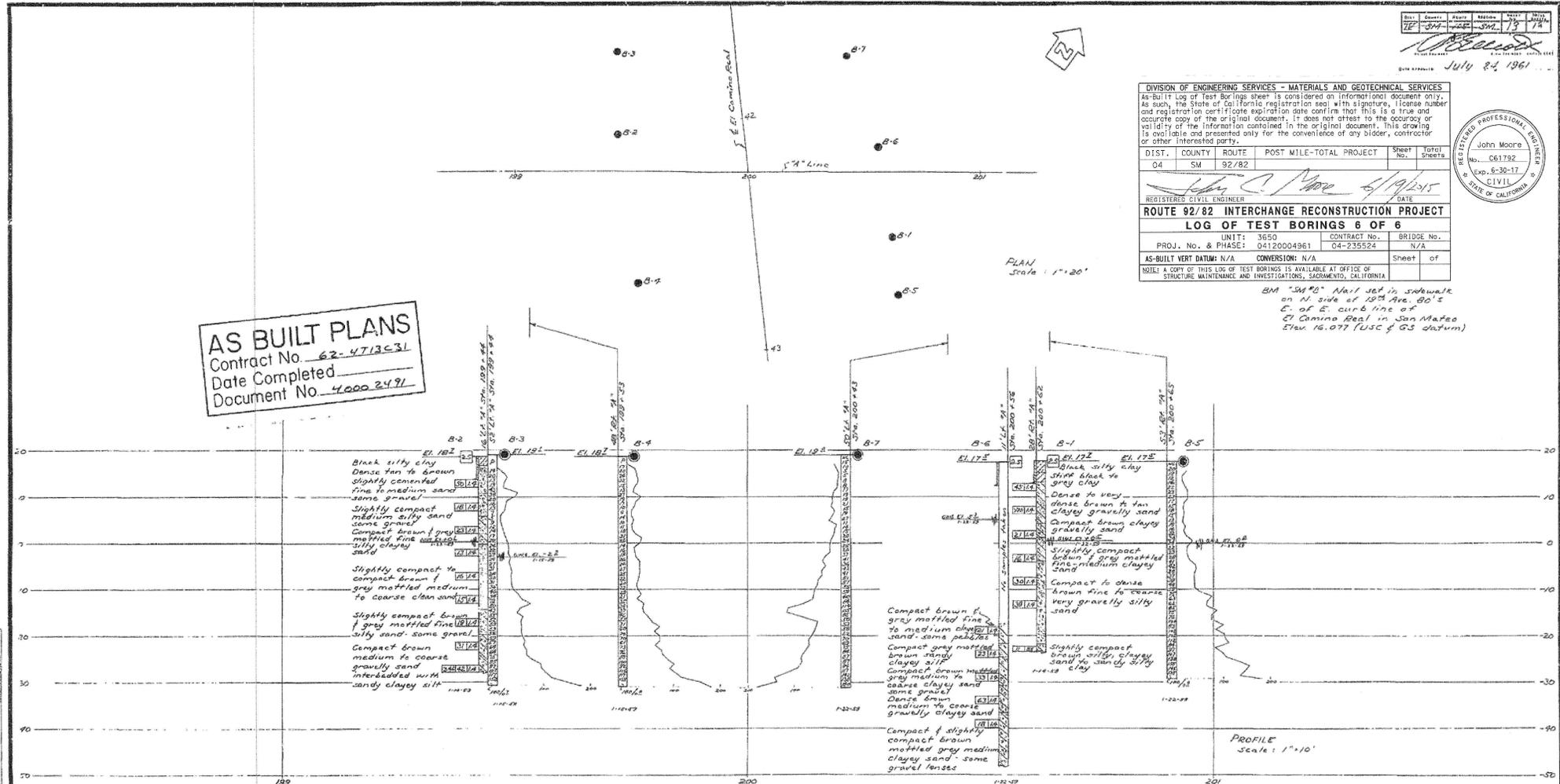
AS-BUILT VERT DATUM: N/A CONVERSION: N/A Sheet of

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

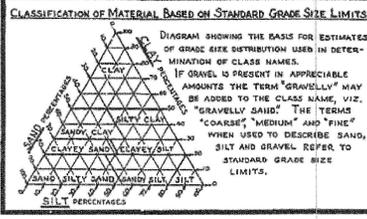


**AS BUILT PLANS**  
 Contract No. 62-4713C31  
 Date Completed  
 Document No. 4000 2491

BRIDGE DEPARTMENT



BM "54 82" Nail set in sidewalk on N. side of 197 Ave. 80' S. of E. El Camino Real in San Mateo Elev. 16.077 (USC & GS datum)



**LEGEND OF EARTH MATERIALS**

|                           |                            |
|---------------------------|----------------------------|
| GRAVEL                    | SILTY CLAY OR CLAYEY SILT  |
| SAND                      | PEAT AND/OR ORGANIC MATTER |
| SILT                      | FILL MATERIAL              |
| CLAY                      | IGNEOUS ROCK               |
| SANDY CLAY OR CLAYEY SAND | SEDIMENTARY ROCK           |
| SANDY SILT OR SILTY SAND  | METAMORPHIC ROCK           |

**LEGEND OF BORING OPERATIONS**

|                          |                     |
|--------------------------|---------------------|
| PLAN OF ANY BORING       | ROTOR BORE          |
| PENETROMETER             | ROTARY BORING (WET) |
| 2 1/2" CONE PENETROMETER | AUGER BORING (DRY)  |
| SAMPLER BORING (DRY)     | JET BORING          |
| ROTARY BORING (WET)      | CORE BORING         |
| AUGER BORING (DRY)       | TEST PIT            |

**1" SOIL TUBE**

**ROTARY BORING**

**PENETRATION BORING**

**NOTES**

The contractor's attention is directed to Section 7, Article (c) of the Standard Specifications and to the Special Provisions accompanying this set of plans. Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 DIVISION OF HIGHWAYS

ROUTE 92/82 SEPARATION  
 ROUTE 105/2 SEPARATION

**LOG OF TEST BORINGS**

SCALE As Noted SHEET 35-158 2/ FILE E33 DRAWING 15130-13

ATTACHMENT I

SITE INVESTIGATION REPORT

# PRELIMINARY SITE INVESTIGATION REPORT



*PREPARED FOR:*  
CALIFORNIA DEPARTMENT OF TRANSPORTATION  
DISTRICT 4  
OFFICE OF ENVIRONMENTAL ENGINEERING  
111 GRAND AVENUE, MS8C  
OAKLAND, CA 94612



*PREPARED BY:*  
GEOCON CONSULTANTS, INC.  
6671 BRISA STREET  
LIVERMORE, CA 94550



GEOCON PROJECT NO. E8721-02-36  
CALTRANS EA 04-235521  
PROJECT # 04-1200-0496-1

MARCH 2016

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## REPORT LIMITATIONS

This report has been prepared exclusively for the State of California Department of Transportation (Caltrans) District 4. The information contained herein is only valid as of the date of the report and will require an update to reflect additional information obtained.

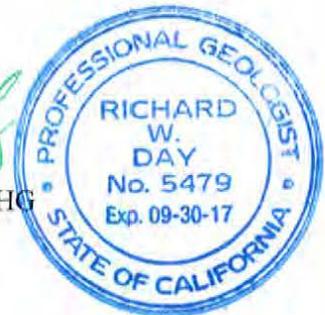
This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty, express or implied, with respect to the content of this report or any subsequent reports, correspondence or consultation. Geocon Consultants, Inc. strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

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# PRELIMINARY SITE INVESTIGATION REPORT

## 1.0 INTRODUCTION

This Preliminary Site Investigation Report for the State Route 82 (SR-82) and SR-92 Interchange Modification Project in San Mateo, California was prepared by Geocon Consultants, Inc. under California Department of Transportation (Caltrans) Contract No. 04A4336 and Task Order No. 36 (TO-36), EA 04-235651.

### 1.1 Project Description and Proposed Improvements

The project proposes to reconstruct the SR-92/SR-82 interchange within the existing alignment as a partial cloverleaf interchange by eliminating the westbound (WB) SR-92 loop offramp to southbound (SB) SR-82 and the eastbound (EB) loop offramp to northbound (NB) SR-82. The project will re-align and widen the onramps and offramps, signalize the offramp intersections, and construct retaining and sound walls along the ramps. Additionally, maintenance vehicle pullouts and CHP enforcement areas will be created at the onramps. The improvements will take place within Caltrans right-of-way. The project location is depicted on the attached Site Plan, Figure 1.

The site investigation was performed in the following areas:

- EB SR-92 Offramp to SB SR-82 (Borings B1 to B10)
- SB SR-82 Loop Onramp to EB SR-92 (Borings B11 to B21)
- NB SR-82 Onramp to EB SR-92 (Borings B22 to B31)
- WB SR-92 Offramp to NB SR-82 (Borings B32 to B42)
- NB SR-82 Loop Onramp to WB SR-92 (Borings B43 to B52)
- SB SR-82 Onramp to WB SR-92 (Borings B53 to B67)

### 1.2 General Objectives

The purpose of the site investigation was to evaluate concentrations of California Assessment Manual (CAM 17) metals, particularly aerially-deposited lead, total petroleum hydrocarbons as diesel (TPHd), as motor oil (TPHmo), and as gasoline (TPHg), benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tert-butyl ether (MTBE), and volatile organic compounds (VOCs) in soil and TPHg, BTEX, MTBE, and VOCs in groundwater within the project limits.

The information obtained from this investigation will be used by Caltrans to evaluate soil and groundwater handling practices, worker health and safety, and soil and groundwater reuse and disposal options.

## 2.0 BACKGROUND

### 2.1 Hazardous Waste Determination Criteria

Regulatory criteria to classify a waste as California hazardous for handling and disposal purposes are contained in the CCR, Title 22, Division 4.5, Chapter 11, Article 3, §66261.24. Criteria to classify a waste as Resource, Conservation, and Recovery Act (RCRA) hazardous are contained in Chapter 40 of the Code of Federal Regulations (40 CFR), Section 261.

For waste containing metals, the waste is classified as California hazardous when: 1) the representative total metal content equals or exceeds the respective Total Threshold Limit Concentration (TTLC); or 2) the representative soluble metal content equals or exceeds the respective Soluble Threshold Limit Concentration (STLC) based on the standard Waste Extraction Test (WET). A waste has the potential of exceeding the STLC when the waste's total metal content is greater than or equal to 10 times the respective STLC value since the WET uses a 1:10 dilution ratio. Hence, when a total metal is detected at a concentration greater than or equal to 10 times the respective STLC, and assuming that 100 percent of the total metals are soluble, soluble metal analysis is required. A material is classified as RCRA hazardous, or Federal hazardous, when the representative soluble metal content equals or exceeds the Federal regulatory level based on the Toxicity Characteristic Leaching Procedure (TCLP).

The above regulatory criteria are based on chemical concentrations. Wastes may also be classified as hazardous based on other criteria such as ignitability and corrosivity; however, for the purposes of this investigation, toxicity (i.e., representative lead concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or other criteria. Waste that is classified as either California hazardous or RCRA hazardous requires management as a hazardous waste.

### 2.2 DTSC Variance

The DTSC issued a statewide Variance effective July 1, 2009, regarding the management of ADL-impacted soils within Caltrans right-of-way. Under the Variance, soil that is classified as a non-RCRA hazardous waste, based primarily on ADL content, may be suitable for reuse within Caltrans right-of-way. ADL soil that is classified as a RCRA hazardous waste is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste (Caltrans Type Z-3).

ADL soil reused under the Variance must always be at least five feet above the highest groundwater elevation and, depending on lead concentrations, must be covered with at least one foot of non-hazardous soil or a pavement structure. The ADL soil may not be placed in areas where it might

contact groundwater or surface water (such as streams and rivers), and must be buried in locations that are protected from erosion that may result from storm water run-on and run-off.

Review of the statewide Variance indicates the following conditions regarding the reuse and management of ADL-impacted soil as fill material for construction and maintenance operations. If ADL soil meets the Variance criteria but is not intended to be reused within Caltrans right-of-way, then the excavated soil must be disposed of as a California hazardous waste (Caltrans Type Z-2). A copy of the Variance is presented as Appendix A.

**Caltrans Type Y-1:** ADL soil exhibiting a total lead concentration less than or equal to 1,411 milligrams per kilogram (mg/kg), a DI-WET (WET using deionized water as extractant) lead concentration less than or equal to 1.5 milligrams per liter (mg/l), and a pH value greater than or equal to 5.5 may be reused within the same Caltrans corridor and must be covered with at least one foot of non-hazardous soil.

**Caltrans Type Y-2:** ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET lead concentration less than or equal to 1.5 mg/l, and a pH value greater than 5 and less than 5.5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET lead concentration greater than 1.5 mg/l and less than or equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

ADL soil exhibiting a total lead concentration greater than 1,411 mg/kg and less than or equal to 3,397 mg/kg, a DI-WET lead concentration less than or equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

**Caltrans Type Z-2:** ADL soil exhibiting a total lead concentration greater than 3,397 mg/kg, a DI-WET lead concentration greater than 150 mg/l, or a pH value less than or equal to 5 is not eligible for reuse under the Variance and must be disposed of as a California hazardous waste.

**Caltrans Type Z-3:** ADL soil exhibiting a TCLP lead concentration greater than or equal to 5 mg/l is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste.

## 2.3 California Human Health Screening Levels

The California Environmental Protection Agency (Cal/EPA) has prepared technical reports entitled *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties* (Cal/EPA, January 2005) and *Revised California Human Health Screening Levels for Beryllium* (Cal/EPA, March 2009) and *Lead* (Cal/EPA, September 2009), which present CHHSLs for soil, shallow soil gas, and indoor air to assist in evaluating sites impacted by releases of hazardous chemicals.

The CHHSLs are concentrations of 54 hazardous chemicals including Title 22 metals that Cal/EPA considers to be below thresholds of concern for risks to human health. The CHHSLs were developed by the Office of Environmental Health Hazard Assessment (OEHHA) on behalf of Cal/EPA. The thresholds of concern used to develop the CHHSLs are an excess lifetime cancer risk of one in a million and a hazard quotient or 1.0 for non-cancer effects. Under most circumstances, the presence of a chemical at concentrations below its respective CHHSL can be assumed to not pose a significant risk. The presence of a chemical at concentrations above a CHHSL does not indicate that adverse impacts to human health are occurring or will occur but suggests that further evaluation is warranted (Cal/EPA, January 2005).

The CHHSLs for residential and industrial/commercial land use were used for comparison on Table 3.

## 2.4 Environmental Screening Levels

The San Francisco Bay Regional Water Quality Control Board (SFRWQCB) has prepared a technical report entitled *User's Guide: Derivation and Application of Environmental Screening Levels, Interim Final 2016* (updated February 2016), which presents Environmental Screening Levels (ESLs) for over 100 commonly found contaminants in soil, groundwater, soil gas, and surface water, to assist in evaluating sites impacted by releases of hazardous chemicals. "If used correctly, ESLs are considered to be protective for typical bay area sites. Under most circumstances, ...the presence of a chemical in soil, soil gas, or groundwater at concentrations below the corresponding ESL can be assumed to not pose a significant threat to human health, water resources, or the environment." (SFRWQCB, February 2016).

ESLs are commonly used by contractors, soil trucking companies, and private and commercial land owners as default acceptance criteria to evaluate suitability of import soil material. The ESL Tables Tier 1, ESL Soil Screening Levels Summary Table, and S-1, Summary of Soil ESLs, Direct Exposure to Human Health, were used for this characterization.

The respective ESLs are listed at the end of Tables 3 to 7 for comparative purposes.

### 3.0 SCOPE OF SERVICES

The scope of services performed under TO-36, EA 04-235521 included the following:

#### 3.1 Pre-field Activities

- Prepared a Preliminary Site Investigation Workplan and Health and Safety Plan, dated December 2015 (revised March 2016).
- Obtained boring permits from San Mateo County Environmental Health Division (SMCEHD). Copies of the boring permits are included as Appendix B.
- Notified Underground Service Alert (USA) at least 48-hours prior to field activities.
- Retained the services of Advanced Technology Laboratories, Signal Hill, California (ATL), a Caltrans-approved and California-certified analytical laboratory, to perform the chemical analyses of soil and groundwater samples.

#### 3.2 Field Activities

Our field investigation was performed on January 8, January 21, February 18, March 10, and March 11, 2016, by Geocon staff. Sixty-six soil borings were advanced at the project locations using hand-auger and direct-push drilling techniques. The borings were advanced to a maximum depth of 35 feet.

The following soil samples were collected:

- 22 for CAM 17 metals analysis
- 176 for total lead analysis
- 38 for TPHd and TPHmo analyses
- 4 for TPHg analysis
- 6 for BTEX/MTBE analysis
- 6 for VOCs analysis

The following groundwater samples were collected:

- 1 for TPHg analysis
- 1 for BTEX/MTBE analysis
- 2 for VOCs analysis

QA/QC samples for TPHg, BTEX, and VOCs were also collected.

All samples were transported to ATL for analysis under standard chain-of-custody (COC) documentation.

## **4.0 INVESTIGATIVE METHODS**

### **4.1 Sampling Procedures**

Soil samples were collected from the 66 boring locations using hand-auger and direct-push drilling techniques. Groundwater samples were collected from three of the borings. Boring B5 was not sampled due to time constraints within ramp closure. Boring coordinates are presented on Table 1. The Site Plan, Figure 2, shows the boring locations.

Soil samples collected using a hand-auger were placed in resealable plastic bags or stainless steel tubes and sealed with Teflon tape and plastic lids prior to being stored in a chest cooled with ice.

Soil samples collected using a direct-push sample rig were obtained by hydraulically advancing a two-inch-diameter, four-foot-long stainless steel core-barrel sampler lined with an acetate sample tube into undisturbed soil. Soil samples were collected for laboratory analysis by cutting an approximately six-inch-long section of the acetate tube from the target sample depth, capping the ends with Teflon tape and plastic end caps.

The grab-groundwater samples were pumped from the tubing fitted with a check valve directly into the appropriate laboratory containers or using a disposable bailer.

Sample containers were labeled, placed in a chest cooled with ice as necessary, and transported to a Caltrans-approved, certified environmental laboratory using standard COC documentation. Hand-auger soil borings were back-filled to surface with soil cuttings; direct-push borings were backfilled to near-surface with neat cement.

Geocon provided QA/QC procedures during the field activities. These procedures included washing the sampling equipment with a Liqui-Nox® solution followed by a double rinse with deionized water. Decontamination water was disposed of to the ground surface within Caltrans right-of-way in a manner not to create runoff, away from drain inlets or potential water bodies.

### **4.2 Laboratory Analyses**

Laboratory analyses were performed by ATL under standard and expedited turnaround-times. The laboratory reports and COC documentation are included in Appendix C.

The soil samples were analyzed as follows:

- 176 samples for total lead using EPA Test Method 6010 ICAP.
- 22 samples for CAM 17 metals using EPA Test Methods 6010 ICAP and 7471.
- 6 samples with a total chromium concentration equal to or exceeding 50 mg/kg (i.e. equal to or exceeding 10 times the STLC of 5.0 mg/l) were further analyzed for WET chromium.
- 64 samples with total lead concentrations equal to or exceeding 50 mg/kg (i.e. equal to or exceeding 10 times the STLC of 5.0 mg/l) were further analyzed for WET lead.
- 33 samples with WET lead concentrations equal to or exceeding 5 mg/l (i.e. equal to or exceeding the STLC of 5.0 mg/l) and total lead equal to or exceeding 100 mg/kg were further analyzed for TCLP lead.
- 12 samples with WET lead concentrations equal to or exceeding 5 mg/l (i.e. equal to or exceeding the STLC of 5.0 mg/l) were further analyzed for DI-WET lead and pH.
- 1 sample with total lead equal to or exceeding 1,000 mg/kg (i.e. equal to or exceeding the TTLC of 1,000 mg/kg) was further analyzed for TCLP lead.
- One sample with total mercury equal to or exceeding 2.0 mg/kg (i.e. equal to or exceeding ten times the STLC of 0.2 mg/l) was further analyzed for WET mercury.
- 4 samples with total nickel equal to or exceeding 200 mg/kg (i.e. equal to or exceeding ten times the STLC of 20 mg/kg) were further analyzed for WET nickel.
- 38 samples for TPHd using EPA Test Method 8015B.
- 38 samples for TPHmo using EPA Test Method 8015B.
- 4 samples for TPHg using EPA Test Method 8015B.
- 6 samples for BTEX and MTBE using EPA Test Method 8021.
- 6 samples for VOCs using EPA Test Method 8260B.

The groundwater samples were analyzed as follows:

- 1 sample for TPHg using EPA Test Method 8015B.
- 1 sample for BTEX/MTBE using EPA Test Method 8021.
- 2 samples for VOCs using EPA Test Method 8260B.

Two trip blank samples were analyzed for TPHg using EPA Test Method 8015B and VOCs using EPA Test Method 8260B.

### **4.3 Laboratory QA/QC**

QA/QC procedures were performed for each method of analysis with specificity for each analyte listed in the test method's QA/QC. The laboratory QA/QC procedures included the following:

- One method blank for every 10 samples, batch of samples or type of matrix, whichever was more frequent.
- One sample analyzed in duplicate for every 10 samples, batch of samples or type of matrix, whichever was more frequent.
- One spiked sample for every 10 samples, batch of samples or type of matrix; whichever was more frequent, with spike made at 10 times the detection limit or at the analyte level.

Prior to submitting the samples to the laboratories, the COC documentation was reviewed for accuracy and completeness.

## **5.0 INVESTIGATIVE RESULTS**

### **5.1 Subsurface Conditions**

Borings were completed using hand-auger and direct-push drilling techniques. Soil in the project area consisted predominately of moist, brown dense clay to 6 feet, dry, brown/mottled red, hard silty sand with occasional gravel to 16 feet, reddish brown damp clay with gravel to 30 feet and sandstone with some gravel at 30 feet. A strong hydrocarbon odor was present in Boring B10 at a depth of ten feet, and groundwater was encountered at a depth of approximately 23 feet. Groundwater was encountered in boring B42 at a depth of 32 feet. Groundwater was not observed in Boring B67; however, damp clay with gravel was encountered at a depth of approximately 20.5 feet. The boring was temporarily screened and allowed to remain open. After several hours, groundwater had risen to approximately 14 feet below ground surface and groundwater samples were collected. Boring logs are included in Appendix D.

### **5.2 Laboratory Analytical Results**

The analytical results are summarized in Tables 2 through 7 and are summarized below:

Soil Sample Results:

- The following metals were not detected above their respective laboratory reporting limits: beryllium, cadmium, and silver.
- Chromium, lead, mercury, and nickel were reported at concentrations equal to or exceeding ten times their respective STLCS.
- Total chromium was reported at concentrations ranging from 11 mg/kg to 240 mg/kg.

- WET chromium was not detected at or above the laboratory reporting limit of 1.0 mg/l.
- Total lead was reported at concentrations ranging from 1.9 mg/kg to 1,400 mg/kg.
- WET lead was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/l) to 71 mg/l.
- DI-WET lead was detected in one sample at a concentration of 1.1 mg/l.
- TCLP lead was reported at concentrations ranging from not-detected (laboratory reporting limit of 0.050 mg/l) to 1.8 mg/l.
- Total mercury was reported at concentrations ranging from not detected (laboratory reporting limit of 0.10 mg/kg) to 4.4 mg/kg.
- WET mercury was not detected at or above the laboratory reporting limit of 0.001 mg/l.
- Total nickel was reported at concentrations ranging from 14 mg/kg to 340 mg/kg.
- WET nickel was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/l) to 1.6 mg/l.
- Remaining CAM 17 metals were reported in the samples at total concentrations below 10 times their respective STLCs.
- TPHd was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/kg) to 1,200 mg/kg.
- TPHmo was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/kg) to 3,300 mg/kg.
- TPHg was detected in one sample at a concentration of 150 mg/kg. TPHg was not detected (laboratory reporting limit of 1.0 mg/kg) in the remaining samples.
- Ethylbenzene was reported in one sample at a concentration of 520 mg/kg. BTEX or MTBE were not detected at or above the laboratory reporting limits in the remaining samples.
- VOCs were reported at concentrations ranging from not detected to 13,000 mg/kg.
- pH ranged from 6.2 to 8.2 pH units.

#### Groundwater Sample Results:

- TPHg was reported at a concentration of 1.3 mg/l in the single sample analyzed.
- BTEX/MTBE compounds were reported at concentrations ranging from not detected to 74 µg/l.
- VOCs were reported at concentrations ranging from not detected to 510 µg/l.

#### QA/QC Sample Results:

- TPHg was not detected at or above the laboratory reporting limit of 0.050 mg/l in the trip blank sample.
- VOCs were not detected at or above the laboratory reporting limits in the trip blank sample.

### 5.3 Laboratory Quality Assurance/Quality Control

We reviewed the QA/QC results provided with the laboratory analytical reports. The data indicate non-detect results for the method blanks at or above reporting limits. The surrogate was diluted out for several samples. Several samples required dilution due to the high concentrations of target analytes. One laboratory control sample was biased high. Associated sample results were non-detect for the target analyte; therefore, reanalysis was not necessary. The surrogate recovery was below acceptance limits due to possible matrix interference for two samples. The Relative Percent Difference (RPD) was outside of acceptance criteria for several samples; calculations were based on raw values. The RPD for several samples was outside of acceptance limits due to possible matrix interference. The Matrix Spike (MS) was outside of acceptance limits for several samples; however, the analytical batch was validated by the laboratory control sample.

### 5.4 Statistical Evaluation for Lead Detected in Soil Samples

Statistical methods were applied to the total lead data to evaluate: 1) the upper confidence limits (UCLs) of the arithmetic means of the total lead concentrations for each sampling depth; and 2) if an acceptable correlation between total and WET lead concentrations exist that would allow the prediction of WET lead concentrations based on calculated UCLs.

#### 5.4.1 Calculating the UCLs for the Arithmetic Mean

The upper one-sided 90% and 95% UCLs of the arithmetic mean are defined as the values that, when calculated repeatedly for randomly drawn subsets of site data, equal or exceed the true mean 90% and 95% of the time, respectively. Statistical confidence limits are the classical tool for addressing uncertainties of a distribution mean. The UCLs of the arithmetic mean concentration are used as the mean concentrations because it is not possible to know the true mean due to the essentially infinite number of soil samples that could be collected from a site. The UCLs therefore account for uncertainties due to limited sampling data. As data become less limited at a site, uncertainties decrease, and the UCLs move closer to the true mean.

Non-parametric bootstrap techniques were used to calculate the UCLs. The bootstrap test results are included in Appendix E. The following tables present the calculated UCLs and statistics for the site:

**EB SR-92 Offramp to SB SR-82 (Borings B1 to B10)**

| Sample Interval (feet) | Total Lead 90% UCL (mg/kg) | Total Lead 95% UCL (mg/kg) | Total Lead Mean (mg/kg) | Total Lead Minimum (mg/kg) | Total Lead Maximum (mg/kg) |
|------------------------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|
| 0 to 0.5               | 182                        | 196                        | 132                     | 6.2                        | 420                        |
| 1 to 1.5               | 18.3                       | 19.9                       | 12.7                    | 1.9                        | 47                         |
| 2 to 2.5               | 12.9                       | 13.6                       | 10                      | 1.9                        | 25                         |

**SB SR-82 Onramp to EB SR-92 (Borings B11 to B21)**

| Sample Interval (feet) | Total Lead 90% UCL (mg/kg) | Total Lead 95% UCL (mg/kg) | Total Lead Mean (mg/kg) | Total Lead Minimum (mg/kg) | Total Lead Maximum (mg/kg) |
|------------------------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|
| 0 to 0.5               | 210                        | 224                        | 150                     | 61                         | 610                        |
| 1 to 1.5               | 13.3                       | 14.2                       | 10.5                    | 4.7                        | 32                         |
| 2 to 2.5               | 12.6                       | 13.5                       | 9.7                     | 2.6                        |                            |

**NB SR-82 Onramp to EB SR-92 (Borings B22 to B31)**

| Sample Interval (feet) | Total Lead 90% UCL (mg/kg) | Total Lead 95% UCL (mg/kg) | Total Lead Mean (mg/kg) | Total Lead Minimum (mg/kg) | Total Lead Maximum (mg/kg) |
|------------------------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|
| 0 to 0.5               | 504                        | 550                        | 342                     | 12                         | 1,400                      |
| 1 to 1.5               | 62.8                       | 68.8                       | 39.7                    | 3.3                        | 190                        |
| 2 to 2.5               | 37.7                       | 40.7                       | 27.1                    | 5.6                        | 87                         |

**WB SR-92 Offramp to NB SR-82 (Borings B32 to B42)**

| Sample Interval (feet) | Total Lead 90% UCL (mg/kg) | Total Lead 95% UCL (mg/kg) | Total Lead Mean (mg/kg) | Total Lead Minimum (mg/kg) | Total Lead Maximum (mg/kg) |
|------------------------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|
| 0 to 0.5               | 267                        | 292                        | 169                     | 11                         | 930                        |
| 1 to 1.5               | 49.4                       | 52.5                       | 38.4                    | 10                         | 93                         |
| 2 to 2.5               | 101                        | 113                        | 59.3                    | 10                         | 400                        |

**NB SR-82 Onramp to WB SR-92 (Borings B43 to B52)**

| Sample Interval (feet) | Total Lead 90% UCL (mg/kg) | Total Lead 95% UCL (mg/kg) | Total Lead Mean (mg/kg) | Total Lead Minimum (mg/kg) | Total Lead Maximum (mg/kg) |
|------------------------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|
| 0 to 0.5               | 56.6                       | 59.5                       | 46.3                    | 7.8                        | 92                         |
| 1 to 1.5               | 24.1                       | 25.7                       | 18                      | 4.0                        | 54                         |
| 2 to 2.5               | 14.3                       | 14.9                       | 11.6                    | 6.1                        | 29                         |

**SB SR-82 Onramp to WB SR-92 (Borings B53 to B67)**

| Sample Interval (feet) | Total Lead 90% UCL (mg/kg) | Total Lead 95% UCL (mg/kg) | Total Lead Mean (mg/kg) | Total Lead Minimum (mg/kg) | Total Lead Maximum (mg/kg) |
|------------------------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|
| 0 to 0.5               | 430                        | 459                        | 336                     | 12                         | 940                        |
| 1 to 1.5               | 113                        | 127                        | 64.7                    | 6.5                        | 560                        |
| 2 to 2.5               | 34.0                       | 37.2                       | 21.3                    | 5.7                        | 160                        |

#### **5.4.2 Correlation of Total and WET Lead**

Total and corresponding WET lead concentrations are bivariate data with a linear structure. This linear structure should allow for the prediction of WET lead concentrations based on the 95% UCL total lead concentrations presented in the tables above.

To estimate the degree of interrelation between total and corresponding WET lead values ( $x$  and  $y$ , respectively), the *correlation coefficient* [ $r$ ] is used. The correlation coefficient is a ratio that ranges from +1 to -1. A *correlation coefficient* of +1 indicates a perfect direct relationship between two variables; a *correlation coefficient* of -1 indicates that one variable changes inversely with relation to the other. Between the two extremes is a spectrum of less-than-perfect relationships, including zero, which indicates the lack of any sort of linear relationship at all. The *correlation coefficient* was calculated for 64 ( $x$ ,  $y$ ) data points (i.e., soil samples analyzed for both total lead [ $x$ ] and WET lead [ $y$ ]) from the site. The resulting *coefficient of determination* ( $r^2$ ) equaled 0.7882, which yields a corresponding *correlation coefficient* ( $r$ ) of 0.888.

For the *correlation coefficient* that indicates a linear relationship between total and WET lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line) by forcing the y-intercept equal to zero since that is a known point. The equation of the regression line was determined to be  $y = 0.0532(x)$ , where  $x$  represents total lead concentrations and  $y$  represents predicted WET lead concentrations.

This equation was used to estimate the expected WET lead concentrations for the total lead UCLs for the data set (see Section 5.4.1). Regression analysis results and a scatter plot depicting the ( $x$ ,  $y$ ) data points along with the regression line are included in Appendix E. The predicted WET lead concentrations are summarized in Tables 8a to 8f.

## 6.0 CONCLUSIONS

### 6.1 Lead in Soil

#### **6.1.1 EB SR-92 Offramp to SB SR-82 (Borings B1 to B10)**

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the total lead UCLs and predicted WET lead concentrations for data collected from this portion of the Site. Weighted averages are calculated by using the total lead concentration for each 0.5-foot-depth interval as the value for the underlying 0.5-foot-depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 8a.

| Excavation Depth                     | 90% UCL<br>Total Lead<br>(mg/kg) | 90% UCL<br>Predicted<br>WET Lead<br>(mg/l) | 95% UCL<br>Total Lead<br>(mg/kg) | Waste<br>Classification |
|--------------------------------------|----------------------------------|--|----------------------------------|-------------------------|
| 0 to 1 ft                            | 182                              | 9.7  | 196                              | <b>Hazardous</b>        |
| <i>Underlying soil (1 to 2.5 ft)</i> | <i>16.5</i>                      | <i>0.9</i>                                 | <i>17.8</i>                      | <i>Non-hazardous</i>    |
| 0 to 2 ft                            | 100                              | 5.3  | 108                              | <b>Hazardous</b>        |
| <i>Underlying soil (2 to 2.5 ft)</i> | <i>12.9</i>                      | <i>0.7</i>                                 | <i>13.6</i>                      | <i>Non-hazardous</i>    |
| 0 to 2.5 ft                          | 83                               | 4.4  | 89                               | Non-hazardous           |

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 1 foot would be classified as a California hazardous waste since the UCL-predicted WET lead concentration is greater than the lead STLC of 5.0 mg/l. Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the reported DI-WET and pH results, soil excavated from 0 to 1 foot may be reused (as Caltrans Type Y-1) within Caltrans right-of-way in accordance with the DTSC Variance. Underlying soil (i.e., deeper than 1 foot) would be classified as non-hazardous based on lead results.

Alternately, if soil were excavated to a depth of 2.5 feet or greater and managed as a whole, it would be classified as non-hazardous based on lead content.

#### **6.1.2 SB SR-82 Loop Onramp to EB SR-92 (Borings B11 to B21)**

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the total lead UCLs and predicted WET lead concentrations for data collected from this portion of the Site. Weighted averages are calculated by using the total lead concentration for each 0.5-foot-depth interval as the value for the underlying 0.5-foot-depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 8b.

| <b>Excavation Depth</b>              | <b>90% UCL<br/>Total Lead<br/>(mg/kg)</b> | <b>90% UCL<br/>Predicted<br/>WET Lead<br/>(mg/l)</b> | <b>95% UCL<br/>Total Lead<br/>(mg/kg)</b> | <b>Waste<br/>Classification</b> |
|--------------------------------------|---|--|---|---------------------------------|
| 0 to 1 ft                            | 210                                       | <b>11.2</b>  | 224                                       | <b>Hazardous</b>                |
| <i>Underlying soil (1 to 2.5 ft)</i> | <i>13.1</i>                               | <i>0.7</i>   | <i>14.0</i>                               | <i>Non-hazardous</i>            |
| 0 to 2 ft                            | 112                                       | <b>5.9</b>   | 119                                       | <b>Hazardous</b>                |
| <i>Underlying soil (2 to 2.5 ft)</i> | <i>12.6</i>                               | <i>0.7</i>   | <i>13.5</i>                               | <i>Non-hazardous</i>            |
| 0 to 2.5 ft                          | 92.0                                      | 4.9  | 98.0                                      | Non-hazardous                   |

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 1 foot would be classified as a California hazardous waste since the UCL-predicted WET lead concentration is greater than the lead STLC of 5.0 mg/l. Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the reported DI-WET and pH results, soil excavated from 0 to 1 foot may be reused (as Caltrans Type Y-1) within Caltrans right-of-way in accordance with the DTSC Variance. Underlying soil (i.e., deeper than 1 foot) would be classified as non-hazardous based on lead results.

Alternately, if soil were excavated to a depth of 2.5 feet or greater and managed as a whole, it would be classified as non-hazardous based on lead content.

### **6.1.3 NB SR-82 Onramp to EB SR-92 (Borings B22 to B31)**

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the total lead UCLs and predicted WET lead concentrations for data collected from this portion of the Site. Weighted averages are calculated by using the total lead concentration for each 0.5-foot-depth interval as the value for the underlying 0.5-foot-depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 8c.

| <b>Excavation Depth</b>              | <b>90% UCL<br/>Total Lead<br/>(mg/kg)</b> | <b>90% UCL<br/>Predicted<br/>WET Lead<br/>(mg/l)</b> | <b>95% UCL<br/>Total Lead<br/>(mg/kg)</b> | <b>Waste<br/>Classification</b> |
|--------------------------------------|---|--|---|---------------------------------|
| 0 to 1 ft                            | 504                                       | <b>26.8</b>  | 550                                       | <b>Hazardous</b>                |
| <i>Underlying soil (1 to 2.5 ft)</i> | <i>54.4</i>                               | <i>2.9</i>   | <i>59.4</i>                               | <i>Non-hazardous</i>            |
| 0 to 2 ft                            | 283                                       | <b>15.1</b>  | 309                                       | <b>Hazardous</b>                |
| <i>Underlying soil (2 to 2.5 ft)</i> | <i>37.7</i>                               | <i>2.0</i>   | <i>40.7</i>                               | <i>Non-hazardous</i>            |
| 0 to 2.5 ft                          | 234                                       | <b>12.5</b>  | 256                                       | <b>Hazardous</b>                |

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 1 foot would be classified as a California hazardous waste since the UCL-predicted WET lead concentration is greater than the lead STLC of 5.0 mg/l. Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the reported DI-WET and pH results, soil excavated from 0 to 1 foot may be reused (as Caltrans Type Y-1) within Caltrans right-of-way in accordance with the DTSC Variance. Underlying soil (i.e., deeper than 1 foot) would be classified as non-hazardous based on lead results.

#### **6.1.4 WB SR-92 Offramp to NB SR-82 (Borings B32 to B42)**

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the total lead UCLs and predicted WET lead concentrations for data collected from this portion of the Site. Weighted averages are calculated by using the total lead concentration for each 0.5-foot-depth interval as the value for the underlying 0.5-foot-depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 8d.

| <b>Excavation Depth</b>              | <b>90% UCL Total Lead (mg/kg)</b> | <b>90% UCL Predicted WET Lead (mg/l)</b> | <b>95% UCL Total Lead (mg/kg)</b> | <b>Waste Classification</b> |
|--------------------------------------|-----------------------------------|--|-----------------------------------|-----------------------------|
| 0 to 1 ft                            | 267                               | <b>14.2</b>                              | 292                               | <b>Hazardous</b>            |
| <i>Underlying soil (1 to 2.5 ft)</i> | 66.6                              | 3.5                                      | 72.7                              | <i>Non-hazardous</i>        |
| 0 to 2 ft                            | 158                               | <b>8.4</b>                               | 172                               | <b>Hazardous</b>            |
| <i>Underlying soil (2 to 2.5 ft)</i> | 101                               | 5.4                                      | 113                               | <i>Non-hazardous</i>        |
| 0 to 2.5 ft                          | 147                               | <b>7.8</b>                               | 160                               | <b>Hazardous</b>            |

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 1 foot would be classified as a California hazardous waste since the UCL-predicted WET lead concentration is greater than the lead STLC of 5.0 mg/l. Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the reported DI-WET and pH results, soil excavated from 0 to 1 foot may be reused (as Caltrans Type Y-1) within Caltrans right-of-way in accordance with the DTSC Variance. Underlying soil (i.e., deeper than 1 foot) would be classified as non-hazardous based on lead results.

#### **6.1.5 NB SR-82 Loop Onramp to WB SR-92 (Borings B43 to B52)**

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the total lead UCLs and predicted WET lead concentrations for data collected from this portion of the Site. Weighted averages are calculated by using the total lead

concentration for each 0.5-foot-depth interval as the value for the underlying 0.5-foot-depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 8e.

| <b>Excavation Depth</b>              | <b>90% UCL Total Lead (mg/kg)</b> | <b>90% UCL Predicted WET Lead (mg/l)</b> | <b>95% UCL Total Lead (mg/kg)</b> | <b>Waste Classification</b> |
|--------------------------------------|-----------------------------------|--|-----------------------------------|-----------------------------|
| 0 to 1 ft                            | 56.6                              | 3.0                                      | 59.5                              | Non-hazardous               |
| <i>Underlying soil (1 to 2.5 ft)</i> | 20.8                              | 1.1                                      | 22.1                              | <i>Non-hazardous</i>        |
| 0 to 2 ft                            | 40.4                              | 2.1                                      | 42.6                              | Non-hazardous               |
| <i>Underlying soil (2 to 2.5 ft)</i> | 14.3                              | 0.8                                      | 14.9                              | <i>Non-hazardous</i>        |
| 0 to 2.5 ft                          | 35.0                              | 1.9                                      | 37.0                              | Non-hazardous               |

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 2.5 feet would be classified as non-hazardous based on lead results.

#### **6.1.6 SB SR-82 Onramp to WB SR-92 (Borings B53 to B67)**

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the total lead UCLs and predicted WET lead concentrations for data collected from this portion of the Site. Weighted averages are calculated by using the total lead concentration for each 0.5-foot-depth interval as the value for the underlying 0.5-foot-depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 8f.

| <b>Excavation Depth</b>              | <b>90% UCL Total Lead (mg/kg)</b> | <b>90% UCL Predicted WET Lead (mg/l)</b> | <b>95% UCL Total Lead (mg/kg)</b> | <b>Waste Classification</b> |
|--------------------------------------|-----------------------------------|--|-----------------------------------|-----------------------------|
| 0 to 1 ft                            | 430                               | <b>22.9</b>                              | 459                               | <b>Hazardous</b>            |
| <i>Underlying soil (1 to 2.5 ft)</i> | 86.7                              | 4.6                                      | 97.1                              | <i>Non-hazardous</i>        |
| 0 to 2 ft                            | 272                               | <b>14.4</b>                              | 293                               | <b>Hazardous</b>            |
| <i>Underlying soil (2 to 2.5 ft)</i> | 34.0                              | 1.8                                      | 37.2                              | <i>Non-hazardous</i>        |
| 0 to 2.5 ft                          | 224                               | <b>11.9</b>                              | 242                               | <b>Hazardous</b>            |

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 1 foot would be classified as a California hazardous waste since the UCL-predicted WET lead concentration is greater than the lead STLC of 5.0 mg/l. Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the reported DI-WET and pH results, soil excavated from 0 to 1 foot

may be reused (as Caltrans Type Y-1) within Caltrans right-of-way in accordance with the DTSC Variance. Underlying soil (i.e., deeper than 1 foot) would be classified as non-hazardous based on lead results.

## 6.2 Remaining CAM 17 Metals in Soil

With the exceptions of chromium, mercury, and nickel, remaining CAM 17 metals were reported in the samples at total concentrations below 10 times their respective STLCs.

WET chromium was not detected in the samples at or above the reporting limit of 1.0 mg/l. WET mercury was not detected at or above the reporting limit of 0.001 mg/l in the sample analyzed. WET nickel was reported at a maximum concentration of 1.6 mg/l, below the STLC of 20 mg/l. Therefore, soil would not be classified as hazardous based on chromium, mercury, or nickel content.

The CAM 17 metal concentrations in site soil were compared to CHHSLs and ESLs. Arsenic, cadmium, cobalt, lead and nickel were reported at concentrations greater than one or more ESL values. Because concentrations of arsenic, cadmium, cobalt, lead, and nickel exceeded one or more ESL, non-parametric bootstrap techniques were used to calculate the UCLs. The bootstrap test result is included in Appendix D. CHHSLs, ESLs, UCLs, and published background concentrations for arsenic, cadmium, cobalt, lead, and nickel are summarized in the table below.

| Metal    | Maximum | 95% UCL | Tier 1 ESL | Shallow Soil Residential CHHSL/ESL | Shallow Soil Commercial/ Industrial CHHSL/ESL | Worker Direct Exposure ESL | Published Background Mean <sup>1</sup> | Published Background Range <sup>1</sup> |
|----------|---------|---------|------------|------------------------------------|---|----------------------------|--|---|
| Arsenic  | 5.5     | 4.22    | 0.067      | 0.07/0.067                         | 0.24/0.31                                     | 0.94                       | 3.5                                    | 0.6 to 11.0                             |
| Cobalt   | 27      | 14.1    | 23         | 660/23                             | 3,200/350                                     | 27                         | 14.9                                   | 2.7 to 46.9                             |
| Lead     | 420     | 68.5    | 80         | 150/80                             | 3,500/320                                     | 2,700                      | 23.9                                   | 12.4 to 97.1                            |
| Nickel   | 340     | 123     | 83         | 1,600/820                          | 16,000/11,000                                 | 83                         | 57                                     | 9 to 509                                |
| Thallium | 4.4     | 1.4*    | 0.78       | 5.0/0.78                           | 63/12   | 3.4                        | 0.56                                   | 0.17 to 1.10                            |

Concentrations reported in mg/kg

<sup>1</sup> Kearney Foundation of Soil Science, March 1996

\* – Thallium was detected in four of 22 samples at or above the reporting limit of 1.0 mg/kg. The 95% KM UCL shown is corrected for non-detects.

Based on the maximum and/or the 95% UCL concentrations for arsenic, cobalt, lead, nickel, and thallium, reuse or disposal of excavated soil may be restricted depending on proposed use.

Metals results for soil samples are summarized in Table 3.

### **6.3 Petroleum Compounds in Soil**

Four soil samples were analyzed for MTBE, BTEX, and TPHg. MTBE was not detected in the samples at or above the reporting limits. TPHg and ethylbenzene were reported at concentrations of 150 mg/kg and 520 µg/kg, respectively, in sample B10-10 where odor was noted during drilling. The reported TPHg concentration is above the Tier 1 ESL of 100 mg/kg, however, it is below the residential, commercial/industrial, and construction worker direct exposure ESLs. The reported ethylbenzene concentration is below the ESLs. BTEX compounds and TPHg were not reported at or above laboratory reporting limits in the remaining samples.

TPHd was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/kg) to 1,200 mg/kg, above the Tier 1 and residential direct exposure ESL of 240 mg/kg and the construction worker direct exposure ESL of 900 mg/kg. The maximum concentration reported is equal to the commercial/industrial direct exposure ESL of 1,200 mg/kg. TPHd has a 95% UCL of 108 mg/kg.

TPHmo was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/kg) to 3,300 mg/kg, exceeding the Tier 1 ESL of 100 mg/kg, but below the residential land use ESL of 11,000 mg/kg, the commercial/industrial land use ESL of 140,000 mg/kg, and the construction worker exposure ESL of 31,000 mg/kg. TPHmo has a 95% UCL concentration of 292 mg/kg.

Based on the reported TPHg, TPHd, and TPHmo concentrations, reuse or disposal of excavated soil may be restricted, depending on proposed use.

A summary of petroleum compounds concentrations in site soil is presented in Table 4.

### **6.4 Volatile Organic Compounds in Soil**

VOCs were detected in one of eight samples analyzed at or above reporting limits. VOCs were reported in sample B10-10 at concentrations ranging from not detected (minimum laboratory reporting limit of 5.0 µg/kg ) to 13,000 µg/kg. Naphthalene was reported at a concentration of 4,900 µg/kg, above the Tier 1 ESL of 23 µg/kg and the residential direct exposure ESL of 1,900 µg/kg, but below the commercial/industrial and construction worker direct exposure ESLs of 8,200 µg/kg and 78,000 µg/kg, respectively.

Based on the reported VOC concentrations, reuse or disposal of excavated soil may be restricted, depending on proposed use.

A summary of VOC concentrations in site soil is presented in Table 5.

## 6.5 Petroleum Compounds in Groundwater

The groundwater sample collected from boring B10 was analyzed for TPHg, BTEX and MTBE. TPHg was reported at a concentration of 1.3 mg/l, above the MCL and direct exposure ESL for human health of 0.22 mg/l and the fresh water ecological habitat ESL of 0.44 mg/l, but below the saltwater ecological habitat ESL of 3.7 mg/l.

Benzene and ethylbenzene were reported at concentrations of 16 µg/l and 74 µg/l, respectively. These concentrations are above the MCLs of 1.0 µg/l for benzene and 30 µg/l for ethylbenzene, and the direct exposure ESL for human health of 0.15 µg/l and 1.5 µg/l, respectively, but below the fresh and saltwater ecological aquatic habitat ESLs.

Remaining BTEX compounds and MTBE were not detected in the sample at or above laboratory reporting limits.

Based on the reported TPHg, benzene, and ethylbenzene concentrations, groundwater generated during construction activities may require treatment to reduce petroleum compound content prior to discharge or disposal.

A summary of petroleum compound concentrations for the groundwater sample is presented in Table 6.

## 6.6 Volatile Organic Compounds in Groundwater

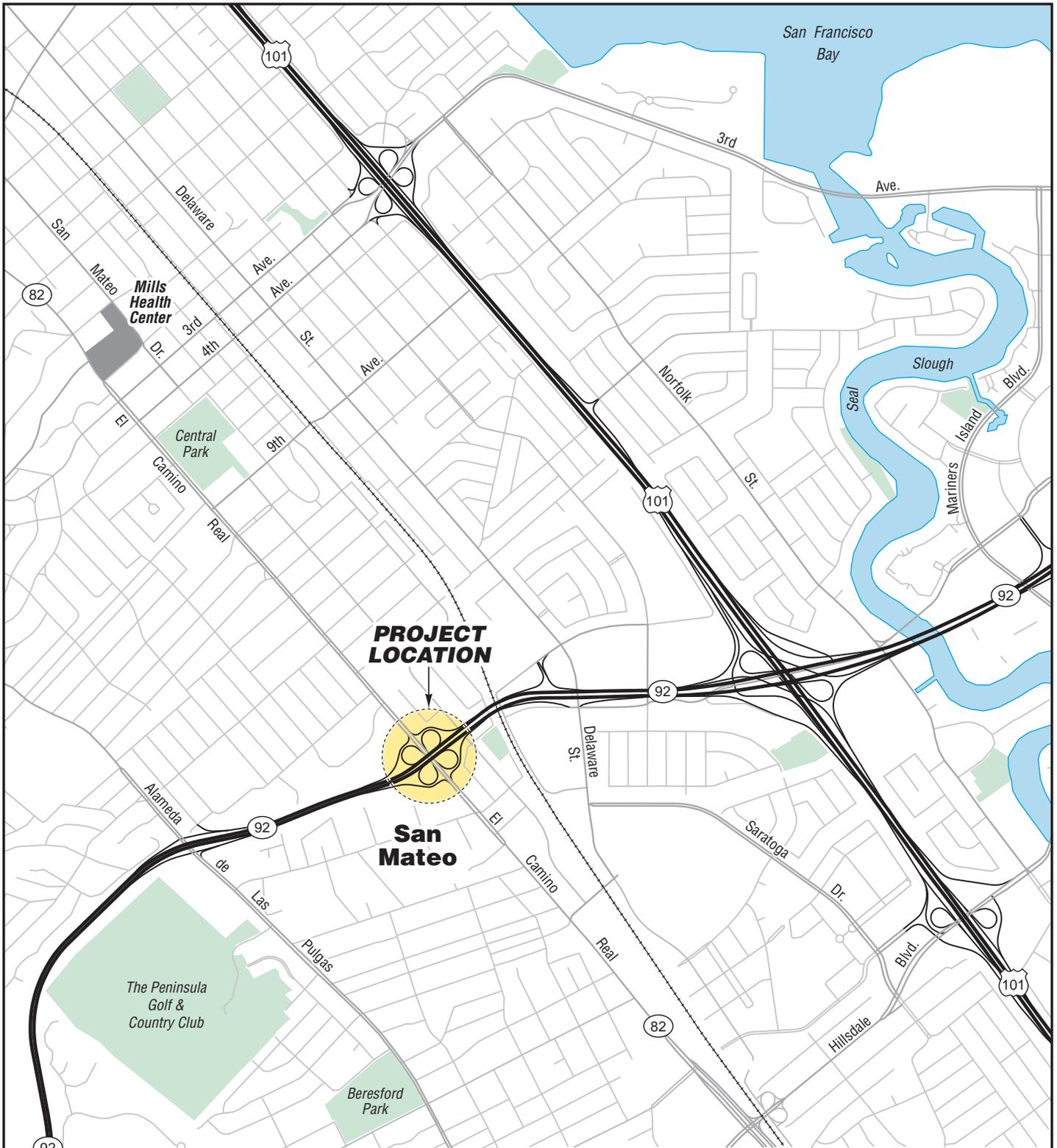
Groundwater samples were collected from Borings B10, B42, and B67 and were analyzed for VOCs. The sample analyzed from Boring B10 was reported to contain VOCs at concentrations of up to 510 µg/l. Concentrations of benzene and ethylbenzene were reported at concentrations of 17 µg/l and 82 µg/l, respectively, above the MCLs of 1.0 µg/l and 30 µg/l, respectively, and the direct exposure for human health ESL of 0.15 µg/l and 1.5 µg/l, respectively, but below the fresh and salt water ecological aquatic habitat ESLs. Remaining samples were non-detect for VOCs.

Based on the reported VOC concentrations, groundwater generated during construction activities may require treatment to reduce VOC content prior to discharge or disposal.

A summary of volatile organic compound concentrations for the groundwater sample is presented in Table 7.

## 6.7 Worker Protection

The contractor(s) should prepare a project-specific health and safety plan to prevent or minimize worker exposure to metals, petroleum hydrocarbons, and volatile organic compounds in soil and groundwater. The plan should include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of soil and groundwater.



0 1/2

Scale in Miles



**GEOCON**  
CONSULTANTS, INC.

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SR-82 / SR-92 Interchange Modifications

San Mateo,  
California

**VICINITY MAP**

GEOCON Proj. No. E8721-02-36

Task Order No. 36

March 2016

Figure 1

**LEGEND:**  
 Boring Location



**GEOCON**  
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|                                      |                     |
|--------------------------------------|---------------------|
| SR-82/SR-92 Interchange Modification |                     |
| San Mateo, California                | <b>SITE PLAN</b>    |
| EA No. 04-235521                     |                     |
| GEOCON Proj. No. E8721-02-36         | March 2016 Figure 2 |

**TABLE 1**  
**Boring Coordinates**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| <b>Boring</b> | <b>Easting</b> | <b>Northing</b> |
|---------------|----------------|-----------------|
| B1            | 6,035,763.837  | 2,027,491.884   |
| B2            | 6,035,832.375  | 2,027,506.118   |
| B3            | 6,035,900.458  | 2,027,521.307   |
| B4            | 6,035,969.028  | 2,027,535.447   |
| B5            | Not Sampled    | Not Sampled     |
| B6            | 6,036,468.357  | 2,027,534.527   |
| B7            | 6,036,511.754  | 2,027,562.995   |
| B8            | 6,036,517.676  | 2,027,554.937   |
| B9            | 6,036,559.106  | 2,027,591.029   |
| B10           | 6,036,570.087  | 2,027,573.995   |
| B11           | 6,036,533.926  | 2,027,668.505   |
| B12           | 6,036,552.779  | 2,027,627.545   |
| B13           | 6,036,500.947  | 2,027,611.268   |
| B14           | 6,036,453.708  | 2,027,566.570   |
| B15           | 6,036,360.263  | 2,027,552.015   |
| B16           | 6,036,280.707  | 2,027,599.384   |
| B17           | 6,036,441.550  | 2,027,597.058   |
| B18           | 6,036,386.400  | 2,027,581.552   |
| B19           | 6,036,329.520  | 2,027,601.967   |
| B20           | 6,036,289.519  | 2,027,648.905   |
| B21           | 6,036,281.361  | 2,027,707.290   |
| B22           | 6,036,666.145  | 2,027,705.632   |
| B23           | 6,036,627.605  | 2,027,748.708   |
| B24           | 6,036,728.054  | 2,027,711.003   |
| B25           | 6,036,811.536  | 2,027,814.942   |
| B26           | 6,036,767.533  | 2,027,801.549   |
| B27           | 6,036,790.401  | 2,027,874.800   |
| B28           | 6,036,795.119  | 2,027,954.885   |
| B29           | 6,036,794.066  | 2,028,013.936   |
| B30           | 6,036,813.774  | 2,028,084.791   |
| B31           | 6,036,841.173  | 2,028,137.390   |
| B32           | 6,036,704.480  | 2,028,254.192   |
| B33           | 6,036,642.643  | 2,028,251.221   |
| B34           | 6,036,583.033  | 2,028,260.687   |
| B35           | 6,036,525.301  | 2,028,277.039   |
| B36           | 6,036,466.541  | 2,028,289.618   |
| B37           | 6,036,403.129  | 2,028,285.145   |
| B38           | 6,036,349.934  | 2,028,257.391   |
| B39           | 6,036,310.145  | 2,028,214.927   |
| B40           | 6,036,290.362  | 2,028,165.034   |
| B41           | 6,036,260.337  | 2,028,197.149   |
| B42           | 6,036,271.495  | 2,028,257.685   |
| B43           | 6,036,348.057  | 2,028,205.023   |
| B44           | 6,036,383.152  | 2,028,241.601   |
| B45           | 6,036,435.431  | 2,028,256.978   |
| B46           | 6,036,436.324  | 2,028,239.674   |
| B47           | 6,036,485.162  | 2,028,242.472   |
| B48           | 6,036,483.200  | 2,028,224.757   |

**TABLE 1**  
**Boring Coordinates**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| <b>Boring</b> | <b>Easting</b> | <b>Northing</b> |
|---------------|----------------|-----------------|
| B49           | 6,036,521.654  | 2,028,206.929   |
| B50           | 6,036,535.574  | 2,028,159.452   |
| B51           | 6,036,525.186  | 2,028,108.056   |
| B52           | 6,036,493.748  | 2,028,061.766   |
| B53           | 6,036,188.041  | 2,028,092.742   |
| B54           | 6,036,155.131  | 2,028,130.187   |
| B55           | 6,036,131.409  | 2,028,091.635   |
| B56           | 6,036,079.106  | 2,028,058.937   |
| B57           | 6,036,042.057  | 2,028,015.271   |
| B58           | 6,036,021.001  | 2,027,959.087   |
| B59           | 6,036,003.133  | 2,027,901.749   |
| B60           | 6,035,926.412  | 2,027,742.719   |
| B61           | 6,035,887.865  | 2,027,696.628   |
| B62           | 6,035,838.974  | 2,027,659.613   |
| B63           | 6,035,898.068  | 2,027,752.838   |
| B64           | 6,035,852.964  | 2,027,712.643   |
| B65           | 6,035,806.979  | 2,027,674.102   |
| B66           | 6,035,754.198  | 2,027,645.347   |
| B67           | 6,036,077.276  | 2,028,133.703   |

NAD 83, Zone 3, feet

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| <b>Sample ID</b> | <b>Sample Depth (feet)</b> | <b>Total Lead (mg/kg)</b> | <b>WET Lead (mg/l)</b> | <b>DI-WET Lead (mg/l)</b> | <b>TCLP Lead (mg/l)</b> | <b>pH</b> |
|------------------|----------------------------|---------------------------|------------------------|---------------------------|-------------------------|-----------|
| B1-0             | 0 to 0.5                   | 420                       | 23                     | <1.0                      | 0.16                    | 6.2       |
| B1-1             | 1 to 1.5                   | 3.9                       | ---                    | ---                       | ---                     | ---       |
| B1-2             | 2 to 2.5                   | 6.3                       | ---                    | ---                       | ---                     | ---       |
| B2-0             | 0 to 0.5                   | 28                        | ---                    | ---                       | ---                     | ---       |
| B2-1             | 1 to 1.5                   | 6.5                       | ---                    | ---                       | ---                     | ---       |
| B2-2             | 2 to 2.5                   | 11                        | ---                    | ---                       | ---                     | ---       |
| B3-0             | 0 to 0.5                   | 110                       | 8.9                    | ---                       | <0.050                  | ---       |
| B3-1             | 1 to 1.5                   | 11                        | ---                    | ---                       | ---                     | ---       |
| B3-2             | 2 to 2.5                   | 16                        | ---                    | ---                       | ---                     | ---       |
| B4-0             | 0 to 0.5                   | 6.2                       | ---                    | ---                       | ---                     | ---       |
| B4-1             | 1 to 1.5                   | 1.9                       | ---                    | ---                       | ---                     | ---       |
| B4-2             | 2 to 2.5                   | 1.9                       | ---                    | ---                       | ---                     | ---       |
| B6-0             | 0 to 0.5                   | 200                       | 8.1                    | ---                       | <0.050                  | ---       |
| B6-1             | 1 to 1.5                   | 5.6                       | ---                    | ---                       | ---                     | ---       |
| B6-2             | 2 to 2.5                   | 6.8                       | ---                    | ---                       | ---                     | ---       |
| B7-0             | 0 to 0.5                   | 140                       | 6.9                    | ---                       | <0.050                  | ---       |
| B7-1             | 1 to 1.5                   | 18                        | ---                    | ---                       | ---                     | ---       |
| B7-2             | 2 to 2.5                   | 25                        | ---                    | ---                       | ---                     | ---       |
| B8-0             | 0 to 0.5                   | 150                       | 8.5                    | <1.0                      | <0.050                  | 7.4       |
| B8-1             | 1 to 1.5                   | 6.8                       | ---                    | ---                       | ---                     | ---       |
| B8-2             | 2 to 2.5                   | 6.5                       | ---                    | ---                       | ---                     | ---       |
| B9-0             | 0 to 0.5                   | 78                        | 3.3                    | ---                       | ---                     | ---       |
| B9-1             | 1 to 1.5                   | 47                        | ---                    | ---                       | ---                     | ---       |
| B9-2             | 2 to 2.5                   | 12                        | ---                    | ---                       | ---                     | ---       |
| B10-0            | 0 to 0.5                   | 54                        | 3.4                    | ---                       | ---                     | ---       |
| B10-1            | 1 to 1.5                   | 14                        | ---                    | ---                       | ---                     | ---       |
| B10-2            | 2 to 2.5                   | 4.6                       | ---                    | ---                       | ---                     | ---       |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| <b>Sample ID</b> | <b>Sample Depth (feet)</b> | <b>Total Lead (mg/kg)</b> | <b>WET Lead (mg/l)</b> | <b>DI-WET Lead (mg/l)</b> | <b>TCLP Lead (mg/l)</b> | <b>pH</b> |
|------------------|----------------------------|---------------------------|------------------------|---------------------------|-------------------------|-----------|
| B11-0            | 0 to 0.5                   | 160                       | 7.3                    | ---                       | 0.076                   | ---       |
| B11-1            | 1 to 1.5                   | 32                        | ---                    | ---                       | ---                     | ---       |
| B11-2            | 2 to 2.5                   | 9.8                       | ---                    | ---                       | ---                     | ---       |
| B12-0            | 0 to 0.5                   | 61                        | 2.0                    | ---                       | ---                     | ---       |
| B12-1            | 1 to 1.5                   | 7.5                       | ---                    | ---                       | ---                     | ---       |
| B12-2            | 2 to 2.5                   | 6.0                       | ---                    | ---                       | ---                     | ---       |
| B13-0            | 0 to 0.5                   | 150                       | 8.2                    | ---                       | 0.079                   | ---       |
| B13-1            | 1 to 1.5                   | 5.6                       | ---                    | ---                       | ---                     | ---       |
| B13-2            | 2 to 2.5                   | 2.6                       | ---                    | ---                       | ---                     | ---       |
| B14-0            | 0 to 0.5                   | 610                       | 27                     | <1.0                      | 0.59                    | 6.9       |
| B14-1            | 1 to 1.5                   | 11                        | ---                    | ---                       | ---                     | ---       |
| B14-2            | 2 to 2.5                   | 22                        | ---                    | ---                       | ---                     | ---       |
| B15-0            | 0 to 0.5                   | 77                        | 5.1                    | ---                       | ---                     | ---       |
| B15-1            | 1 to 1.5                   | 10                        | ---                    | ---                       | ---                     | ---       |
| B15-2            | 2 to 2.5                   | 4.5                       | ---                    | ---                       | ---                     | ---       |
| B16-0            | 0 to 0.5                   | 160                       | 10                     | <1.0                      | 0.087                   | 6.9       |
| B16-1            | 1 to 1.5                   | 4.9                       | ---                    | ---                       | ---                     | ---       |
| B16-2            | 2 to 2.5                   | 4.7                       | ---                    | ---                       | ---                     | ---       |
| B17-0            | 0 to 0.5                   | 68                        | 2.6                    | ---                       | ---                     | ---       |
| B17-1            | 1 to 1.5                   | 4.7                       | ---                    | ---                       | ---                     | ---       |
| B17-2            | 2 to 2.5                   | 6.0                       | ---                    | ---                       | ---                     | ---       |
| B18-0            | 0 to 0.5                   | 130                       | 5.0                    | ---                       | <0.050                  | ---       |
| B18-1            | 1 to 1.5                   | 8.2                       | ---                    | ---                       | ---                     | ---       |
| B18-2            | 2 to 2.5                   | 16                        | ---                    | ---                       | ---                     | ---       |
| B19-0            | 0 to 0.5                   | 67                        | 2.7                    | ---                       | ---                     | ---       |
| B19-1            | 1 to 1.5                   | 9.8                       | ---                    | ---                       | ---                     | ---       |
| B19-2            | 2 to 2.5                   | 5.3                       | ---                    | ---                       | ---                     | ---       |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| <b>Sample ID</b> | <b>Sample Depth (feet)</b> | <b>Total Lead (mg/kg)</b> | <b>WET Lead (mg/l)</b> | <b>DI-WET Lead (mg/l)</b> | <b>TCLP Lead (mg/l)</b> | <b>pH</b> |
|------------------|----------------------------|---------------------------|------------------------|---------------------------|-------------------------|-----------|
| B20-0            | 0 to 0.5                   | 100                       | 4.6                    | ---                       | ---                     | ---       |
| B20-1            | 1 to 1.5                   | 7.7                       | ---                    | ---                       | ---                     | ---       |
| B20-2            | 2 to 2.5                   | 4.0                       | ---                    | ---                       | ---                     | ---       |
| B21-0            | 0 to 0.5                   | 62                        | 2.6                    | ---                       | ---                     | ---       |
| B21-1            | 1 to 1.5                   | 14                        | ---                    | ---                       | ---                     | ---       |
| B21-2            | 2 to 2.5                   | 26                        | ---                    | ---                       | ---                     | ---       |
| B22-0            | 0 to 0.5                   | 170                       | 11                     | ---                       | 0.11                    | ---       |
| B22-1            | 1 to 1.5                   | 98                        | 4.5                    | ---                       | ---                     | ---       |
| B22-2            | 2 to 2.5                   | 66                        | 4.1                    | ---                       | ---                     | ---       |
| B23-0            | 0 to 0.5                   | 200                       | 15                     | <1.0                      | 0.20                    | 7.4       |
| B23-1            | 1 to 1.5                   | 34                        | ---                    | ---                       | ---                     | ---       |
| B23-2            | 2 to 2.5                   | 29                        | ---                    | ---                       | ---                     | ---       |
| B24-0            | 0 to 0.5                   | 160                       | 12                     | ---                       | 0.12                    | ---       |
| B24-1            | 1 to 1.5                   | 23                        | ---                    | ---                       | ---                     | ---       |
| B24-2            | 2 to 2.5                   | 25                        | ---                    | ---                       | ---                     | ---       |
| B25-1            | 1 to 1.5                   | 6.8                       | ---                    | ---                       | ---                     | ---       |
| B25-2            | 2 to 2.5                   | 10                        | ---                    | ---                       | ---                     | ---       |
| B25-0            | 0 to 0.5                   | 12                        | ---                    | ---                       | ---                     | ---       |
| B26-0            | 0 to 0.5                   | 19                        | ---                    | ---                       | ---                     | ---       |
| B26-1            | 1 to 1.5                   | 3.3                       | ---                    | ---                       | ---                     | ---       |
| B26-2            | 2 to 2.5                   | 5.6                       | ---                    | ---                       | ---                     | ---       |
| B27-0            | 0 to 0.5                   | 1,400                     | ---                    | ---                       | 1.8                     | ---       |
| B27-1            | 1 to 1.5                   | 11                        | ---                    | ---                       | ---                     | ---       |
| B27-2            | 2 to 2.5                   | 24                        | ---                    | ---                       | ---                     | ---       |
| B28-0            | 0 to 0.5                   | 720                       | 46                     | <1.0                      | 0.26                    | 7.0       |
| B28-1            | 1 to 1.5                   | 190                       | 5.1                    | ---                       | 0.13                    | ---       |
| B28-2            | 2 to 2.5                   | 87                        | 6.5                    | ---                       | ---                     | ---       |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID | Sample<br>Depth<br>(feet) | Total<br>Lead<br>(mg/kg) | WET<br>Lead<br>(mg/l) | DI-WET<br>Lead<br>(mg/l) | TCLP<br>Lead<br>(mg/l) | pH  |
|-----------|---------------------------|--------------------------|-----------------------|--------------------------|------------------------|-----|
| B29-0     | 0 to 0.5                  | 110                      | 7.0                   | ---                      | 0.052                  | --- |
| B29-1     | 1 to 1.5                  | 13                       | ---                   | ---                      | ---                    | --- |
| B29-2     | 2 to 2.5                  | 7.1                      | ---                   | ---                      | ---                    | --- |
| B30-0     | 0 to 0.5                  | 240                      | 16                    | ---                      | 0.097                  | --- |
| B30-1     | 1 to 1.5                  | 9.3                      | ---                   | ---                      | ---                    | --- |
| B30-2     | 2 to 2.5                  | 7.7                      | ---                   | ---                      | ---                    | --- |
| B31-0     | 0 to 0.5                  | 390                      | 28                    | <1.0                     | 0.11                   | 6.9 |
| B31-1     | 1 to 1.5                  | 8.4                      | ---                   | ---                      | ---                    | --- |
| B31-2     | 2 to 2.5                  | 9.2                      | ---                   | ---                      | ---                    | --- |
| B32-0     | 0 to 0.5                  | 320                      | 24                    | <1.0                     | 0.11                   | 7.5 |
| B32-1     | 1 to 1.5                  | 21                       | ---                   | ---                      | ---                    | --- |
| B32-2     | 2 to 2.5                  | 56                       | <1.0                  | ---                      | ---                    | --- |
| B33-0     | 0 to 0.5                  | 140                      | 6.0                   | ---                      | <0.050                 | --- |
| B33-1     | 1 to 1.5                  | 10                       | ---                   | ---                      | ---                    | --- |
| B33-2     | 2 to 2.5                  | 13                       | ---                   | ---                      | ---                    | --- |
| B34-0     | 0 to 0.5                  | 95                       | 4.3                   | ---                      | ---                    | --- |
| B34-1     | 1 to 1.5                  | 38                       | ---                   | ---                      | ---                    | --- |
| B34-2     | 2 to 2.5                  | 12                       | ---                   | ---                      | ---                    | --- |
| B35-0     | 0 to 0.5                  | 68                       | 3.4                   | ---                      | ---                    | --- |
| B35-1     | 1 to 1.5                  | 74                       | 2.2                   | ---                      | ---                    | --- |
| B35-2     | 2 to 2.5                  | 42                       | ---                   | ---                      | ---                    | --- |
| B36-0     | 0 to 0.5                  | 41                       | ---                   | ---                      | ---                    | --- |
| B36-1     | 1 to 1.5                  | 11                       | ---                   | ---                      | ---                    | --- |
| B36-2     | 2 to 2.5                  | 24                       | ---                   | ---                      | ---                    | --- |
| B37-0     | 0 to 0.5                  | 11                       | ---                   | ---                      | ---                    | --- |
| B37-1     | 1 to 1.5                  | 10                       | ---                   | ---                      | ---                    | --- |
| B37-2     | 2 to 2.5                  | 12                       | ---                   | ---                      | ---                    | --- |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID | Sample<br>Depth<br>(feet) | Total<br>Lead<br>(mg/kg) | WET<br>Lead<br>(mg/l) | DI-WET<br>Lead<br>(mg/l) | TCLP<br>Lead<br>(mg/l) | pH  |
|-----------|---------------------------|--------------------------|-----------------------|--------------------------|------------------------|-----|
| B38-0     | 0 to 0.5                  | 130                      | 1.3                   | ---                      | ---                    | --- |
| B38-1     | 1 to 1.5                  | 62                       | 1.1                   | ---                      | ---                    | --- |
| B38-2     | 2 to 2.5                  | 11                       | ---                   | ---                      | ---                    | --- |
| B39-0     | 0 to 0.5                  | 55                       | <1.0                  | ---                      | ---                    | --- |
| B39-1     | 1 to 1.5                  | 16                       | ---                   | ---                      | ---                    | --- |
| B39-2     | 2 to 2.5                  | 10                       | ---                   | ---                      | ---                    | --- |
| B40-0     | 0 to 0.5                  | 930                      | 26                    | <1.0                     | 0.052                  | 7.7 |
| B40-1     | 1 to 1.5                  | 66                       | 2.8                   | ---                      | ---                    | --- |
| B40-2     | 2 to 2.5                  | 59                       | 1.0                   | ---                      | ---                    | --- |
| B41-0     | 0 to 0.5                  | 11                       | ---                   | ---                      | ---                    | --- |
| B41-1     | 1 to 1.5                  | 93                       | 3.9                   | ---                      | ---                    | --- |
| B41-2     | 2 to 2.5                  | 13                       | ---                   | ---                      | ---                    | --- |
| B42-1     | 1 to 1.5                  | 21                       | ---                   | ---                      | ---                    | --- |
| B42-0     | 0 to 0.5                  | 58                       | 2.1                   | ---                      | ---                    | --- |
| B42-2     | 2 to 2.5                  | 400                      | 15                    | ---                      | 0.085                  | --- |
| B43-0     | 0 to 0.5                  | 69                       | 3.0                   | ---                      | ---                    | --- |
| B43-1     | 1 to 1.5                  | 7.1                      | ---                   | ---                      | ---                    | --- |
| B43-2     | 2 to 2.5                  | 6.6                      | ---                   | ---                      | ---                    | --- |
| B44-0     | 0 to 0.5                  | 92                       | 2.4                   | ---                      | ---                    | --- |
| B44-1     | 1 to 1.5                  | 4.0                      | ---                   | ---                      | ---                    | --- |
| B44-2     | 2 to 2.5                  | 20                       | ---                   | ---                      | ---                    | --- |
| B45-0     | 0 to 0.5                  | 46                       | ---                   | ---                      | ---                    | --- |
| B45-1     | 1 to 1.5                  | 24                       | ---                   | ---                      | ---                    | --- |
| B45-2     | 2 to 2.5                  | 13                       | ---                   | ---                      | ---                    | --- |
| B46-0     | 0 to 0.5                  | 34                       | ---                   | ---                      | ---                    | --- |
| B46-1     | 1 to 1.5                  | 8.5                      | ---                   | ---                      | ---                    | --- |
| B46-2     | 2 to 2.5                  | 6.6                      | ---                   | ---                      | ---                    | --- |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID | Sample<br>Depth<br>(feet) | Total<br>Lead<br>(mg/kg) | WET<br>Lead<br>(mg/l) | DI-WET<br>Lead<br>(mg/l) | TCLP<br>Lead<br>(mg/l) | pH  |
|-----------|---------------------------|--------------------------|-----------------------|--------------------------|------------------------|-----|
| B47-0     | 1 to 1.5                  | 37                       | ---                   | ---                      | ---                    | --- |
| B47-1     | 2 to 2.5                  | 29                       | ---                   | ---                      | ---                    | --- |
| B47-2     | 2 to 2.5                  | 12                       | ---                   | ---                      | ---                    | --- |
| B48-0     | 0 to 0.5                  | 38                       | ---                   | ---                      | ---                    | --- |
| B48-1     | 1 to 1.5                  | 15                       | ---                   | ---                      | ---                    | --- |
| B48-2     | 2 to 2.5                  | 7.9                      | ---                   | ---                      | ---                    | --- |
| B49-0     | 0 to 0.5                  | 7.8                      | ---                   | ---                      | ---                    | --- |
| B49-1     | 1 to 1.5                  | 54                       | <1.0                  | ---                      | ---                    | --- |
| B49-2     | 2 to 2.5                  | 7.7                      | ---                   | ---                      | ---                    | --- |
| B50-0     | 0 to 0.5                  | 43                       | ---                   | ---                      | ---                    | --- |
| B50-1     | 1 to 1.5                  | 10                       | ---                   | ---                      | ---                    | --- |
| B50-2     | 2 to 2.5                  | 9.1                      | ---                   | ---                      | ---                    | --- |
| B51-0     | 0 to 0.5                  | 64                       | 2.8                   | ---                      | ---                    | --- |
| B51-1     | 1 to 1.5                  | 8.4                      | ---                   | ---                      | ---                    | --- |
| B51-2     | 2 to 2.5                  | 9.9                      | ---                   | ---                      | ---                    | --- |
| B52-0     | 0 to 0.5                  | 23                       | ---                   | ---                      | ---                    | --- |
| B52-1     | 1 to 1.5                  | 12                       | ---                   | ---                      | ---                    | --- |
| B52-2     | 2 to 2.5                  | 6.1                      | ---                   | ---                      | ---                    | --- |
| B53-0     | 0 to 0.5                  | 120                      | 4.6                   | ---                      | ---                    | --- |
| B53-1     | 1 to 1.5                  | 260                      | 8.6                   | ---                      | <0.050                 | --- |
| B53-2     | 2 to 2.5                  | 7.1                      | ---                   | ---                      | ---                    | --- |
| B54-0     | 0 to 0.5                  | 67                       | 2.4                   | ---                      | ---                    | --- |
| B54-1     | 1 to 1.5                  | 560                      | 14                    | ---                      | 0.085                  | --- |
| B54-2     | 2 to 2.5                  | 8.6                      | ---                   | ---                      | ---                    | --- |
| B55-0     | 0 to 0.5                  | 690                      | 19                    | <1.0                     | 0.28                   | 8.2 |
| B55-1     | 1 to 1.5                  | 8.2                      | ---                   | ---                      | ---                    | --- |
| B55-2     | 2 to 2.5                  | 14                       | ---                   | ---                      | ---                    | --- |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID | Sample<br>Depth<br>(feet) | Total<br>Lead<br>(mg/kg) | WET<br>Lead<br>(mg/l) | DI-WET<br>Lead<br>(mg/l) | TCLP<br>Lead<br>(mg/l) | pH  |
|-----------|---------------------------|--------------------------|-----------------------|--------------------------|------------------------|-----|
| B56-0     | 0 to 0.5                  | 38                       | ---                   | ---                      | ---                    | --- |
| B56-1     | 1 to 1.5                  | 12                       | ---                   | ---                      | ---                    | --- |
| B56-2     | 2 to 2.5                  | 160                      | 3.2                   | ---                      | ---                    | --- |
| B57-0     | 0 to 0.5                  | 54                       | 1.7                   | ---                      | ---                    | --- |
| B57-1     | 1 to 1.5                  | 15                       | ---                   | ---                      | ---                    | --- |
| B57-2     | 2 to 2.5                  | 7.1                      | ---                   | ---                      | ---                    | --- |
| B58-0     | 0 to 0.5                  | 12                       | ---                   | ---                      | ---                    | --- |
| B58-1     | 1 to 1.5                  | 6.5                      | ---                   | ---                      | ---                    | --- |
| B58-2     | 2 to 2.5                  | 5.7                      | ---                   | ---                      | ---                    | --- |
| B59-0     | 0 to 0.5                  | 240                      | 10                    | ---                      | 0.11                   | --- |
| B59-1     | 1 to 1.5                  | 7.9                      | ---                   | ---                      | ---                    | --- |
| B59-2     | 2 to 2.5                  | 10                       | ---                   | ---                      | ---                    | --- |
| B60-0     | 0 to 0.5                  | 470                      | 24                    | ---                      | 0.067                  | --- |
| B60-1     | 1 to 1.5                  | 11                       | ---                   | ---                      | ---                    | --- |
| B60-2     | 2 to 2.5                  | 6.5                      | ---                   | ---                      | ---                    | --- |
| B61-0     | 0 to 0.5                  | 280                      | 20                    | ---                      | 0.086                  | --- |
| B61-1     | 1 to 1.5                  | 18                       | ---                   | ---                      | ---                    | --- |
| B61-2     | 2 to 2.5                  | 7.0                      | ---                   | ---                      | ---                    | --- |
| B62-0     | 0 to 0.5                  | 300                      | 17                    | ---                      | 0.072                  | --- |
| B62-1     | 1 to 1.5                  | 8.8                      | ---                   | ---                      | ---                    | --- |
| B62-2     | 2 to 2.5                  | 5.8                      | ---                   | ---                      | ---                    | --- |
| B63-0     | 0 to 0.5                  | 420                      | 35                    | ---                      | 0.33                   | --- |
| B63-1     | 1 to 1.5                  | 12                       | ---                   | ---                      | ---                    | --- |
| B63-2     | 2 to 2.5                  | 36                       | ---                   | ---                      | ---                    | --- |
| B64-0     | 0 to 0.5                  | 700                      | 51                    | <1.0                     | 0.22                   | 7.1 |
| B64-1     | 1 to 1.5                  | 9.4                      | ---                   | ---                      | ---                    | --- |
| B64-2     | 2 to 2.5                  | 14                       | ---                   | ---                      | ---                    | --- |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID                       | Sample Depth (feet) | Total Lead (mg/kg) | WET Lead (mg/l) | DI-WET Lead (mg/l) | TCLP Lead (mg/l) | pH  |
|---------------------------------|---------------------|--------------------|-----------------|--------------------|------------------|-----|
| B65-0                           | 0 to 0.5            | 940                | 71              | 1.1                | 0.34             | 6.9 |
| B65-1                           | 1 to 1.5            | 9.3                | ---             | ---                | ---              | --- |
| B65-2                           | 2 to 2.5            | 22                 | ---             | ---                | ---              | --- |
| B66-0                           | 0 to 0.5            | 630                | 43              | ---                | 0.25             | --- |
| B66-1                           | 1 to 1.5            | 12                 | ---             | ---                | ---              | --- |
| B66-2                           | 2 to 2.5            | 8.9                | ---             | ---                | ---              | --- |
| B67-0                           | 0 to 0.5            | 74                 | 3.6             | ---                | ---              | --- |
| B67-1                           | 1 to 1.5            | 21                 | ---             | ---                | ---              | --- |
| B67-2                           | 2 to 2.5            | 6.2                | ---             | ---                | ---              | --- |
| <b>Hazardous Waste Criteria</b> |                     |                    |                 |                    |                  |     |
|                                 | TTLIC (mg/kg)       | 1,000              | ---             | ---                | ---              | --- |
|                                 | STLC (mg/l)         | ---                | 5.0             | ---                | ---              | --- |
|                                 | TCLP (mg/l)         | ---                | ---             | ---                | 5.0              | --- |

**Notes:**

- mg/kg = Milligrams per kilogram
- mg/l = Milligrams per liter
- WET = Waste Extraction Test using citric acid as the extraction fluid
- DI-WET = Waste Extraction Test using deionized water as the extraction fluid
- TCLP = Toxicity Characteristic Leaching Procedure
- TTLIC = Total Threshold Limit Concentration

**Table 3**  
**Summary of CAM 17 Metals Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID | Depth Interval | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium    | Cobalt | Copper | Lead | Mercury       | Molybdenum | Nickel      | Selenium | Silver | Thallium | Vanadium | Zinc |
|-----------|----------------|----------|---------|--------|-----------|---------|-------------|--------|--------|------|---------------|------------|-------------|----------|--------|----------|----------|------|
| B1-0      | 0 to 0.5       | <2.0     | 5.1     | 130    | <1.0      | <1.0    | 44          | 8.6    | 41     | 420  | <0.10         | 1.1        | 63          | <1.0     | <1.0   | 2.7      | 28       | 150  |
| B3-2      | 2 to 2.5       | <2.0     | 4.1     | 170    | <1.0      | <1.0    | 26          | 8.1    | 17     | 16   | <0.10         | <1.0       | 30          | <1.0     | <1.0   | 3.0      | 35       | 39   |
| B8-1      | 1 to 1.5       | <2.0     | 4.2     | 130    | <1.0      | <1.0    | 130<br><1.0 | 17     | 27     | 6.8  | <0.10         | <1.0       | 170         | <1.0     | <1.0   | <1.0     | 49       | 41   |
| B14-2     | 2 to 2.5       | <2.0     | 2.5     | 73     | <1.0      | <1.0    | 240<br><1.0 | 25     | 34     | 22   | <0.10         | <1.0       | 340<br>1.6  | 1.0      | <1.0   | <1.0     | 58       | 58   |
| B15-0     | 0 to 0.5       | <2.0     | 2.4     | 180    | <1.0      | <1.0    | 11          | 4.8    | 9.7    | 77   | <0.10         | <1.0       | 14          | <1.0     | <1.0   | <1.0     | 30       | 140  |
| B17-1     | 1 to 1.5       | 3.4      | 4.2     | 160    | <1.0      | <1.0    | 170<br><1.0 | 23     | 34     | 4.7  | <0.10         | <1.0       | 270<br><1.0 | <1.0     | <1.0   | <1.0     | 46       | 44   |
| B20-2     | 2 to 2.5       | 4.5      | 3.9     | 89     | <1.0      | <1.0    | 230<br><1.0 | 27     | 39     | 4.0  | 4.4<br><0.001 | <1.0       | 320<br><1.0 | <1.0     | <1.0   | <1.0     | 60       | 48   |
| B23-1     | 1 to 1.5       | <2.0     | 4.0     | 140    | <1.0      | <1.0    | 28          | 12     | 16     | 34   | <0.10         | <1.0       | 37          | <1.0     | <1.0   | 4.4      | 31       | 45   |
| B25-0     | 0 to 0.5       | <2.0     | 4.9     | 130    | <1.0      | <1.0    | 42          | 11     | 21     | 12   | <0.10         | <1.0       | 63          | <1.0     | <1.0   | <1.0     | 36       | 41   |
| B27-2     | 2 to 2.5       | <2.0     | 5.5     | 120    | <1.0      | <1.0    | 63<br><1.0  | 13     | 33     | 24   | 0.14          | <1.0       | 86          | <1.0     | <1.0   | <1.0     | 45       | 62   |
| B29-1     | 1 to 1.5       | <2.0     | 4.3     | 120    | <1.0      | <1.0    | 130<br><1.0 | 20     | 38     | 13   | <0.10         | <1.0       | 200<br>1.1  | 1.1      | <1.0   | <1.0     | 48       | 40   |
| B34-1     | 1 to 1.5       | <2.0     | 3.7     | 130    | <1.0      | <1.0    | 19          | 7.2    | 15     | 38   | <0.10         | <1.0       | 23          | <1.0     | <1.0   | <1.0     | 27       | 44   |
| B37-2     | 2 to 2.5       | <2.0     | 3.9     | 150    | <1.0      | <1.0    | 28          | 9.9    | 18     | 12   | <0.10         | <1.0       | 38          | <1.0     | <1.0   | <1.0     | 30       | 53   |
| B41-2     | 2 to 2.5       | <2.0     | 3.2     | 140    | <1.0      | <1.0    | 21          | 7.8    | 15     | 13   | <0.10         | <1.0       | 28          | <1.0     | <1.0   | <1.0     | 29       | 33   |
| B43-0     | 0 to 0.5       | <2.0     | 3.1     | 110    | <1.0      | <1.0    | 23          | 7.2    | 15     | 69   | <0.10         | <1.0       | 30          | <1.0     | <1.0   | <1.0     | 24       | 63   |
| B44-1     | 1 to 1.5       | <2.0     | 2.6     | 160    | <1.0      | <1.0    | 26          | 5.9    | 13     | 4.0  | <0.10         | <1.0       | 28          | <1.0     | <1.0   | <1.0     | 34       | 32   |
| B46-0     | 0 to 0.5       | <2.0     | 4.0     | 140    | <1.0      | <1.0    | 23          | 8.7    | 17     | 34   | <0.10         | <1.0       | 30          | <1.0     | <1.0   | <1.0     | 29       | 46   |

**Table 3  
Summary of CAM 17 Metals Results - Soil  
SR-82/SR-92 Interchange  
San Mateo, CA**

| Sample ID                                      | Depth Interval                        | Antimony | Arsenic | Barium  | Beryllium | Cadmium | Chromium               | Cobalt | Copper | Lead  | Mercury | Molybdenum | Nickel | Selenium | Silver | Thallium | Vanadium | Zinc    |  |
|--|---------------------------------------|----------|---------|---------|-----------|---------|------------------------|--------|--------|-------|---------|------------|--------|----------|--------|----------|----------|---------|--|
| B48-2  | 2 to 2.5                              | <2.0     | 3.9     | 140     | <1.0      | <1.0    | 20                     | 8.9    | 13     | 7.9   | <0.10   | <1.0       | 24     | <1.0     | <1.0   | <1.0     | 29       | 29      |  |
| B55-1  | 1 to 1.5                              | <2.0     | 4.6     | 130     | <1.0      | <1.0    | 25                     | 10     | 24     | 8.2   | <0.10   | <1.0       | 39     | <1.0     | <1.0   | <1.0     | 30       | 45      |  |
| B58-2  | 2 to 2.5                              | <2.0     | 3.4     | 150     | <1.0      | <1.0    | 21                     | 5.0    | 11     | 5.7   | <0.10   | <1.0       | 22     | <1.0     | <1.0   | <1.0     | 28       | 35      |  |
| B62-2  | 2 to 2.5                              | 2.2      | 5.0     | 75      | <1.0      | <1.0    | 45                     | 12     | 27     | 5.8   | <0.10   | <1.0       | 73     | <1.0     | <1.0   | <1.0     | 35       | 47      |  |
| B65-1  | 1 to 1.5                              | <2.0     | 4.1     | 140     | <1.0      | <1.0    | 24                     | 8.5    | 15     | 9.3   | <0.10   | <1.0       | 28     | <1.0     | <1.0   | 2.6      | 33       | 98      |  |
| <b>Hazardous Waste Criteria</b>                |                                       |          |         |         |           |         |                        |        |        |       |         |            |        |          |        |          |          |         |  |
|  | TTL (mg/kg)                           | 500      | 500     | 10,000  | 75        | 100     | 2,500                  | 8,000  | 2,500  | 1,000 | 20      | 3,500      | 2,000  | 100      | 500    | 700      | 2,400    | 5,000   |  |
|  | STLC (mg/l)                           | 15       | 5.0     | 100     | 0.75      | 1.0     | 5.0                    | 80     | 25     | 5.0   | 0.2     | 350        | 20     | 1.0      | 5.0    | 7.0      | 24       | 250     |  |
|  | TCLP (mg/l)                           | ---      | 5.0     | 100     | ---       | 1.0     | 6.0                    | ---    | ---    | 5.0   | 0.2     | ---        | ---    | 1.0      | 5.0    | ---      | ---      | ---     |  |
| <b>CHHSLs</b>                                  |                                       |          |         |         |           |         |                        |        |        |       |         |            |        |          |        |          |          |         |  |
|  | Residential Land Use                  | 30       | 0.07    | 5,200   | 150       | 1.7     | 100,000                | 660    | 3,000  | 150   | 18      | 380        | 1,600  | 380      | 380    | 5.0      | 530      | 23,000  |  |
|  | Commercial/Industrial Land Use        | 380      | 0.24    | 63,000  | 1,700     | 7.5     | 100,000                | 3,200  | 38,000 | 3,500 | 180     | 4,800      | 16,000 | 4,800    | 4,800  | 63       | 6,700    | 100,000 |  |
| <b>ESLs</b>                                    |                                       |          |         |         |           |         |                        |        |        |       |         |            |        |          |        |          |          |         |  |
|  | Tier 1                                | 31       | 0.067   | 2,900   | 0.083     | 0.00006 | 120,000                | 23     | 3,100  | 80    | 13      | 390        | 83     | 390      | 390    | 0.78     | 600      | 23,000  |  |
|  | Residential Direct Exposure           | 31       | 0.067   | 15,000  | 0.083     | 0.014   | 120,000                | 23     | 3,100  | 80    | 13      | 390        | 820    | 390      | 390    | 0.78     | 140,000  | 23,000  |  |
|  | Commercial/Industrial Direct Exposure | 470      | 0.31    | 220,000 | 0.039     | 0.058   | 1,800,000              | 350    | 47,000 | 320   | 190     | 5,800      | 11,000 | 5,800    | 5,800  | 12       | 580,000  | 350,000 |  |
|  | Construction Worker Direct Exposure   | 140      | 0.94    | 2,900   | 2.9       | 0.00006 | 510,000 <sup>(1)</sup> | 27     | 14,000 | 2,700 | 42      | 1,700      | 83     | 1,700    | 1,700  | 3.4      | 600      | 100,000 |  |
| <b>Background Concentrations<sup>(2)</sup></b> |                                       |          |         |         |           |         |                        |        |        |       |         |            |        |          |        |          |          |         |  |
|  | Minimum                               | 0.15     | 0.6     | 133     | 0.25      | 0.05    | 23                     | 2.7    | 9.1    | 12.4  | 0.10    | 0.1        | 9.0    | 0.015    | 0.10   | 0.17     | 39       | 88      |  |
|  | Mean                                  | 0.60     | 3.5     | 509     | 1.28      | 0.36    | 122                    | 14.9   | 28.7   | 23.9  | 0.26    | 1.3        | 57     | 0.058    | 0.80   | 0.56     | 112      | 149     |  |
|  | Maximum                               | 1.95     | 11      | 1,400   | 2.70      | 1.70    | 1,579                  | 46.9   | 96.4   | 97.1  | 0.90    | 9.6        | 509    | 0.430    | 8.30   | 1.10     | 288      | 236     |  |

**Notes:**

Results are shown in milligrams per kilogram (mg/kg)

< = not detected at or above laboratory reporting limit

TTL = Total Threshold Limit Concentration

STLC = Soluble Threshold Limit Concentration

TCLP = Toxicity Characteristic Leaching Procedure

ESLs = Environmental Screening Levels, Direct Exposure for Human Health, Table Tier 1 and S-1, SFRWQCB, February 2016

<sup>(1)</sup> = Value listed is for Chromium III, as there is no construction exposure standard for total chromium.

<sup>(2)</sup> = Background Concentrations of Trace and Major Elements in California Soils (Kearney Foundation of Soil Science, Division of Agricultural and Natural Resources, University of California, March 1996)

*Values listed in italics are results of WET analysis in milligrams per liter (mg/l)*

**TABLE 4**  
**Summary of Petroleum Compounds Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| <b>Sample ID</b> | <b>Depth Interval</b> | <b>TPHd (mg/kg)</b> | <b>TPHmo (mg/kg)</b> | <b>TPHg (mg/kg)</b> | <b>MTBE/BTEX (µg/kg)</b> |
|------------------|-----------------------|---------------------|----------------------|---------------------|--------------------------|
| B3-0             | 0 to 0.5              | 16                  | 43                   | ---                 | ---                      |
| B3-2             | 2 to 2.5              | 4.0                 | 7.8                  | ---                 | ---                      |
| B9-0             | 0 to 0.5              | 28                  | 61                   | ---                 | ---                      |
| B9-2             | 2 to 2.5              | 6.6                 | 14                   | ---                 | ---                      |
| B10-10           | 10 to 10.5            | ---                 | ---                  | 150                 | Ethylbenzene = 520       |
| B10-25           | 25 to 25.5            | ---                 | ---                  | <1.0                | ND                       |
| B12-0            | 0 to 0.5              | 72                  | 150                  | ---                 | ---                      |
| B12-2            | 2 to 2.5              | <1.0                | <1.0                 | ---                 | ---                      |
| B14-0            | 0 to 0.5              | 160                 | 610                  | ---                 | ---                      |
| B14-2            | 2 to 2.5              | 5.0                 | 11                   | ---                 | ---                      |
| B16-0            | 0 to 0.5              | 27                  | 91                   | ---                 | ---                      |
| B16-2            | 2 to 2.5              | 1.5                 | 1.4                  | ---                 | ---                      |
| B19-0            | 0 to 0.5              | 41                  | 59                   | ---                 | ---                      |
| B19-2            | 2 to 2.5              | 7.4                 | 5.2                  | ---                 | ---                      |
| B23-0            | 0 to 0.5              | 20                  | 42                   | ---                 | ---                      |
| B23-2            | 2 to 2.5              | 38                  | 120                  | ---                 | ---                      |
| B25-10           | 10 to 10.5            | ---                 | ---                  | <1.0                | ND                       |
| B25-25           | 25 to 25.5            | ---                 | ---                  | <1.0                | ND                       |
| B26-0            | 0 to 0.5              | 240                 | 690                  | ---                 | ---                      |
| B26-2            | 2 to 2.5              | 1.4                 | 1.4                  | ---                 | ---                      |
| B29-0            | 0 to 0.5              | 3.2                 | 7.4                  | ---                 | ---                      |
| B29-2            | 2 to 2.5              | 6.0                 | 4.6                  | ---                 | ---                      |
| B32-0            | 0 to 0.5              | 44                  | 140                  | ---                 | ---                      |
| B32-2            | 2 to 2.5              | 2.9                 | 4.9                  | ---                 | ---                      |
| B37-0            | 0 to 0.5              | 5.2                 | 11                   | ---                 | ---                      |
| B37-2            | 2 to 2.5              | 2.6                 | 4.3                  | ---                 | ---                      |
| B41-0            | 0 to 0.5              | 3.2                 | 4.8                  | ---                 | ---                      |
| B41-2            | 2 to 2.5              | 12                  | 14                   | ---                 | ---                      |
| B44-0            | 0 to 0.5              | 13                  | 22                   | ---                 | ---                      |
| B44-2            | 2 to 2.5              | 6.1                 | 4.7                  | ---                 | ---                      |
| B48-0            | 0 to 0.5              | 21                  | 40                   | ---                 | ---                      |
| B48-2            | 2 to 2.5              | 4.8                 | 3.7                  | ---                 | ---                      |

**TABLE 4**  
**Summary of Petroleum Compounds Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID | Depth Interval | TPHd<br>(mg/kg) | TPHmo<br>(mg/kg) | TPHg<br>(mg/kg) | MTBE/BTEX<br>(µg/kg) |
|-----------|----------------|-----------------|------------------|-----------------|----------------------|
| B51-0     | 0 to 0.5       | 15              | 22               | ---             | ---                  |
| B51-2     | 2 to 2.5       | 17              | 23               | ---             | ---                  |
| B55-0     | 0 to 0.5       | 1,200           | 3,300            | ---             | ---                  |
| B55-2     | 2 to 2.5       | 13              | 14               | ---             | ---                  |
| B58-0     | 0 to 0.5       | 11              | 15               | ---             | ---                  |
| B58-2     | 2 to 2.5       | 7.3             | 4.5              | ---             | ---                  |
| B61-0     | 0 to 0.5       | 32              | 83               | ---             | ---                  |
| B61-2     | 2 to 2.5       | 8.2             | 6.6              | ---             | ---                  |
| B64-0     | 0 to 0.5       | 18              | 44               | ---             | ---                  |
| B64-2     | 2 to 2.5       | 1.3             | <1.0             | ---             | ---                  |
| B67-10    | 10 to 10.5     | ---             | ---              | ---             | ND*                  |
| B67-25    | 25 to 25.5     | ---             | ---              | ---             | ND*                  |

| <u>ESLs</u>                           |       |         |       |                        |  |
|---------------------------------------|-------|---------|-------|------------------------|--|
| Tier 1                                | 240   | 100     | 100   | Ethylbenzene = 1,400   |  |
| Residential Direct Exposure           | 240   | 11,000  | 770   | Ethylbenzene = 5,500   |  |
| Commercial/Industrial Direct Exposure | 1,200 | 140,000 | 4,100 | Ethylbenzene = 24,000  |  |
| Construction Worker Direct Exposure   | 900   | 31,000  | 2,800 | Ethylbenzene = 510,000 |  |

**Notes:**

- mg/kg = milligrams per kilogram
- µg/kg = micrograms per kilogram
- TPHd = Total petroleum hydrocarbons as diesel
- TPHmo = Total petroleum hydrocarbons as motor oil
- TPHg = Total petroleum hydrocarbons as gasoline
- ESLs = Environmental Screening Levels, Direct Exposure for Human Health, Tables Tier 1 and S-1, SFRWQCB, February 2016
- BTEX = Benzene, toluene, ethylbenzene, and total xylenes
- MTBE = methyl tert-butyl ether
- ND = Not Detected
- \* = BTEX not detected. Sample not analyzed for MTBE
- = Not Analyzed or no standard exists

**TABLE 5**  
**Summary of Volatile Organic Compounds Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID   | Depth Interval                        | 4-Isopropyltoluene | Ethylbenzene | Isopropylbenzene | n-Butylbenzene | n-Propylbenzene | Naphthalene | sec-Butylbenzene | tert-Butylbenzene | Other VOCs |
|-------------|---------------------------------------|--------------------|--------------|------------------|----------------|-----------------|-------------|------------------|-------------------|------------|
| B4-10       | 10 to 10.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| B4-20       | 20 to 20.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| B10-10      | 10 to 10.5                            | 210                | 520          | 13,000           | 4,100          | 6,700           | 4,900       | 810              | 120               | ND         |
| B10-25      | 25 to 25.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| B42-10      | 10 to 10.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| B42-25      | 25 to 25.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| B67-10      | 10 to 10.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| B67-25      | 25 to 25.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| <hr/>       |                                       |                    |              |                  |                |                 |             |                  |                   |            |
| <b>ESLs</b> |                                       |                    |              |                  |                |                 |             |                  |                   |            |
|             | Tier 1                                | ---                | 1,400        | ---              | ---            | ---             | 23          | ---              | ---               | ---        |
|             | Residential Direct Exposure           | ---                | 5,500        | ---              | ---            | ---             | 1,900       | ---              | ---               | ---        |
|             | Commercial/Industrial Direct Exposure | ---                | 24,000       | ---              | ---            | ---             | 8,200       | ---              | ---               | ---        |
|             | Construction Worker Direct Exposure   | ---                | 510,000      | ---              | ---            | ---             | 78,000      | ---              | ---               | ---        |

**Notes:**

Results shown in micrograms per kilogram (µg/kg)  
 < = Not detected at the stated reporting limit  
 ND = Not detected

--- = Not Analyzed or no standard exists  
 ESLs = Environmental Screening Levels, Direct Exposure for Human Health, Tables Tier 1 and S-1,  
 SFRWQCB, February 2016

**TABLE 6**  
**Summary of Petroleum Compounds Results - Groundwater**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID                              | TPHg<br>(mg/l) | BTEX/MTBE<br>(µg/l)                  |
|--|----------------|--------------------------------------|
| B10-GW                                 | 1.3            | Benzene= 16<br>Ethylbenzene = 74     |
| Trip Blank                             | <0.05          | ND                                   |
| <b><u>ESLs</u></b>                     |                |                                      |
| MCL                                    | 0.22           | Benzene = 1.0<br>Ethylbenzene = 30   |
| Direct Exposure Human Health           | 0.22           | Benzene = 0.15<br>Ethylbenzene = 1.5 |
| Fresh Water Ecological Aquatic Habitat | 0.44           | Benzene = 46<br>Ethylbenzene = 290   |
| Saltwater Ecological Aquatic Habitat   | 3.7            | Benzene = 350<br>Ethylbenzene = 43   |

**Notes:**

- mg/l = milligrams per liter
- µg/l = micrograms per liter
- TPHg = Total petroleum hydrocarbons as gasoline
- BTEX = Benzene, toluene, ethylbenzene, and total xylenes
- MTBE = Methyl tert-butyl ether
- < = Not detected at or above the stated laboratory reporting limit
- ND = None detected
- ESLs = Environmental Screening Levels, (SFRWQCB, February 2016)
- MCL = Maximum Contaminant Level

**TABLE 7**  
**Summary of Volatile Organic Compounds Results - Groundwater**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID  | Benzene                                | Ethylbenzene | Isopropylbenzene | Naphthalene | n-Butylbenzene | n-Propylbenzene | sec-Butylbenzene | tert-Butylbenzene | Remaining VOCs |
|------------|--|--------------|------------------|-------------|----------------|-----------------|------------------|-------------------|----------------|
| B10-GW     | 17                                     | 82           | 510              | 7.8         | 11             | 110             | 10               | 2.4               | ND             |
| B42-GW     | <0.50                                  | <0.50        | <0.50            | <0.50       | <0.50          | <0.50           | <0.50            | <0.50             | ND             |
| B67-GW     | <5.0                                   | <5.0         | <5.0             | <5.0        | <5.0           | <5.0            | <5.0             | <5.0              | ND             |
| Trip Blank | <0.50                                  | <0.50        | <0.50            | <0.50       | <0.50          | <0.50           | <0.50            | <0.50             | ND             |
| <hr/>      |  |              |                  |             |                |                 |                  |                   |                |
|            | <b>ESLs</b>                            |              |                  |             |                |                 |                  |                   |                |
|            | MCL                                    | 30           | ---              | 0.12        | ---            | ---             | ---              | ---               | ---            |
|            | Direct Exposure Human Health           | 0.15         | 1.5              | ---         | 0.12           | ---             | ---              | ---               | ---            |
|            | Fresh Water Ecological Aquatic Habitat | 46           | 290              | ---         | 24             | ---             | ---              | ---               | ---            |
|            | Saltwater Ecological Aquatic Habitat   | 350          | 43               | ---         | 240            | ---             | ---              | ---               | ---            |

**Notes:**

- µg/l = micrograms per liter
- VOCs = Volatile organic compounds
- ND = Not detected
- < = Not detected at or above the stated laboratory reporting limit
- ESLs = Environmental Screening Levels, (SFRWQCB, February 2016)
- MCL = Maximum Contaminant Level

**TABLE 8a**  
**Summary of Lead Statistical Analysis**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

**EB SR-92 Offramp to SB SR-82**  
**(Borings B1 to B10)**

**TOTAL LEAD**

|      | 90% UCL | 95% UCL |
|------|---------|---------|
| 0 ft | 182     | 196     |
| 1 ft | 18.3    | 19.9    |
| 2 ft | 12.9    | 13.6    |

**EXCAVATION SCENARIOS**

| Excavation Depth                     | Weighted Averages                   |                        | 95% UCL<br>Total<br>Lead<br>(mg/kg) |
|--------------------------------------|-------------------------------------|------------------------|-------------------------------------|
|                                      | 90% UCL<br>Total<br>Lead<br>(mg/kg) | WET<br>Lead*<br>(mg/l) |                                     |
| 0 to 1 ft                            | 182                                 | 9.7                    | 196                                 |
| <i>Underlying Soil (1 to 2.5 ft)</i> | <i>16.5</i>                         | <i>0.9</i>             | <i>17.8</i>                         |
| 0 to 2 ft                            | 100                                 | 5.3                    | 108                                 |
| <i>Underlying Soil (2 to 2.5 ft)</i> | <i>12.9</i>                         | <i>0.7</i>             | <i>13.6</i>                         |
| 0 to 2.5 ft                          | 83                                  | 4.4                    | 89                                  |

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = WET lead concentrations are predicted using slope of regression line,  
where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0532 x$

**TABLE 8b**  
**Summary of Lead Statistical Analysis**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

**SB SR-82 Loop Onramp to EB SR-92**  
**(Borings B11 to B21)**

**TOTAL LEAD**

|      | <b>90% UCL</b> | <b>95% UCL</b> |
|------|----------------|----------------|
| 0 ft | 210            | 224            |
| 1 ft | 13.3           | 14.2           |
| 2 ft | 12.6           | 13.5           |

**EXCAVATION SCENARIOS**

| <b>Excavation Depth</b>              | <b>Weighted Averages</b>                      |                                 | <b>95% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> |
|--------------------------------------|---|---------------------------------|---|
|                                      | <b>90% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> | <b>WET<br/>Lead*<br/>(mg/l)</b> |   |
| 0 to 1 ft                            | 210   | 11.2                            | 224   |
| <i>Underlying Soil (1 to 2.5 ft)</i> | <i>13.1</i>                                   | <i>0.7</i>                      | <i>14</i>                                     |
| 0 to 2 ft                            | 112   | 5.9                             | 119   |
| <i>Underlying Soil (2 to 2.5 ft)</i> | <i>12.6</i>                                   | <i>0.7</i>                      | <i>13.5</i>                                   |
| 0 to 2.5 ft                          | 92  | 4.9                             | 98  |

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = WET lead concentrations are predicted using slope of regression line,  
 where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0532 x$

**TABLE 8c**  
**Summary of Lead Statistical Analysis**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

**NB SR-82 Onramp to EB SR-92**  
**(Borings B22 to B31)**

**TOTAL LEAD**

|      | <b>90% UCL</b> | <b>95% UCL</b> |
|------|----------------|----------------|
| 0 ft | 504            | 550            |
| 1 ft | 62.8           | 68.8           |
| 2 ft | 37.7           | 40.7           |

**EXCAVATION SCENARIOS**

| <b>Excavation Depth</b>              | <b>Weighted Averages</b>                      |                                 | <b>95% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> |
|--------------------------------------|---|---------------------------------|---|
|                                      | <b>90% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> | <b>WET<br/>Lead*<br/>(mg/l)</b> |   |
| 0 to 1 ft                            | 504   | 26.8                            | 550   |
| <i>Underlying Soil (1 to 2.5 ft)</i> | 54.4  | 2.9                             | 59.4  |
| 0 to 2 ft                            | 283   | 15.1                            | 309   |
| <i>Underlying Soil (2 to 2.5 ft)</i> | 37.7  | 2.0                             | 40.7  |
| 0 to 2.5 ft                          | 234   | 12.5                            | 256   |

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = WET lead concentrations are predicted using slope of regression line,  
where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0532 \cdot x$

**TABLE 8d**  
**Summary of Lead Statistical Analysis**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

**WB SR-92 Offramp to NB SR-82**  
**(Borings B32 to B42)**

**TOTAL LEAD**

|      | <b>90% UCL</b> | <b>95% UCL</b> |
|------|----------------|----------------|
| 0 ft | 267            | 292            |
| 1 ft | 49.4           | 52.5           |
| 2 ft | 101            | 113            |

**EXCAVATION SCENARIOS**

| <b>Excavation Depth</b>              | <b>Weighted Averages</b>                      |                                 | <b>95% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> |
|--------------------------------------|---|---------------------------------|---|
|                                      | <b>90% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> | <b>WET<br/>Lead*<br/>(mg/l)</b> |   |
| 0 to 1 ft                            | 267   | 14.2                            | 292   |
| <i>Underlying Soil (1 to 2.5 ft)</i> | 66.6  | 3.5                             | 72.7  |
| 0 to 2 ft                            | 158   | 8.4                             | 172   |
| <i>Underlying Soil (2 to 2.5 ft)</i> | 101   | 5.4                             | 113   |
| 0 to 2.5 ft                          | 147   | 7.8                             | 160   |

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = WET lead concentrations are predicted using slope of regression line,  
where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0532 \cdot x$

**TABLE 8e**  
**Summary of Lead Statistical Analysis**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

**NB SR-82 Loop Onramp to WB SR-92**  
**(Borings B43 to B52)**

**TOTAL LEAD**

|      | <b>90% UCL</b> | <b>95% UCL</b> |
|------|----------------|----------------|
| 0 ft | 56.6           | 59.5           |
| 1 ft | 24.1           | 25.7           |
| 2 ft | 14.3           | 14.9           |

**EXCAVATION SCENARIOS**

| <b>Excavation Depth</b>              | <b>Weighted Averages</b>                      |                                 | <b>95% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> |
|--------------------------------------|---|---------------------------------|---|
|                                      | <b>90% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> | <b>WET<br/>Lead*<br/>(mg/l)</b> |   |
| 0 to 1 ft                            | 56.6  | 3.0                             | 59.5  |
| <i>Underlying Soil (1 to 2.5 ft)</i> | 20.8  | 1.1                             | 22.1  |
| 0 to 2 ft                            | 40.4  | 2.1                             | 42.6  |
| <i>Underlying Soil (2 to 2.5 ft)</i> | 14.3  | 0.8                             | 14.9  |
| 0 to 2.5 ft                          | 35.1  | 1.9                             | 37.1  |

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = WET lead concentrations are predicted using slope of regression line,  
 where y = predicted WET lead and x = total lead.

Regression Line Slope:  $y = 0.0532 \cdot x$

**TABLE 8f**  
**Summary of Lead Statistical Analysis**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

**SB SR-82 Onramp to WB SR-92**  
**(Borings B53 to B67)**

**TOTAL LEAD**

|      | 90% UCL | 95% UCL |
|------|---------|---------|
| 0 ft | 430     | 459     |
| 1 ft | 113     | 127     |
| 2 ft | 34      | 37.2    |

**EXCAVATION SCENARIOS**

| Excavation Depth                     | Weighted Averages                   |                        | 95% UCL<br>Total<br>Lead<br>(mg/kg) |
|--------------------------------------|-------------------------------------|------------------------|-------------------------------------|
|                                      | 90% UCL<br>Total<br>Lead<br>(mg/kg) | WET<br>Lead*<br>(mg/l) |                                     |
| 0 to 1 ft                            | 430                                 | 22.9                   | 459                                 |
| <i>Underlying Soil (1 to 2.5 ft)</i> | 86.7                                | 4.6                    | 97.1                                |
| 0 to 2 ft                            | 272                                 | 14.4                   | 293                                 |
| <i>Underlying Soil (2 to 2.5 ft)</i> | 34.0                                | 1.8                    | 37.2                                |
| 0 to 2.5 ft                          | 224                                 | 11.9                   | 242                                 |

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

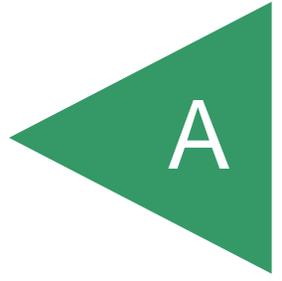
mg/l = milligrams per liter

\* = WET lead concentrations are predicted using slope of regression line,  
 where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0532 \cdot x$

APPENDIX

A





**Matthew Rodriguez**  
Secretary for  
Environmental Protection



## Department of Toxic Substances Control

Barbara A. Lee, Director  
8800 Cal Center Drive  
Sacramento, California 95826-3200



**Edmund G. Brown Jr.**  
Governor

October 30, 2015

Ms. Katrina C. Pierce, Chief  
Division of Environmental Analysis  
California Department of Transportation  
P.O. Box 94284, MS-27  
Sacramento, California 94723-0001

### EXTENSION OF STATEWIDE VARIANCE NO. V09HQSCD006 FOR CALTRANS HANDLING OF AERIALY DEPOSITED LEAD SOILS

Dear Ms. Pierce:

This letter is in response to the October 20, 2015 request from the California Department of Transportation (Caltrans) for an extension of Variance No. V09HQSCD006 (Variance).

The Variance is hereby extended to April 30, 2016 and is subject to the same additional conditions as set forth in correspondence from Mr. Raymond Leclerc of the Department of Toxic Substances Control (DTSC) to Ms. Katrina C. Pierce of Caltrans dated June 30, 2015 (Extension) and clarified in correspondence dated July 6, 2015, which are repeated below for your convenience.

#### Additional requirements included in the June 30, 2015 correspondence:

- (1) Caltrans shall provide at least 30 day advance written notification to DTSC prior to implementation of any project for which Caltrans will invoke this Variance, and shall send copies of the notification to the Regional Water Quality Control Board (RWQCB) Air Quality Management District (AQMD [or Air Pollution Control District, as applicable]) and local Certified Uniform Program Agency (CUPA). For projects that overlie multiple local agency jurisdictions, all appropriate agencies shall receive a copy of the notification. The advance written notification shall include the following information:
  - a. A statement that the project will entail excavation, stockpiling and burial of aerially deposited lead (ADL)-contaminated soil pursuant to DTSC Variance No. V09HQSCD006;
  - b. Project number;
  - c. Project description;
  - d. Project Limits;
  - e. Electronic versions of the following documents:
    - i. The environmental document prepared for the project;
    - ii. This Variance; and
    - iii. DTSC-prepared fact sheet about this Variance.
  - f. Identify any ADL-contaminated soil that will be moved from the project area to another project area with a complete description of additional project areas.

Ms. Katrina C. Pierce

July 6, 2015

Page 2 of 3

- g. The following documents will be made available as described above within 10 days of completion:
  - i. The Caltrans-approved Excavation and Transportation Plan,
  - ii. Contact information for the Resident Engineer and Project Manager
- (2) For every property where ADL-contaminated soil is buried pursuant to this Variance, Caltrans shall, in compliance with California Code of Regulations, title 22, section 67391.1, execute a legal instrument restricting use of that property, which instrument shall be binding in perpetuity upon Caltrans or any future legatee of the property. Said instrument shall be a land use covenant, except as provided by (a), and shall be recorded with the county (or counties) wherein ADL-contaminated soil has been buried.
  - a. For any property for which DTSC determines as set forth in California Code of Regulations, title 22, section 67391.1(f) a land use covenant is not feasible, then another institutional control mechanism may be used as approved by DTSC.

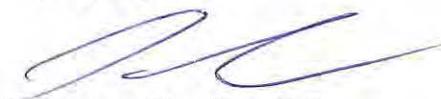
Clarification for the additional requirements, provided in the July 6, 2015 correspondence:

- The additional requirements of the extension only apply to projects awarded after June 30, 2015, where excavation of ADL-contaminated soil will be handled and placed beneath roadways as defined in the Variance No. V09HQSCD006.
- For purposes of reporting, Caltrans may submit electronic copies, URL locations or hard copies of required documents;
- Item 1(f) applies to ADL-contaminated soil moved from one project to another project within the same corridor. Caltrans will provide all information required by Variance No. V09HQSCD006 under Section 9(u).
- Until an appropriate institutional control mechanism can be agreed upon, CalTrans shall provide to DTSC land survey measurement data collected where ADL-contaminated soil is buried.
- "Project implementation" in item 1 of the June 30, 2015, Extension refers to excavation of ADL-contaminated soil.
- Items 1(f) and 1(g) in the Extension are not subject to the 30-day submittal deadline specified in (1), but are subject to a 10-day deadline following document approval or staff identification.

This extension is granted without waiver of any rights that DTSC has to enforce any violations of the Variance that may have occurred prior to October 30, 2015.

If you have any questions regarding this extension of the Variance, please contact me at (916) 255-3582.

Sincerely



Raymond Leclerc, P.E.  
Division Chief

cc: See next page

Ms. Katrina C. Pierce  
July 6, 2015  
Page 3 of 3

Mr. Scott McGowen, Assistant Chief  
Division of Environmental Analysis  
California Department of Transportation  
P.O. Box 942874, MS-27  
Sacramento, California 94271-0001

Mr. Reed Sato  
Chief Counsel  
Office of Legal Affairs  
Department of Toxic Substances Control  
1001 I Street 23<sup>rd</sup> Floor  
Sacramento, California 95814



*Matthew Rodriguez*  
Secretary for  
Environmental Protection



## Department of Toxic Substances Control

Barbara A. Lee, Director  
1001 "I" Street  
P.O. Box 806  
Sacramento, California 95812-0806



*Edmund G. Brown Jr.*  
Governor

June 30, 2015

Ms. Katrina C. Pierce, Chief  
Division of Environmental Analysis  
California Department of Transportation  
P.O. Box 942873, MS-27  
Sacramento, California 94273-0001

### EXTENSION OF STATEWIDE VARIANCE NO. V09HQSCD006 FOR CALTRANS HANDLING OF AERIALY DEPOSITED LEAD SOIL

Dear Ms. Pierce:

This letter is in response to the June 16, 2015 request from the California Department of Transportation (CalTrans) for an extension of Variance No. V09HQSCD006 (Variance).

The Variance is hereby extended to October 31, 2015 and is subject to the following additional conditions:

- (1) Caltrans shall provide at least 30 day advance written notification to DTSC prior to implementation of any project for which CalTrans will invoke this Variance, and shall send copies of the notification to the RWQCB, AQMD (or APCD, as applicable) and local Certified Uniform Program Agency (CUPA). For projects that overlie multiple local agency jurisdictions, all appropriate agencies shall receive a copy of the notification. The advance written notification shall include the following information:
  - A. A statement that the project will entail excavation, stockpiling and burial of ADL-contaminated soil pursuant to DTSC Variance No. V15HWMP001;
  - B. Project number;
  - C. Project description;
  - D. Project Limits;
  - E. Electronic versions of the following documents:
    - i. the environmental document prepared for the project;
    - ii. this Variance; and
    - iii. DTSC-prepared fact sheet about this Variance.

- F. Identify any ADL soil that will be moved from the project area to another project area with a complete description of additional project areas.
  - G. The following documents will be made available as described above within 10 days of completion:
    - a. The Caltrans-approved Excavation and Transportation Plan,
    - b. Contact information for Resident Engineer and Project Manager,
- (2) For every property where ADL-contaminated soil is buried pursuant to this variance, CalTrans shall, in compliance with California Code of Regulations, title 22, section 67391.1, execute a legal instrument restricting use of that property, which instrument shall be binding in perpetuity upon CalTrans or any future legatee of the property. Said instrument shall be a land use covenant, except as provided by (a), and shall be recorded with the county (or counties) wherein ADL-contaminated soil has been buried.
- (a) For any property for which the Department determines as set forth in California Code of Regulations, title 22, section 67391.1(f) a land use covenant is not feasible, then another institutional control mechanism may be used as approved by the Department.

This extension is granted without waiver of any rights that DTSC has to enforce any violations of the Variance that may have occurred prior to July 1, 2015.

If you have any questions regarding this extension of the Variance, please contact me at (916) 255-3582.

Sincerely,



Raymond Leclerc, P.E.  
Division Chief

cc: See next page.

Ms. Katrina C. Pierce  
June 30, 2015  
Page 3

Mr. Scott McGowen, Chief  
Division of Environmental Analysis  
P.O. Box 942874, MS-27  
Sacramento, California 94271-0001

Mr. Reed Sato  
Chief Counsel  
Office of Legal Affairs  
Department of Toxic Substances Control  
1001 I Street, 23<sup>rd</sup> Floor  
Sacramento, California 95814



## Department of Toxic Substances Control

**Matthew Rodriguez**  
Secretary for  
Environmental Protection

Barbara A. Lee, Director  
1001 "I" Street  
P.O. Box 806  
Sacramento, California 95812-0806

**Edmund G. Brown Jr.**  
Governor

December 16, 2014

Ms. Katrina C. Pierce, Chief  
Division of Environmental Analysis  
California Department of Transportation  
P.O. Box 942873, MS-27  
Sacramento, CA 94273-0001

**SUBJECT: SECOND EXTENSION OF STATEWIDE VARIANCE NO.  
V09HQSCD006 FOR CALTRANS' HANDLING OF AERIALLY  
DEPOSITED LEAD SOIL**

Dear Ms. Pierce:

This letter is in response to the December 2, 2014, request from the California Department of Transportation (Caltrans), for an extension for Variance No. V09HQSCD006 (Variance).

The original Variance was issued on June 30, 2009, with an effective period of five years, such that it was set to expire on June 30, 2014. Caltrans requested an extension in May 2014 and received a six-month extension of the Variance to December 31, 2014. The Department of Toxic Substances Control (DTSC) will be unable to issue Caltrans a new five-year Variance before the current Variance extension expires on December 31, 2014. This letter hereby extends the effective date of Variance from December 31, 2014 to June 30, 2015. This extension enables Caltrans to proceed with already-scheduled highway improvement projects without interruption.

The Variance applies to Caltrans' management of soil contaminated by aerial deposition of lead from motor vehicle exhaust. Such soil, historically referred to as "aerially deposited lead (ADL) soil," occurs along many roadsides statewide, and must be appropriately handled by Caltrans in the course of highway improvement projects. For such soil that contains lead in concentrations exceeding state, but not federal, regulatory thresholds for hazardous waste, the

Ms. Katrina C. Pierce  
December 16, 2014  
Page two

Variance waives specific hazardous waste management standards. In lieu of the standards waived, the Variance imposes alternate management standards (conditions) on Caltrans' soil handling activities, to ensure that the handling and relocation of the soil is conducted in a manner protective of human health and safety and the environment. The Variance applies to Caltrans' highway improvement projects in all Caltrans Districts.

If you have further questions regarding this Variance extension, please contact Mr. Bob Gipson, DTSC Project Manager, at (916) 327-4061.

Sincerely,



Pauline Batarseh, Chief  
Policy Implementation and Support Branch  
Policy and Program Support Division  
Hazardous Waste Management Program

Cc:  
Shaila Chowdhury  
Chief, Office of Hazardous Waste, Air, Noise and Paleontology  
Division of Environmental Analysis  
California Department of Transportation  
Sacramento, CA 94273-0001

Richard Bailey  
Senior Engineering Geologist  
Division of Environmental Analysis  
California Department of Transportation  
Sacramento, CA 94273-0001

Kim Christmann  
Senior Engineering Geologist  
Division of Environmental Analysis  
California Department of Transportation  
Sacramento, CA 94273-0001

Ms. Katrina C. Pierce  
December 16, 2014  
Page three

Donn Diebert, P.E.  
Chief, Policy Implementation Unit  
Policy Implementation and Support Branch  
Policy and Program Support Division  
Hazardous Waste Management Program  
Department of Toxic Substances Control  
1001 I Street, Sacramento, CA 95812-0806

Bob Gipson  
Environmental Scientist  
Policy Implementation Unit  
Policy Implementation and Support Branch  
Policy and Program Support Division  
Hazardous Waste Management Program  
Department of Toxic Substances Control  
1001 I Street, Sacramento, CA 95812-0806



**Matthew Rodriguez**  
Secretary for  
Environmental Protection



## Department of Toxic Substances Control



**Edmund G. Brown Jr.**  
Governor

Miriam Barcellona Ingenito  
Acting Director  
1001 "I" Street  
P.O. Box 806  
Sacramento, California 95812-0806

June 26, 2014

Ms. Katrina C. Pierce, Chief  
Division of Environmental Analysis  
California Department of Transportation  
P.O. Box 942873, MS-27  
Sacramento, California 94273-0001

### EXTENSION OF STATEWIDE VARIANCE NO. V09HQSCD006 FOR CALTRANS' HANDLING OF AERIALY DEPOSITED LEAD

Dear Ms. Pierce:

The Department of Toxic Substances Control (DTSC) received a letter dated May 30, 2014, from the California Department of Transportation (Caltrans), regarding Variance No. V09HQSCD006 (Variance), issued June 30, 2009. Caltrans is requesting DTSC to grant a six-month extension on the Variance with the new expiration date of December 31, 2014, instead of June 30, 2014. The Variance waives specified hazardous waste management requirements for purposes of Caltrans' handling of roadside soil contaminated with aerially deposited lead, and applies to Caltrans' highway improvement projects in all Caltrans Districts statewide.

Based on recent discussions between Caltrans and DTSC both agreed a six-month extension is necessary to provide adequate time for DTSC to finalize the new (renewal) variance, and for Caltrans to review and provide comments on the renewal variance. Key next steps in DTSC's review process include finalizing the ecological and health risk assessments, working on the California Environmental Quality Act documents, drafting of the renewal variance, and allowing adequate time for a public notice period for the renewal variance.

This letter hereby extends the effective date of Variance No. V09HQSCD006 to December 31, 2014. If you have any questions regarding this extension, please contact Mr. Bob Gipson of my staff at (916) 327-4061 or via email at [Bob.Gipson@dtsc.ca.gov](mailto:Bob.Gipson@dtsc.ca.gov).

Sincerely,

Pauline Batarseh, Chief  
Policy Implementation and Support Branch  
Policy and Program Support Division  
Hazardous Waste Management Program

cc: See next page.



*California Environmental Protection Agency  
Department of Toxic Substances Control*

**VARIANCE**

Applicant Names:

Variance No. V09HQSCD006

State of California  
Department of Transportation  
(Caltrans)  
1120 N Street  
Sacramento, California 95814

Effective Date: July 1, 2009

Expiration Date: July 1, 2014

Modification History:

Pursuant to California Health and Safety Code, Section 25143, the Department of Toxic Substances Control hereby issues the attached Variance consisting of 9 pages to the Department of Transportation.

A handwritten signature in cursive script, appearing to read "Beverly Rikala".

Beverly Rikala  
Team Leader, Operating Facilities Team  
Department of Toxic Substances Control

Date: 6/30/09

**VARIANCE**

1. INTRODUCTION.

a) Pursuant to Health and Safety Code, section 25143, the California Department of Toxic Substances Control (DTSC) grants this variance to the applicant below for waste considered to be hazardous solely because of its lead concentrations and as further specified herein.

b) DTSC hereby grants this variance only from the requirements specified herein and only in accordance with all terms and conditions specified herein.

2. IDENTIFYING INFORMATION.

APPLICANT/OWNER/OPERATOR

State of California  
Department of Transportation, (Caltrans)  
All Districts

3. TYPE OF VARIANCE.

Generation, Manifest, Transportation, Storage and Disposal.

4. ISSUANCE AND EXPIRATION DATES.

DATE ISSUED: July 1, 2009      EXPIRATION DATE: July 1, 2014

5. APPLICABLE STATUTES AND REGULATIONS. The hazardous waste that is the subject of this variance is fully regulated under Health and Safety Code, section 25100, et seq. and California Code of Regulations, title 22, division 4.5 except as specifically identified in Section 8 of this variance.

6. DEFINITION. For purposes of this variance, "lead-contaminated soil(s)" shall mean soil that meets the criteria for hazardous waste but contains less than 3397 mg/kg total lead and is hazardous primarily because of aeriially-deposited lead contamination associated with exhaust emissions from the operation of motor vehicles.

7. FINDINGS/DETERMINATIONS. DTSC has determined that the variance applicant meets the requirements set forth in Health and Safety Code, section 25143 for a variance from specific regulatory requirements as outlined in Section 8 of this variance. The specific determinations and findings made by DTSC are as follows:

a) Caltrans intends to excavate, stockpile, transport, bury and cover large volumes of soil associated with highway construction projects. In the more urbanized highway corridors around the State this soil is contaminated with lead, primarily due to historic emissions from automobile exhausts. In situ sampling and laboratory testing has shown that some of the soil contains concentrations of lead in excess of State regulatory thresholds, and thus any generated waste from disturbance of the soil

would be regulated as hazardous waste. Such soil contains a Total Threshold Limit Concentration (TTL) of 1000 milligrams per kilogram (mg/kg) or more lead and/or it meets or exceeds the Soluble Threshold Limit Concentration (STLC) for lead of 5 milligrams per liter (mg/l). A Human Health Risk Assessment prepared for this variance concludes that soil contaminated with elevated concentrations of lead can be managed in a way that presents no significant risk to human health.

b) The lead-contaminated soil will be placed only in Caltrans' right-of-way. Depending on concentration levels, the wastes will be covered with a minimum thickness of one (1) foot of non-hazardous soil or asphalt/concrete cover and will always be at least five (5) feet above the highest groundwater elevation. Caltrans will assure that proper health and safety procedures will be followed for workers, including any persons engaged in maintenance work in areas where the waste has been buried and covered.

c) DTSC finds and requires that the lead-contaminated soil excavated, stockpiled, transported, buried and covered pursuant to this variance is a non-RCRA hazardous waste, and that the waste management activity is insignificant as a potential hazard to human health and safety and the environment, when managed in accordance with the conditions, limitations and other requirements specified in this variance.

8. PROVISIONS WAIVED.

Provided Caltrans meets the terms and conditions of this variance, DTSC waives the hazardous waste management requirements of Health and Safety Code, Chapter 6.5 and California Code of Regulations, title 22 for the lead-contaminated soil that Caltrans reuses in projects that would require Caltrans to obtain a permit for a disposal facility and any other generator requirements that concern the transportation, manifesting, storage and land disposal of hazardous waste.

9. SPECIFIC CONDITIONS, LIMITATIONS AND OTHER REQUIREMENTS.

In order for the provisions discussed in section 8 to be waived, lead-contaminated soil must not exceed the contaminant concentrations discussed below and Caltrans management practices must meet all the following conditions:

a) Caltrans implementation of this variance shall comply with all applicable state laws and regulations for water quality control, water quality control plans, waste discharge requirements (including storm water permits), and others issued by the State Water Resources Control Board (SWRCB) and/or a California Regional Water Quality Control Board (RWQCB). Caltrans shall provide written notification to the appropriate RWQCB at least 30 days prior to advertisement for bids of projects that involve invocation of this variance, or as otherwise negotiated with the SWRCB or appropriate RWQCB.

b) The waivers in this variance shall only be applied to lead-contaminated soil that is not a RCRA hazardous waste and is hazardous primarily because of aerially-

deposited lead contamination associated with exhaust emissions from the operation of motor vehicles. The variance is not applicable to any other hazardous waste.

c) Soil containing 1.5 mg/l extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 1411 mg/kg or less total lead may be used as fill provided that the lead-contaminated soil is placed a minimum of five (5) feet above the maximum historic water table elevation and covered with at least one (1) foot of nonhazardous soil that will be maintained by Caltrans to prevent future erosion.

d) Soil containing 150 mg/L extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 3397 mg/kg or less total lead may be used as fill provided that the lead-contaminated soils are placed a minimum of five (5) feet above the maximum historic water table elevation and protected from infiltration by a pavement structure which will be maintained by Caltrans.

e) Lead-contaminated soil with a pH less than 5.5 but greater than 5.0 shall only be used as fill material under the paved portion of the roadway. Lead-contaminated soil with a pH at or less than 5.0 shall be managed as a hazardous waste.

f) For each project that has the potential to generate waste by disturbing lead-contaminated soil (as defined in 6), Caltrans shall conduct sampling and analysis to adequately characterize the soils containing aerially deposited lead in the areas of planned excavation along the project route. Such sampling and analysis shall include the Toxicity Characteristic Leaching Procedure (TCLP) as prescribed by the United States Environmental Protection Agency to determine whether concentrations of contaminants in soil exceed federal criteria for classification as a hazardous waste.

g) Lead-contaminated soil managed pursuant to this variance shall not be moved outside the designated corridor boundaries (see paragraph t) below. All lead-contaminated soil not buried and covered within the same Caltrans corridor where it originated is not eligible for management under this variance and shall be managed as a hazardous waste.

h) Lead-contaminated soil managed pursuant to this variance shall not be placed in areas where it would become in contact with groundwater or surface water (such as streams and rivers).

i) Lead-contaminated soil managed pursuant to this variance shall be buried and covered only in locations that are protected from erosion that may result from storm water run-on and run-off.

j) The lead-contaminated soil shall be buried and covered in a manner that will prevent accidental or deliberate breach of the asphalt, concrete, and/or cover soil.

k) The presence of lead-contaminated soil shall be incorporated into the projects' as-built drawings. The as-built drawings shall be annotated with the location, representative analytical data, and volume of lead-contaminated soil. The as-built drawings shall also state the depth of the cover. These as-built drawings shall be retained by Caltrans.

l) Caltrans shall ensure that no other hazardous wastes, other than the lead-contaminated hazardous waste soil, are placed in the burial areas.

m) Lead-contaminated soil shall not be buried within ten (10) feet of culverts or locations subject to frequent worker exposure.

n) Excavated lead-contaminated soil not placed into the designated area (fill area, roadbed area) by the end of the working day shall be stockpiled and covered with sheets of polyethylene or at least one foot of non-hazardous soil. The lead-contaminated soil, while stockpiled or under transport, shall be protected from contacting surface water and from being dislodged or transported by wind or storm water. The stockpile covers shall be inspected at least once a week and within 24 hours after rainstorms. If the lead-contaminated soil is stockpiled for more than 4 days from the time of excavation, Caltrans shall restrict public access to the stockpile by using barriers that meet the safety requirements of the construction zone. The lead-contaminated soil shall be stockpiled for no more than 90 days from the time the soil is first excavated. If the contaminated soil is stockpiled beyond the 90 day limit Caltrans shall:

1. notify DTSC in writing of the 90 day exceedance and expected date of removal;
2. perform weekly inspections of the stockpiled material to ensure that there is adequate protection from run-on, runoff, public access, and wind dispersion; and
3. notify DTSC on weekly basis of the stockpile status until the stockpile is removed.

The lead-contaminated soil shall be stockpiled for no more than 180 days from the time the soil is first excavated.

o) Caltrans shall ensure that all stockpiling of lead-contaminated soil remains within the project area of the specified corridor. Stockpiling of lead-contaminated soil within the specified corridor, but outside the project area, is prohibited.

p) Caltrans shall conduct confirmatory sampling of any stockpile area in areas not known or expected to contain lead-contaminated soil after removal of the lead-contaminated soil to ensure that contamination has not been left behind or has not migrated from the stockpiled material to the surrounding soils.

q) Caltrans shall stockpile lead-contaminated soil only on high ground (i.e. no sump areas or low points) so that stockpiled soil will not come in contact with surface

water run-on or run-off.

r) Caltrans shall not stockpile lead-contaminated soil in environmentally and ecologically sensitive areas.

s) Caltrans shall ensure that storm/rain run-off that has come into contact with stockpiled lead-contaminated soil will not flow to storm drains, inlets, or waters of the State.

t) Caltrans may dispose of the lead-contaminated soil only within the operating right-of-way of an existing highway, as defined in Streets and Highways Code, section 23. Caltrans may move lead-contaminated soil from one Caltrans project to another Caltrans project only if the lead-contaminated soil remains within the same designated corridor.

Caltrans shall record any movement of lead-contaminated soil by using a bill of lading. The bill of lading must contain: 1) the US DOT description including shipping name, hazard class and ID number; 2) handling codes; 3) quantity of material; 4) volume of material; 5) date of shipment; 6) origin and destination of shipment; and 7) any specific handling instructions. The bill of lading shall be referenced in and kept on file with the project's as-built drawings. The lead-contaminated soil must be kept covered during transportation.

u) For each specific corridor where this variance is to be implemented, all of the following information shall be submitted in writing to DTSC at least five (5) days before construction of any project begins:

1. plan drawing designating the boundaries of the corridor where lead-contaminated soils will be excavated, stockpiled, buried and covered;
2. a list of the Caltrans projects that the corridor encompasses;
3. a list of Caltrans contractors that will be conducting any phase of work on any project affected by this variance;
4. duration of corridor construction;
5. location where sampling and analytical data used to make lead concentration level determinations are kept (e.g. a particular Caltrans project file);
6. name and phone number (including area code) of project resident engineer and project manager;
7. location where Caltrans and contractor health and safety plan and records are kept;

8. location of project special provisions (including page or section number) for soil excavation, transportation, stockpile, burial and placement of cover material;

9. location of project drawings (including drawing page number) for soil excavation, burial and placement of cover in plan and cross section (for example, "The project plans are located at the resident engineer's office located at 5th and Main Streets, City of Fresno, See pages xxxxx of contract xxx");

10. updated information if a Caltrans project within the corridor is added, changed or deleted; and

11. type of environmental document prepared for each project, date of adoption, document title, Clearing House number and where the document is available for review. A copy of the Caltrans Categorical Exemption, Categorical Exclusion Form, or if filed, the Notice of Exemption for any project shall be submitted to the DTSC Headquarters Project Manager.

v) Changes in location of lead-contaminated soil placement, quantities or protection measures (field changes) shall be noted in the resident engineer's project log within five (5) days of the field change.

w) Caltrans shall ensure that field changes are in compliance with the requirements of this variance.

x) Operational procedures described in the California Environmental Quality Act (CEQA) Special Initial Study shall be followed by Caltrans for activities conducted under this variance.

y) Caltrans shall implement appropriate health and safety procedures to protect its employees and the public, and to prevent or minimize exposure to potentially hazardous wastes. A project-specific health and safety plan must be prepared and implemented. The monitoring and exposure standards shall be based on construction standards for exposure to lead in California Code of Regulations, title 8, section 1532.1.

z) Caltrans shall provide a district Coordinator for this variance. This Coordinator will be the primary point of contact for information flowing to, or received from, DTSC regarding any matter or submission under this variance. Caltrans shall promptly notify DTSC of the name of Coordinator and any change in the Coordinator.

aa) Caltrans shall conduct regular inspections, consistent with Caltrans' Maintenance Division's current Pavement Inspection and Slope Inspection programs, of the locations where lead-contaminated soil has been buried and/or covered pursuant to this variance. If site inspection reveals deterioration of cover so that conditions in the variance are not met, Caltrans shall repair or replace the cover.

bb) Caltrans shall develop and implement a record keeping mechanisms to record and retain permanent records of all locations where lead-contaminated soil has been buried per this variance. The records shall be made available to DTSC.

cc) If areas subject to the terms of this variance are sold, relinquished or abandoned (including roadways), all future property owners shall be notified in writing in advance by Caltrans of the requirements of this variance, and Caltrans shall provide the owner with a copy of the variance. A copy of such a notice shall be sent to DTSC and contain the corridor location and project. Caltrans shall also disclose to DTSC and the new owner the location of areas where lead-contaminated soil has been buried. Future property owners shall be subject to the same requirements as Caltrans.

dd) For the purposes of informing the public about instances where the variance is implemented, Caltrans shall:

1. maintain current fact sheets at all Caltrans resident engineer offices and the Caltrans District office. Caltrans shall make the fact sheets available to anyone expressing an interest in variance-related work.
2. maintain a binder(s) containing copies of all reports submitted to DTSC at the District office. Caltrans shall ensure that the binders are readily accessible to the public.
3. carry out the following actions when it identifies additional projects:
  - (A) notify the public via a display advertisement in a newspaper of general circulation in that area.
  - (B) update and distribute the fact sheet to the mailing list and repository locations.

ee) Lead-contaminated soil may be buried only in areas where access is limited or where lead-contaminated soil is covered and contained by a pavement structure.

ff) Dust containing lead-contaminated soil must be controlled. Water or dust palliative may be applied to control dust. If visible dust migration occurs, all excavation, stockpiling and truck loading and burying must be stopped. The granting of this variance confers no relief on Caltrans from compliance with the laws, regulations and requirements enforced by any local air district or the California Air Resources Board.

gg) Sampling and analysis is required to show the lead-contaminated soil meets the variance criteria. All sampling and analysis must be conducted in accordance with the appropriate methods specified in U.S. EPA SW-846.

hh) DTSC retains the right to require Caltrans or any future owner to remove, and properly dispose of, lead-contaminated soil in the event DTSC determines it is necessary for protection of public health, safety or the environment.

ii) DTSC finds that some projects involving lead-contaminated soil are joint projects between Caltrans and other government entities. In these joint projects, Caltrans may not be the lead agency implementing the project although Caltrans is still involved if the project occurs on its right-of-way.

Caltrans may invoke this variance for joint projects where Caltrans and local government entity are involved provided that 1) the project is within the Caltrans Right-of-Way; 2) Caltrans reviews/ oversees all phases of the project including design, contracting, environmental assessment, construction, operation, and maintenance; and 3) Caltrans oversees the project to verify all variance conditions are complied with. Caltrans will be fully responsible for the variance notification and implementation in these joint projects.

jj) All correspondence shall be directed to the following office:

Hazardous Waste Permitting  
Department of Toxic Substances Control  
8800 Cal Center Drive  
Sacramento, CA 95826

Attn: Caltrans Lead Variance Notification Unit

10. DISCLAIMER.

a) The issuance of this variance does not relieve Caltrans of the responsibility for compliance with Health and Safety Code, chapter 6.5, or the regulations adopted thereunder, and any other laws and regulations other than those specifically identified in Section 8 of this variance. Caltrans is subject to all terms and conditions herein. The granting of this variance confers no relief from compliance with any federal, State or local requirements other than those specifically provided herein.

b) The issuance of this variance does not release Caltrans from any liability associated with the handling of hazardous waste, except as specifically provided herein and subject to all terms and conditions of this variance.

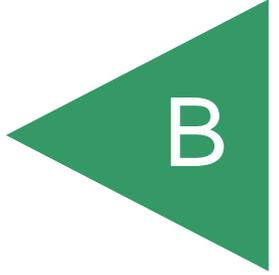
11. VARIANCE MODIFICATION OR REVOCATION. This variance is subject to review at the discretion of DTSC and may be modified or revoked by DTSC upon change of ownership and at any other time pursuant to Health and Safety Code, section 25143.
12. CEQA DETERMINATION. DTSC adopted a Negative Declaration on June 30, 2009.

Approved:

6/30/09  
Date

Beverly Rikala  
Beverly Rikala  
Operating Facilities Team  
Department of Toxic Substances Control

APPENDIX



ORDINANCE: 04023

**ENVIRONMENTAL HEALTH**  
SAN MATEO COUNTY

**PERMIT 15- 2459**



*Protecting Our Health and Environment*

**P/E: 2010 MONITORING WELLS - INSTALLATION/DESTRUCTION**

**FACILITY:**

S EL CAMINO RAMP TO HWY 92 W SAN MATEO

**OWNER:**

CALTRANS  
111 GRAND AVE  
OAKLAND

WP0010620 FA0059266  
NO APN LISTED  
AMOUNT PAID: 629.00

**CONTRACTOR:**

GEOCON CONSULTANTS INC

**TERMS & CONDITIONS:**

CONSTRUCT SOIL BORINGS (1)  
CONSULTANT: GEOCON CONSULTANTS INC  
PROJECT MGR: LUANN BEADLE

**DATE ISSUED:** 12/17/2015

CYNTHIA FRICKLE

ENVIRONMENTAL HEALTH SPECIALIST

**EXPIRATION DATE:** 4/17/2016

**THIS PERMIT IS NONTRANSFERABLE AND MUST BE POSTED ON-SITE IN A CONSPICUOUS PLACE**

CK# 82097

**PAID**  
629.00

**2015 SUBSURFACE DRILLING PERMIT APPLICATION - REVISED AUGUST 2015**

SAN MATEO COUNTY ENVIRONMENTAL HEALTH

SAN MATEO COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION  
2000 ALAMEDA DE LAS PULGAS, SUITE 100, SAN MATEO, CA 94403  
VOICE (650) 372-6200 FAX (650) 627-8244 WWW.SMCEALTH.ORG

DEC 14 2015

RECEIVED

REVISED FEES (8/1/15): ALLOW 3 FULL WORKING DAYS FOR PROCESSING PERMIT. DRILLING START DATE & TIME MUST BE SCHEDULED WITH COUNTY STAFF OR AT drilling@smcgov.org AT LEAST 2 FULL WORKING DAYS IN ADVANCE BUT AT LEAST 1 FULL WORKING DAY AFTER APPLICATION SUBMITTAL  
\$629.00 (env. borings or any wells)  
\$393.00 (geotechnical borings only)

|                        |   |  |
|------------------------|---|--|
| PURPOSE OF APPLICATION | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Installation | <input checked="" type="checkbox"/> Construct Soil Borings (variance request if to be left open >24 hours) |
|                        | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Destruction  | Extension of Permit # _____  |
| No. of Wells           | 0   | No. of Borings   |
| Well/Boring Names      |   | B4, B5, B10, B25, B42, and B67   |

|                     |   |             |  |
|---------------------|---|-------------|--|
| PURPOSE OF DRILLING | <input checked="" type="checkbox"/> Environmental | LEAD AGENCY | <input type="checkbox"/> County GPP (permit approval is not to be considered work plan approval)                   |
|                     | <input type="checkbox"/> Geotechnical             |             | <input type="checkbox"/> RWQCB/DTSC/USEPA (Provide approval letter) <input type="checkbox"/> None (i.e. voluntary) |

**SITE/ DRILLING INFORMATION**

Agency Case # \_\_\_\_\_ Assessor's Parcel # (Required) NA - Caltrans ROW (one per permit)

Drilling Location Address SR-92/SR-92 Interchange South El Camino Ramp to Highway 92 W City San Mateo Zip 94402

To Be Constructed In:  Public Property  Private Property  Refuse

Maximum Proposed Depth (wells/borings) 25 feet (feet) Drilling Method Direct-push

Boring Diameter 2 inches Casing Diameter \_\_\_\_\_ Filter Pack Interval \_\_\_\_\_ Screen Interval \_\_\_\_\_

Destruction Method (6 gallons water max/94 lb cement, up to 5% bentonite):  Pressure Grouting (provide well construction logs and grout calcs)  Overdrilling (guide rods for total depth prior to starting required)

**WELL/BORING OWNER (Well/boring owner name or contact person should match signature)**

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8C City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

It is my responsibility to notify the County of any known changes in the purpose of this well/boring from that which is indicated on this application, to submit indication of annual usage of wells to the County, and to maintain the well in good condition. (Letter signed by well/boring owner/contact person, containing above language and attesting to knowledge of all permit requirements and conditions, may be substituted for signature.)

Well/Boring Owner's/Contact Person's Signature: [Signature] (KEITH FANG) Date: 12/7/2015

**PROPERTY OWNER (Name as appears on assessor's roles should match signature)**

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8c City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

I understand that a well/boring is being installed on my property. I agree to notify the County and Well Owner of any known damage or future access issues to the well (Letter signed by property owner, containing above language, or encroachment permit may be substituted for signature.)

Property Owner's Signature: [Signature] (KEITH FANG) Date: 12/7/2015

**DRILLING COMPANY**

Drilling Company Geocon Consultants, Inc. Contact Person Luann Beadle

Address 6671 Brisa St. City, State, Zip Livermore, CA 94550

Telephone 925-371-5900 Email beadle@geoconinc.com C57 Drillers License # 716050

I certify that the well/boring will be constructed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards, and that the license listed above is considered current and active by the Contractors State License Board.

Driller's Signature: [Signature] Date: 12/10/15

**CONSULTANT COMPANY**

Consultant Company Geocon Consultants, Inc. Project Manager Luann Beadle

Address 6671 Brisa St. Telephone 925-371-5900

City, State, Zip Livermore, CA 94550 Email beadle@geoconinc.com

Field Contact and Cell # (if known) Chris Merritt 510-750-3369

I certify that this application is correct to the best of my knowledge and the well/boring will be constructed/destroyed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards. I understand that I am responsible for General Conditions "D and E" of this permit and if I indicated the purpose of drilling is geotechnical, then no one will use the boring to collect any samples for environmental analyses. If there is a change in Responsible Professional, I will notify San Mateo County GPP staff.

Responsible Professional's Name (Please print legibly) Richard Day

Responsible Professional's Signature: [Signature] Date: 12/10/15

California Professional Geologist (PG) No. 5479 or Civil Engineer (PE) No. \_\_\_\_\_

Please see additional pages of application for requirements, general permit conditions, instructions, and fees.

FA59266

REQUIREMENTS:

An accurate and correct map **must** be submitted with the application and include the following: north arrow, existing and historic site features, existing and proposed well/boring locations to scale, property lines and any other pertinent information.

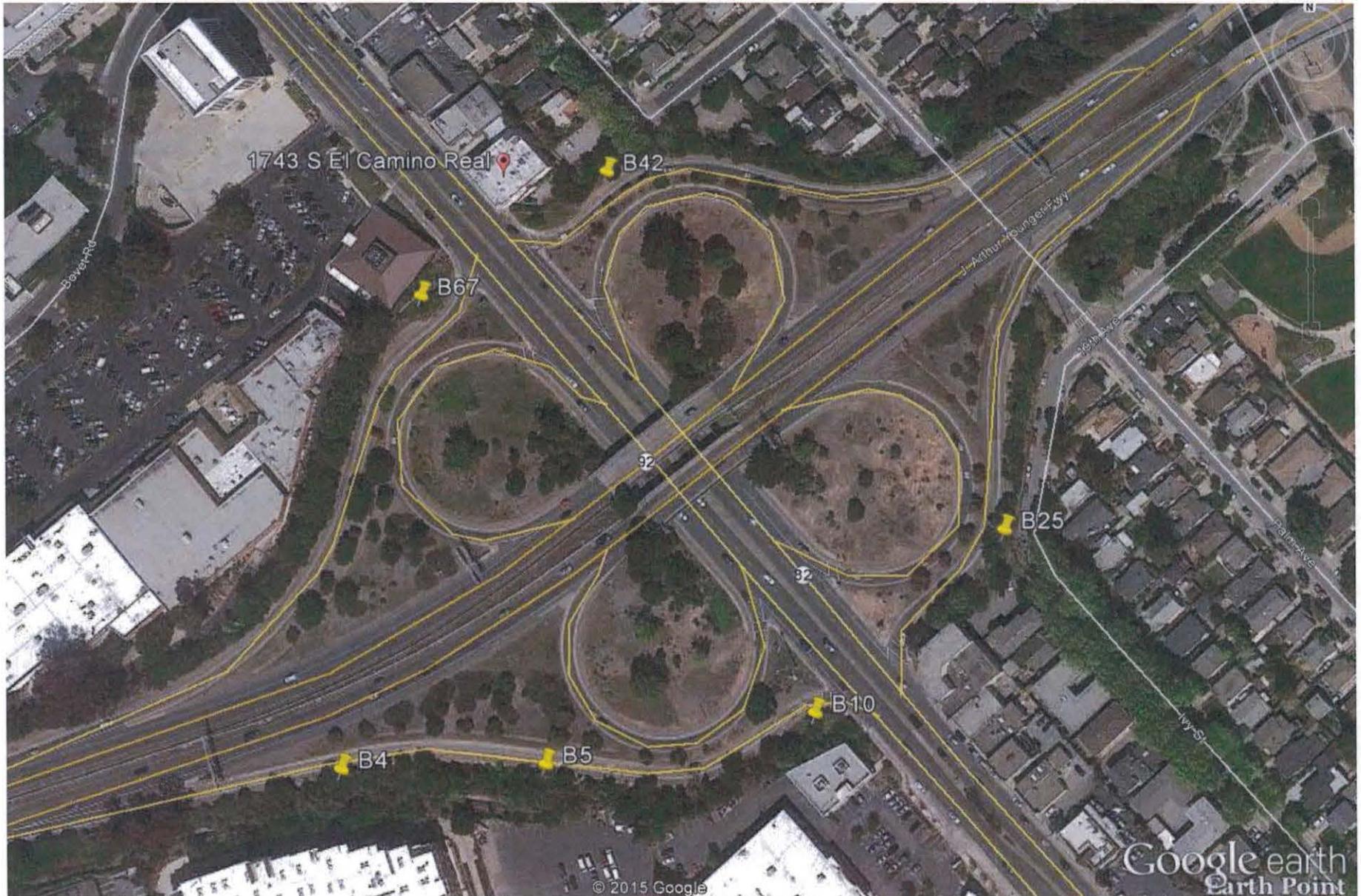
A work plan describing the drilling and construction/destruction methodology may be requested by County staff. Upon review of information on this application, and subject to approval noted below, a permit will be issued allowing the well/boring owner, driller, and responsible professional to perform the specified work. The permit is subject to both General and Special Conditions stated below. A copy of the approved Subsurface Drilling Permit **must** be available on site while work related to the permit is being performed. Drilling may begin at the notified date and time whether County staff is present or not.

GENERAL CONDITIONS:

- A. Field notification must be provided to GPP drilling inspection staff at least 2 full days prior to the start of drilling.
- B. Well and boring construction and destruction under this permit is subject to the Standards for the Construction of Wells in San Mateo County, County Groundwater Protection Program (GPP) Guidelines, Policies & Procedures, the State Water Well Standards, and any instructions by a Health Department representative.
- C. Well/Boring Owner, Driller, and Responsible Professional assume responsibility for all activities and uses under the permit, including compliance with Workmen's Compensation Laws, and indemnify, defend and save the County of San Mateo, its officers, agents and employees, free and harmless from any and all expense, cost, or liability in connection with or resulting from work or stopped-work associated with the permit, including, but not limited to, property damage, personal injury, wrongful death, and loss of income.
- D. All borings **must** be properly destroyed (grouted/sealed) within 24 hours of drilling, unless special conditions are approved in writing as part of this permit, and must be continuously protected and stabilized. Temporary soil vapor wells may remain in place up to 7 days with just an additional notification for removal.
- E. Analytical results of all soil, vapor, and groundwater samples collected during the execution of drilling under this permit **must** be submitted to County GPP staff by the Responsible Professional within 60 days of sample collection. If contamination is discovered during drilling, verbal notification to County GPP by the Responsible Professional is **required** within 72 hours of discovery. Proper storage, labeling & disposal of investigation-derived residual wastes are the responsibility of the consultant unless stated otherwise contractually.
- F. A copy of the State DWR Form 188, boring logs, well construction details, and finalized as-built locations for all borings/wells (except geotechnical borings) signed by a Responsible Professional, **must** be submitted to County GPP by the Responsible Professional within 60 days of drilling/construction/destruction.
- G. Permit is valid only for the purpose specified herein. No change in purpose or required procedures, as described on this permit application, in the associated workplan, or in the special conditions below, will be allowed except upon written permission from the County. Construction aspects can be changed based on conditions encountered in the field.
- H. Permit is valid for **one** mobilization associated with originally permitted boring/well locations only, including contingency locations, and is automatically canceled if not exercised, or if an extension is not applied for and granted within 120 days of the original permit issuance date. Failure to notify staff of cancellation or delay in start time will result in the Consultant being billed an Inspection Cancellation fee of \$264 for 2015 if GPP staff attempted to perform an inspection.
- I. Wells installed under this permit may not be used for domestic, municipal, agricultural, or irrigation water supply.
- J. All work performed **must** conform to Business and Profession Codes and State Water Well Standards.
- K. Top-of-casing elevation of all wells **must** be surveyed to the nearest 0.01-foot relative to Mean Sea Level or NAVD88 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate. Geotechnical wells are exempt from this requirement if a written variance from GPP is obtained prior to drilling.
- L. Latitude and longitude of all wells **must** be surveyed with sub-meter accuracy relative to NAD83 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate.
- M. Violation of any requirement or general or special permit condition may result in an order by GPP staff to cease work under this permit, correct the violation, potentially re-permit the work as a new mobilization, and potential actions may be taken against the Well Owner, Property Owner, or Responsible Professional by GPP.

SPECIAL CONDITIONS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

|                     |                      |           |                |
|---------------------|----------------------|-----------|----------------|
| For Agency Use Only | <i>Cynthia Frueh</i> | FA# _____ | Date: 12/15/15 |
| County Approval:    |                      |           |                |



Site is SR-92/SR-82 Interchange

Borings will be drilled using DP in unpaved shoulder to a maximum depth of 25 ft for GW sample collection

Drilling date not established yet. I am tentatively planning  
week of Dec. 28 to 31. 100 ft

ORDINANCE: 04023

ENVIRONMENTAL HEALTH  
SAN MATEO COUNTY

PERMIT 15- 2460



*Protecting Our Health and Environment*

**P/E: 2010 MONITORING WELLS - INSTALLATION/DESTRUCTION**

**FACILITY:**

S EL CAMINO RAMP FR HWY 92 E SAN MATEO

**OWNER:**

CALTRANS  
111 GRAND AVE  
OAKLAND

WP0010621 FA0059267  
NO APN LISTED  
AMOUNT PAID: 0.00

**CONTRACTOR:**

GEOCON CONSULTANTS INC

**TERMS & CONDITIONS:**

CONSTRUCT SOIL BORINGS (3)  
CONSULTANT: GEOCON CONSULTANTS INC  
PROJECT MGR: LUANN BEADLE

**DATE ISSUED:** 12/17/2015

CYNTHIA FRICKLE

ENVIRONMENTAL HEALTH SPECIALIST

**EXPIRATION DATE:** 4/17/2016

**THIS PERMIT IS NONTRANSFERABLE AND MUST BE POSTED ON-SITE IN A CONSPICUOUS PLACE**

CL# 82097

**PAID**  
629.00

**2015 SUBSURFACE DRILLING PERMIT APPLICATION - REVISED APPLICATION**

SAN MATEO COUNTY ENVIRONMENTAL HEALTH

SAN MATEO COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION  
2000 ALAMEDA DE LAS PULGAS, SUITE 100, SAN MATEO, CA 94403  
VOICE (650) 372-6200 FAX (650) 627-8244 WWW.SMCHEALTH.ORG

DEC 14 2015

RECEIVED

REVISED FEES (8/1/15): ALLOW 3 FULL WORKING DAYS FOR PROCESSING PERMIT. DRILLING START DATE & TIME MUST BE SCHEDULED WITH COUNTY STAFF OR AT [drilling@smcgov.org](mailto:drilling@smcgov.org) AT LEAST 2 FULL WORKING DAYS IN ADVANCE BUT AT LEAST 1 FULL WORKING DAY AFTER APPLICATION SUBMITTAL

|  |   |  |
|--|---|--|
| PURPOSE OF APPLICATION                           | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Installation | <input checked="" type="checkbox"/> Construct Soil Borings (variance request if to be left open >24 hours) |
|  | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Destruction  | <input type="checkbox"/> Extension of Permit #   |
| No. of Wells                                     | 0   | No. of Borings   |
|  |   | 3  |
| Well/Boring Names B4, B5, B10, B25, B42, and B67 |   |  |

|                     |   |             |  |
|---------------------|---|-------------|--|
| PURPOSE OF DRILLING | <input checked="" type="checkbox"/> Environmental | LEAD AGENCY | <input type="checkbox"/> County GPP (permit approval is not to be considered work plan approval)                   |
|                     | <input type="checkbox"/> Geotechnical             |             | <input type="checkbox"/> RWQCB/DTSC/USEPA (Provide approval letter) <input type="checkbox"/> None (i.e. voluntary) |

**SITE/ DRILLING INFORMATION**

Agency Case # \_\_\_\_\_ Assessor's Parcel # (Required) NA - Caltrans ROW (one per permit)

Drilling Location Address SR 82/SR 92 Interchange South El Camino Real ramp from Highway 92 E City San Mateo Zip 94402

To Be Constructed In:  Public Property  Private Property  Refuse

Maximum Proposed Depth (wells/borings) 25 feet (feet) Drilling Method Direct-push

Boring Diameter 2 inches Casing Diameter \_\_\_\_\_ Filter Pack Interval \_\_\_\_\_ Screen Interval \_\_\_\_\_

Destruction Method (6 gallons water max/94 lb cement, up to 5% bentonite):  Pressure Grouting (provide well construction logs and grout calcs)  Overdrilling (guide rods for total depth prior to starting required)

**WELL/BORING OWNER** (Well/boring owner name or contact person should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8C City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

It is my responsibility to notify the County of any known changes in the purpose of this well/boring from that which is indicated on this application, to submit indication of annual usage of wells to the County, and to maintain the well in good condition. (Letter signed by well/boring owner/contact person, containing above language and attesting to knowledge of all permit requirements and conditions, may be substituted for signature.)

Well/Boring Owner's/Contact Person's Signature: Keith Fang (KEITH FANG) Date: 12/7/2015

**PROPERTY OWNER** (Name as appears on assessor's roles should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8c City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

I understand that a well/boring is being installed on my property. I agree to notify the County and Well Owner of any known damage or future access issues to the well (Letter signed by property owner, containing above language, or encroachment permit may be substituted for signature.)

Property Owner's Signature: Keith Fang (KEITH FANG) Date: 12/7/2015

**DRILLING COMPANY**

Drilling Company Geocon Consultants, Inc. Contact Person Luann Beadle

Address 6671 Brisa St. City, State, Zip Livermore, CA 94550

Telephone 925-371-5900 Email beadle@geoconinc.com C57 Drillers License # 716050

I certify that the well/boring will be constructed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards, and that the license listed above is considered current and active by the Contractors State License Board.

Driller's Signature: Luann Beadle Date: 12/10/15

**CONSULTANT COMPANY**

Consultant Company Geocon Consultants, Inc. Project Manager Luann Beadle

Address 6671 Brisa St. Telephone 925-371-5900

City, State, Zip Livermore, CA 94550 Email beadle@geoconinc.com

Field Contact and Cell # (if known) Chris Merritt 510-750-3369

I certify that this application is correct to the best of my knowledge and the well/boring will be constructed/destroyed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards. I understand that I am responsible for General Conditions "D and E" of this permit and if I indicated the purpose of drilling is geotechnical, then no one will use the boring to collect any samples for environmental analyses. If there is a change in Responsible Professional, I will notify San Mateo County GPP staff.

Responsible Professional's Name (Please print legibly) Richard D...

Responsible Professional's Signature: Richard D... Date: 12/10/15

California Professional Geologist (PG) No. 5479 or Civil Engineer (PE) No. \_\_\_\_\_

Please see additional pages of application for requirements, general permit conditions, instructions, and fees.

FA 59207

**REQUIREMENTS:**

An accurate and correct map **must** be submitted with the application and include the following: north arrow, existing and historic site features, existing and proposed well/boring locations to scale, property lines and any other pertinent information.

A work plan describing the drilling and construction/destruction methodology may be requested by County staff. Upon review of information on this application, and subject to approval noted below, a permit will be issued allowing the well/boring owner, driller, and responsible professional to perform the specified work. The permit is subject to both General and Special Conditions stated below. A copy of the approved Subsurface Drilling Permit **must** be available on site while work related to the permit is being performed. Drilling may begin at the notified date and time whether County staff is present or not.

**GENERAL CONDITIONS:**

- A. Field notification must be provided to GPP drilling inspection staff at least 2 full days prior to the start of drilling.
- B. Well and boring construction and destruction under this permit is subject to the Standards for the Construction of Wells in San Mateo County, County Groundwater Protection Program (GPP) Guidelines, Policies & Procedures, the State Water Well Standards, and any instructions by a Health Department representative.
- C. Well/Boring Owner, Driller, and Responsible Professional assume responsibility for all activities and uses under the permit, including compliance with Workmen's Compensation Laws, and indemnify, defend and save the County of San Mateo, its officers, agents and employees, free and harmless from any and all expense, cost, or liability in connection with or resulting from work or stopped-work associated with the permit, including, but not limited to, property damage, personal injury, wrongful death, and loss of income.
- D. All borings **must** be properly destroyed (grouted/sealed) within 24 hours of drilling, unless special conditions are approved in writing as part of this permit, and must be continuously protected and stabilized. Temporary soil vapor wells may remain in place up to 7 days with just an additional notification for removal.
- E. Analytical results of all soil, vapor, and groundwater samples collected during the execution of drilling under this permit **must** be submitted to County GPP staff by the Responsible Professional within 60 days of sample collection. If contamination is discovered during drilling, verbal notification to County GPP by the Responsible Professional is **required** within 72 hours of discovery. Proper storage, labeling & disposal of investigation-derived residual wastes are the responsibility of the consultant unless stated otherwise contractually.
- F. A copy of the State DWR Form 188, boring logs, well construction details, and finalized as-built locations for all borings/wells (except geotechnical borings) signed by a Responsible Professional, **must** be submitted to County GPP by the Responsible Professional within 60 days of drilling/construction/destruction.
- G. Permit is valid only for the purpose specified herein. No change in purpose or required procedures, as described on this permit application, in the associated workplan, or in the special conditions below, will be allowed except upon written permission from the County. Construction aspects can be changed based on conditions encountered in the field.
- H. Permit is valid for **one** mobilization associated with originally permitted boring/well locations only, including contingency locations, and is automatically canceled if not exercised, or if an extension is not applied for and granted within 120 days of the original permit issuance date. Failure to notify staff of cancellation or delay in start time will result in the Consultant being billed an Inspection Cancellation fee of \$264 for 2015 if GPP staff attempted to perform an inspection.
- I. Wells installed under this permit may not be used for domestic, municipal, agricultural, or irrigation water supply.
- J. All work performed **must** conform to Business and Profession Codes and State Water Well Standards.
- K. Top-of-casing elevation of all wells **must** be surveyed to the nearest 0.01-foot relative to Mean Sea Level or NAVD88 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate. Geotechnical wells are exempt from this requirement if a written variance from GPP is obtained prior to drilling.
- L. Latitude and longitude of all wells **must** be surveyed with sub-meter accuracy relative to NAD83 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate.
- M. Violation of any requirement or general or special permit condition may result in an order by GPP staff to cease work under this permit, correct the violation, potentially re-permit the work as a new mobilization, and potential actions may be taken against the Well Owner, Property Owner, or Responsible Professional by GPP.

**SPECIAL CONDITIONS:**

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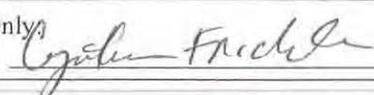
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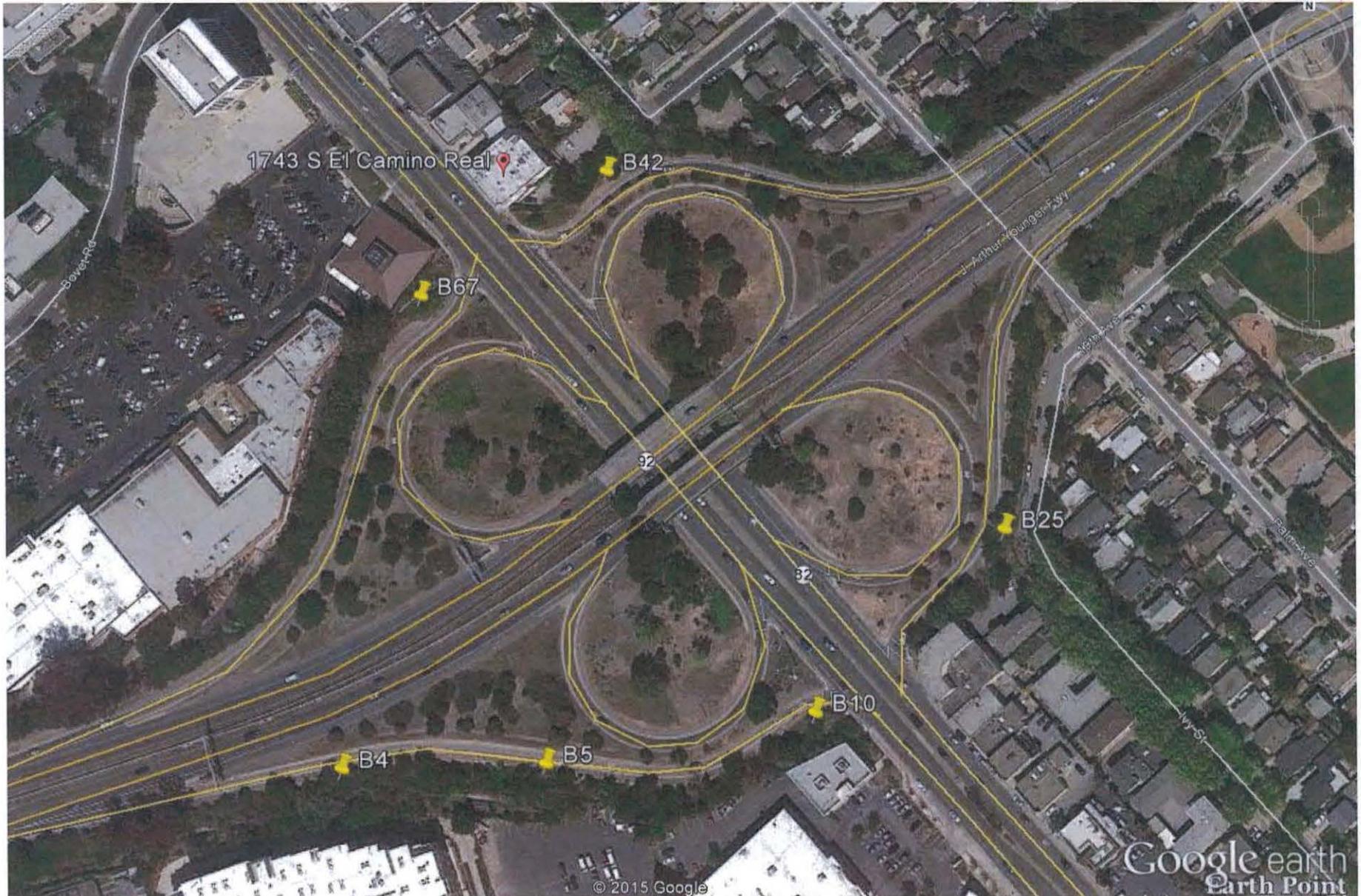


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|                     |  |           |                       |
|---------------------|--|-----------|-----------------------|
| For Agency Use Only | County Approval:  | FA# _____ | Date: <u>12/15/15</u> |
|---------------------|--|-----------|-----------------------|



Site is SR-92/SR-82 Interchange

Borings will be drilled using DP in unpaved shoulder to a maximum depth of 25 ft for GW sample collection

Drilling date not established yet. I am tentatively planning  
week of Dec. 28 to 31. 100 ft

ORDINANCE: 04023

ENVIRONMENTAL HEALTH  
SAN MATEO COUNTY

PERMIT 15- 2474



Protecting Our Health and Environment

P/E: 2010 MONITORING WELLS - INSTALLATION/DESTRUCTION

**FACILITY:**

N EL CAMINO RAMP FR HWY 92 W SAN MATEO

**OWNER:**

CALTRANS  
111 GRAND AVE  
OAKLAND

WP0010622 FA0059268

NO APN LISTED

AMOUNT PAID: 0.00

**CONTRACTOR:**

GEOCON CONSULTANTS INC

**TERMS & CONDITIONS:**

CONSTRUCT SOIL BORINGS (1)  
CONSULTANT: GEOCON CONSULTANTS INC  
PROJECT MGR: LUANN BEADLE

DATE ISSUED: 12/17/2015

CYNTHIA FRICKLE

ENVIRONMENTAL HEALTH SPECIALIST

EXPIRATION DATE: 4/17/2016

THIS PERMIT IS NONTRANSFERABLE AND MUST BE POSTED ON-SITE IN A CONSPICUOUS PLACE

CL# 82097

PAID  
629.00

2015 SUBSURFACE DRILLING PERMIT APPLICATION - REVISED APPROVAL SAN MATEO COUNTY ENVIRONMENTAL HEALTH

SAN MATEO COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION  
2000 ALAMEDA DE LAS PULGAS, SUITE 100, SAN MATEO, CA 94403  
VOICE (650) 372-6200 FAX (650) 627-8244 WWW.SMCHEALTH.ORG

DEC 14 2015

RECEIVED

REVISED FEES (8/1/15): ALLOW 3 FULL WORKING DAYS FOR PROCESSING PERMIT. DRILLING START DATE & TIME MUST BE SCHEDULED WITH COUNTY STAFF OR AT drilling@smcgov.org AT LEAST 2 FULL WORKING DAYS IN ADVANCE BUT AT LEAST 1 FULL WORKING DAY AFTER APPLICATION SUBMITTAL  
\$629.00 (env. borings or any wells)  
\$393.00 (geotechnical borings only)

|                        |   |  |
|------------------------|---|--|
| PURPOSE OF APPLICATION | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Installation | <input checked="" type="checkbox"/> Construct Soil Borings (variance request if to be left open >24 hours) |
|                        | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Destruction  | <input type="checkbox"/> Extension of Permit #   |
| No. of Wells           | 0   | No. of Borings   |
|                        |   | Well/Boring Names  |

|                     |  |             |   |
|---------------------|--|-------------|---|
| PURPOSE OF DRILLING | <input checked="" type="checkbox"/> Environmental<br><input type="checkbox"/> Geotechnical | LEAD AGENCY | <input type="checkbox"/> County GPP (permit approval is not to be considered work plan approval)<br><input type="checkbox"/> RWQCB/DTSC/USEPA (Provide approval letter)<br><input type="checkbox"/> None (i.e. voluntary) |
|---------------------|--|-------------|---|

SITE/ DRILLING INFORMATION

Agency Case # \_\_\_\_\_ Assessor's Parcel # (Required) NA - Caltrans ROW (one per permit)

Drilling Location Address SR-82/SR-92 Interchange North El Camino Real ramp from Highway 92 W City San Mateo Zip 94402

To Be Constructed In:  Public Property  Private Property  Refuse

Maximum Proposed Depth (wells/borings) 25 feet (feet) Drilling Method Direct-push

Boring Diameter 2 inches Casing Diameter \_\_\_\_\_ Filter Pack Interval \_\_\_\_\_ Screen Interval \_\_\_\_\_

Destruction Method (6 gallons water max/94 lb cement, up to 5% bentonite):  Pressure Grouting (provide well construction logs and grout calcs)  
 Overdrilling (guide rods for total depth prior to starting required)

WELL/BORING OWNER (Well/boring owner name or contact person should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8C City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

It is my responsibility to notify the County of any known changes in the purpose of this well/boring from that which is indicated on this application, to submit indication of annual usage of wells to the County, and to maintain the well in good condition. (Letter signed by well/boring owner/contact person, containing above language and attesting to knowledge of all permit requirements and conditions, may be substituted for signature.)

Well/Boring Owner's/Contact Person's Signature: [Signature] (KEITH FANG) Date: 12/7/2015

PROPERTY OWNER (Name as appears on assessor's roles should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8c City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

I understand that a well/boring is being installed on my property. I agree to notify the County and Well Owner of any known damage or future access issues to the well (Letter signed by property owner, containing above language, or encroachment permit may be substituted for signature.)

Property Owner's Signature: [Signature] (KEITH FANG) Date: 12/7/2015

DRILLING COMPANY

Drilling Company Geocon Consultants, Inc. Contact Person Luann Beadle

Address 6671 Brisa St. City, State, Zip Livermore, CA 94550

Telephone 925-371-5900 Email beadle@geoconinc.com C57 Drillers License # 716050

I certify that the well/boring will be constructed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards, and that the license listed above is considered current and active by the Contractors State License Board.

Driller's Signature: [Signature] Date: 12/10/15

CONSULTANT COMPANY

Consultant Company Geocon Consultants, Inc. Project Manager Luann Beadle

Address 6671 Brisa St. Telephone 925-371-5900

City, State, Zip Livermore, CA 94550 Email beadle@geoconinc.com

Field Contact and Cell # (if known) Chris Merritt 510-750-3369

I certify that this application is correct to the best of my knowledge and the well/boring will be constructed/destroyed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards. I understand that I am responsible for General Conditions "D and E" of this permit and if I indicated the purpose of drilling is geotechnical, then no one will use the boring to collect any samples for environmental analyses. If there is a change in Responsible Professional, I will notify San Mateo County GPP staff.

Responsible Professional's Name (Please print legibly) Richard D. [Signature]

Responsible Professional's Signature [Signature] Date: 12/10/15

California Professional Geologist (PG) No. 5479 or Civil Engineer (PE) No. \_\_\_\_\_

Please see additional pages of application for requirements, general permit conditions, instructions, and fees.

Revised every January 1

FA59268

**REQUIREMENTS:**

An accurate and correct map **must** be submitted with the application and include the following: north arrow, existing and historic site features, existing and proposed well/boring locations to scale, property lines and any other pertinent information.

A work plan describing the drilling and construction/destruction methodology may be requested by County staff. Upon review of information on this application, and subject to approval noted below, a permit will be issued allowing the well/boring owner, driller, and responsible professional to perform the specified work. The permit is subject to both General and Special Conditions stated below. A copy of the approved Subsurface Drilling Permit **must** be available on site while work related to the permit is being performed. Drilling may begin at the notified date and time whether County staff is present or not.

**GENERAL CONDITIONS:**

- A. Field notification must be provided to GPP drilling inspection staff at least 2 full days prior to the start of drilling.
- B. Well and boring construction and destruction under this permit is subject to the Standards for the Construction of Wells in San Mateo County, County Groundwater Protection Program (GPP) Guidelines, Policies & Procedures, the State Water Well Standards, and any instructions by a Health Department representative.
- C. Well/Boring Owner, Driller, and Responsible Professional assume responsibility for all activities and uses under the permit, including compliance with Workmen's Compensation Laws, and indemnify, defend and save the County of San Mateo, its officers, agents and employees, free and harmless from any and all expense, cost, or liability in connection with or resulting from work or stopped-work associated with the permit, including, but not limited to, property damage, personal injury, wrongful death, and loss of income.
- D. All borings **must** be properly destroyed (grouted/sealed) within 24 hours of drilling, unless special conditions are approved in writing as part of this permit, and must be continuously protected and stabilized. Temporary soil vapor wells may remain in place up to 7 days with just an additional notification for removal.
- E. Analytical results of all soil, vapor, and groundwater samples collected during the execution of drilling under this permit **must** be submitted to County GPP staff by the Responsible Professional within 60 days of sample collection. If contamination is discovered during drilling, verbal notification to County GPP by the Responsible Professional is **required** within 72 hours of discovery. Proper storage, labeling & disposal of investigation-derived residual wastes are the responsibility of the consultant unless stated otherwise contractually.
- F. A copy of the State DWR Form 188, boring logs, well construction details, and finalized as-built locations for all borings/wells (except geotechnical borings) signed by a Responsible Professional, **must** be submitted to County GPP by the Responsible Professional within 60 days of drilling/construction/destruction.
- G. Permit is valid only for the purpose specified herein. No change in purpose or required procedures, as described on this permit application, in the associated workplan, or in the special conditions below, will be allowed except upon written permission from the County. Construction aspects can be changed based on conditions encountered in the field.
- H. Permit is valid for **one** mobilization associated with originally permitted boring/well locations only, including contingency locations, and is automatically canceled if not exercised, or if an extension is not applied for and granted within 120 days of the original permit issuance date. Failure to notify staff of cancellation or delay in start time will result in the Consultant being billed an Inspection Cancellation fee of \$264 for 2015 if GPP staff attempted to perform an inspection.
- I. Wells installed under this permit may not be used for domestic, municipal, agricultural, or irrigation water supply.
- J. All work performed **must** conform to Business and Profession Codes and State Water Well Standards.
- K. Top-of-casing elevation of all wells **must** be surveyed to the nearest 0.01-foot relative to Mean Sea Level or NAVD88 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate. Geotechnical wells are exempt from this requirement if a written variance from GPP is obtained prior to drilling.
- L. Latitude and longitude of all wells **must** be surveyed with sub-meter accuracy relative to NAD83 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate.
- M. Violation of any requirement or general or special permit condition may result in an order by GPP staff to cease work under this permit, correct the violation, potentially re-permit the work as a new mobilization, and potential actions may be taken against the Well Owner, Property Owner, or Responsible Professional by GPP.

**SPECIAL CONDITIONS:**

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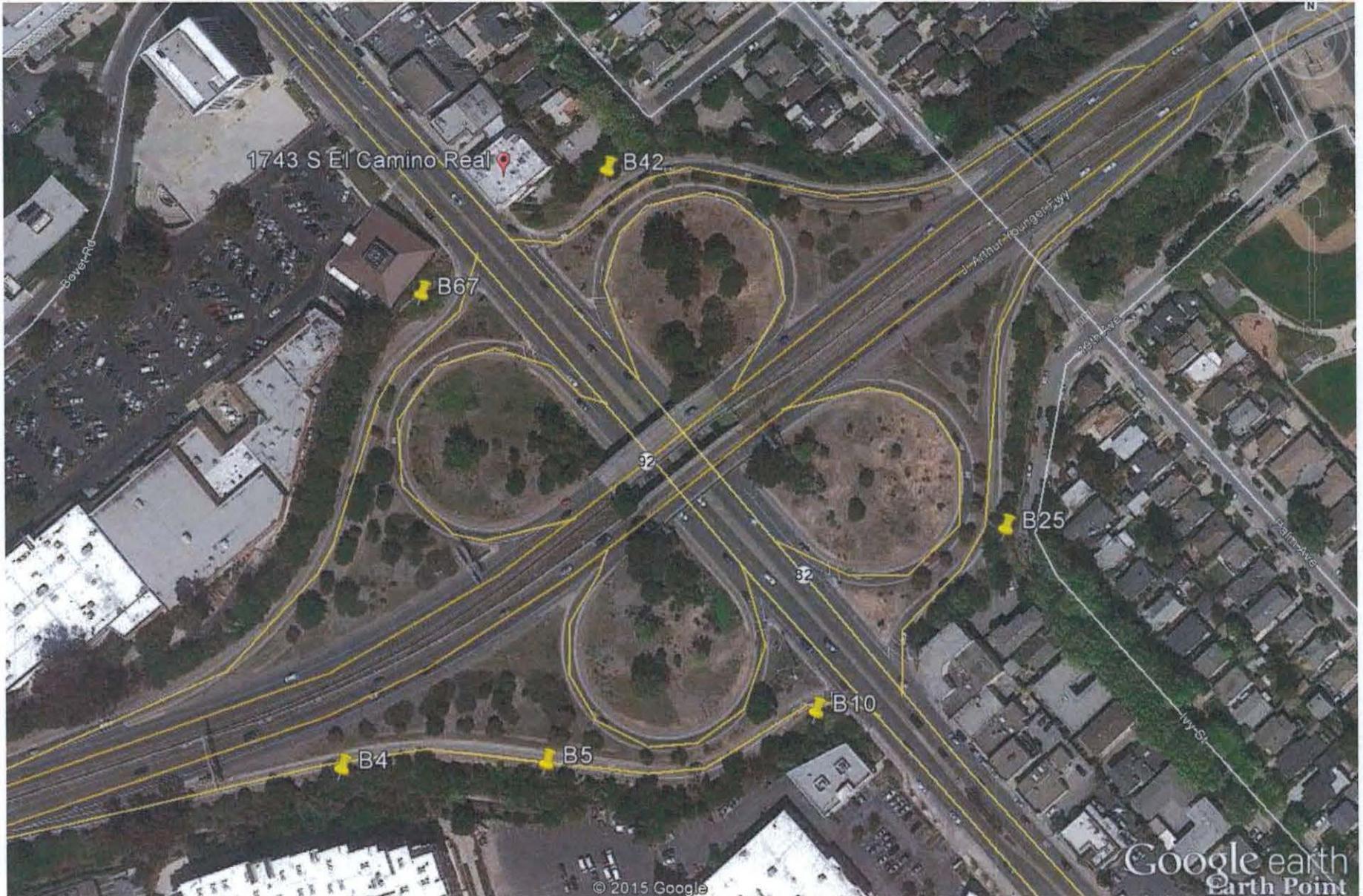
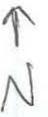


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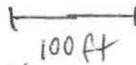
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|                     |                  |           |                       |
|---------------------|------------------|-----------|-----------------------|
| For Agency Use Only | County Approval: | FA# _____ | Date: <u>12/15/15</u> |
|---------------------|------------------|-----------|-----------------------|



Site is SR-92/SR-82 Interchange

Borings will be drilled using DP in unpaved shoulder to a maximum depth of 25 ft for GW sample collection

Drilling date not established yet. I am tentatively planning  
week of Dec. 28 to 31. 

ORDINANCE: 04023

**ENVIRONMENTAL HEALTH**  
SAN MATEO COUNTY

**PERMIT 15- 2475**



*Protecting Our Health and Environment*

**P/E: 2010 MONITORING WELLS - INSTALLATION/DESTRUCTION**

**FACILITY:**

N EL CAMINO RAMP TO HWY 92 E SAN MATEO

**OWNER:**

CALTRANS  
111 GRAND AVE  
OAKLAND

WP0010623 FA0059269  
NO APN LISTED  
AMOUNT PAID: 0.00

**CONTRACTOR:**

GEOCON CONSULTANTS INC

**TERMS & CONDITIONS:**

CONSTRUCT SOIL BORINGS (1)  
CONSULTANT: GEOCON CONSULTANTS INC  
PROJECT MGR: LUANN BEADLE

**DATE ISSUED:** 12/17/2015

CYNTHIA FRICKLE

ENVIRONMENTAL HEALTH SPECIALIST

**EXPIRATION DATE:** 4/17/2016

**THIS PERMIT IS NONTRANSFERABLE AND MUST BE POSTED ON-SITE IN A CONSPICUOUS PLACE**

CL# 82097

PAID  
629.00

2015 SUBSURFACE DRILLING PERMIT APPLICATION - REVISED AUGUST 2015 SAN MATEO COUNTY ENVIRONMENTAL HEALTH

SAN MATEO COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION  
2000 ALAMEDA DE LAS PULGAS, SUITE 100, SAN MATEO, CA 94403  
VOICE (650) 372-6200 FAX (650) 627-8244 WWW.SMCHEALTH.ORG

DEC 14 2015

RECEIVED

REVISED FEES (8/1/15): \$629.00 (env. borings or any wells) \$393.00 (geotechnical borings only)  
ALLOW 3 FULL WORKING DAYS FOR PROCESSING PERMIT. DRILLING START DATE & TIME MUST BE SCHEDULED WITH COUNTY STAFF OR AT drilling@smcgov.org AT LEAST 2 FULL WORKING DAYS IN ADVANCE BUT AT LEAST 1 FULL WORKING DAY AFTER APPLICATION SUBMITTAL

|                                  |   |  |
|----------------------------------|---|--|
| PURPOSE OF APPLICATION           | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Installation | <input checked="" type="checkbox"/> Construct Soil Borings (variance request if to be left open >24 hours) |
|                                  | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Destruction  | <input type="checkbox"/> Extension of Permit # _____   |
| No. of Wells                     | 0   | No. of Borings   |
|                                  |   | Well/Boring Names  |
| -B4, B5, B10, B25, B42, and B67- |   |  |

|                     |   |             |  |
|---------------------|---|-------------|--|
| PURPOSE OF DRILLING | <input checked="" type="checkbox"/> Environmental | LEAD AGENCY | <input type="checkbox"/> County GPP (permit approval is not to be considered work plan approval)                   |
|                     | <input type="checkbox"/> Geotechnical             |             | <input type="checkbox"/> RWQCB/DTSC/USEPA (Provide approval letter) <input type="checkbox"/> None (i.e. voluntary) |

**SITE/ DRILLING INFORMATION**

Agency Case # \_\_\_\_\_ Assessor's Parcel # (Required) NA - Caltrans ROW (one per permit)

Drilling Location Address SR-82/SR-92 Interchange North El Camino Real ramp to Highway 92 E City San Mateo Zip 94402

To Be Constructed In:  Public Property  Private Property  Refuse

Maximum Proposed Depth (wells/borings) 25 feet (feet) Drilling Method Direct-push

Boring Diameter 2 inches Casing Diameter \_\_\_\_\_ Filter Pack Interval \_\_\_\_\_ Screen Interval \_\_\_\_\_

Destruction Method (6 gallons water max/94 lb cement, up to 5% bentonite):  Pressure Grouting (provide well construction logs and grout calcs)  Overdrilling (guide rods for total depth prior to starting required)

**WELL/BORING OWNER** (Well/boring owner name or contact person should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8C City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

It is my responsibility to notify the County of any known changes in the purpose of this well/boring from that which is indicated on this application, to submit indication of annual usage of wells to the County, and to maintain the well in good condition. (Letter signed by well/boring owner/contact person, containing above language and attesting to knowledge of all permit requirements and conditions, may be substituted for signature.)

Well/Boring Owner's/Contact Person's Signature: Keith Fang (KEITH FANG) Date: 12/7/2015

**PROPERTY OWNER** (Name as appears on assessor's roles should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8c City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

I understand that a well/boring is being installed on my property. I agree to notify the County and Well Owner of any known damage or future access issues to the well (Letter signed by property owner, containing above language, or encroachment permit may be substituted for signature.)

Property Owner's Signature: Keith Fang (KEITH FANG) Date: 12/7/2015

**DRILLING COMPANY**

Drilling Company Geocon Consultants, Inc. Contact Person Luann Beadle

Address 6671 Brisa St. City, State, Zip Livermore, CA 94550

Telephone 925-371-5900 Email beadle@geoconinc.com C57 Drillers License # 716050

I certify that the well/boring will be constructed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards, and that the license listed above is considered current and active by the Contractors State License Board.

Driller's Signature: Luann Beadle Date: 12/10/15

**CONSULTANT COMPANY**

Consultant Company Geocon Consultants, Inc. Project Manager Luann Beadle

Address 6671 Brisa St. Telephone 925-371-5900

City, State, Zip Livermore, CA 94550 Email beadle@geoconinc.com

Field Contact and Cell # (if known) Chris Merritt 510-750-3369

I certify that this application is correct to the best of my knowledge and the well/boring will be constructed/destroyed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards. I understand that I am responsible for General Conditions "D and E" of this permit and if I indicated the purpose of drilling is geotechnical, then no one will use the boring to collect any samples for environmental analyses. If there is a change in Responsible Professional, I will notify San Mateo County GPP staff.

Responsible Professional's Name (Please print legibly) Richard D...

Responsible Professional's Signature: Richard D... Date: 12/10/15

California Professional Geologist (PG) No. 5479 or Civil Engineer (PE) No. \_\_\_\_\_

Please see additional pages of application for requirements, general permit conditions, instructions, and fees.

FA 59269

**REQUIREMENTS:**

An accurate and correct map **must** be submitted with the application and include the following: north arrow, existing and historic site features, existing and proposed well/boring locations to scale, property lines and any other pertinent information.

A work plan describing the drilling and construction/destruction methodology may be requested by County staff. Upon review of information on this application, and subject to approval noted below, a permit will be issued allowing the well/boring owner, driller, and responsible professional to perform the specified work. The permit is subject to both General and Special Conditions stated below. A copy of the approved Subsurface Drilling Permit **must** be available on site while work related to the permit is being performed. Drilling may begin at the notified date and time whether County staff is present or not.

**GENERAL CONDITIONS:**

- A. Field notification must be provided to GPP drilling inspection staff at least 2 full days prior to the start of drilling.
- B. Well and boring construction and destruction under this permit is subject to the Standards for the Construction of Wells in San Mateo County, County Groundwater Protection Program (GPP) Guidelines, Policies & Procedures, the State Water Well Standards, and any instructions by a Health Department representative.
- C. Well/Boring Owner, Driller, and Responsible Professional assume responsibility for all activities and uses under the permit, including compliance with Workmen's Compensation Laws, and indemnify, defend and save the County of San Mateo, its officers, agents and employees, free and harmless from any and all expense, cost, or liability in connection with or resulting from work or stopped-work associated with the permit, including, but not limited to, property damage, personal injury, wrongful death, and loss of income.
- D. All borings **must** be properly destroyed (grouted/sealed) within 24 hours of drilling, unless special conditions are approved in writing as part of this permit, and must be continuously protected and stabilized. Temporary soil vapor wells may remain in place up to 7 days with just an additional notification for removal.
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- F. A copy of the State DWR Form 188, boring logs, well construction details, and finalized as-built locations for all borings/wells (except geotechnical borings) signed by a Responsible Professional, **must** be submitted to County GPP by the Responsible Professional within 60 days of drilling/construction/destruction.
- G. Permit is valid only for the purpose specified herein. No change in purpose or required procedures, as described on this permit application, in the associated workplan, or in the special conditions below, will be allowed except upon written permission from the County. Construction aspects can be changed based on conditions encountered in the field.
- H. Permit is valid for **one** mobilization associated with originally permitted boring/well locations only, including contingency locations, and is automatically canceled if not exercised, or if an extension is not applied for and granted within 120 days of the original permit issuance date. Failure to notify staff of cancellation or delay in start time will result in the Consultant being billed an Inspection Cancellation fee of \$264 for 2015 if GPP staff attempted to perform an inspection.
- I. Wells installed under this permit may not be used for domestic, municipal, agricultural, or irrigation water supply.
- J. All work performed **must** conform to Business and Profession Codes and State Water Well Standards.
- K. Top-of-casing elevation of all wells **must** be surveyed to the nearest 0.01-foot relative to Mean Sea Level or NAVD88 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate. Geotechnical wells are exempt from this requirement if a written variance from GPP is obtained prior to drilling.
- L. Latitude and longitude of all wells **must** be surveyed with sub-meter accuracy relative to NAD83 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate.
- M. Violation of any requirement or general or special permit condition may result in an order by GPP staff to cease work under this permit, correct the violation, potentially re-permit the work as a new mobilization, and potential actions may be taken against the Well Owner, Property Owner, or Responsible Professional by GPP.

**SPECIAL CONDITIONS:**

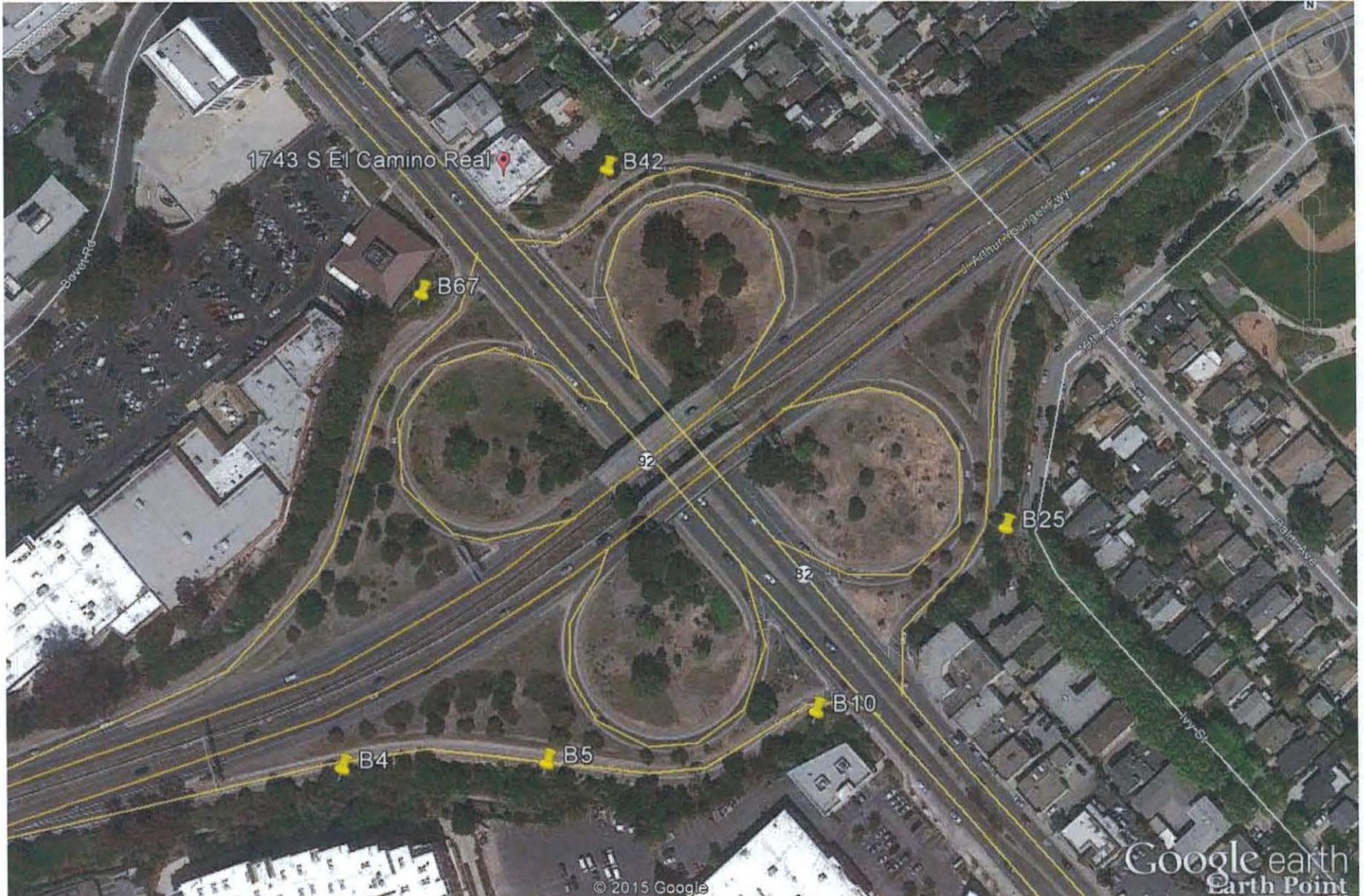
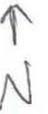
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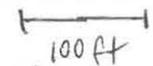
|                     |  |           |                       |
|---------------------|--|-----------|-----------------------|
| For Agency Use Only | County Approval:  | FA# _____ | Date: <u>12/15/15</u> |
|---------------------|--|-----------|-----------------------|



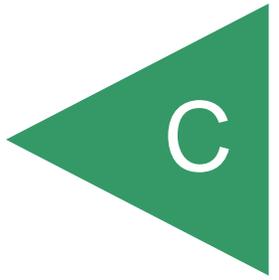
Site is SR-92/SR-82 Interchange

Borings will be drilled using DP in unpaved shoulder to a maximum depth of 25 ft for GW sample collection

Drilling date not established yet. I am tentatively planning  
Week of Dec. 28 to 31.



APPENDIX



January 18, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax: (925) 371-5915

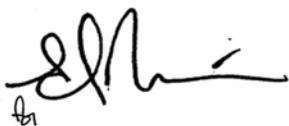
ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600174  
Client Reference : SR-92 / SR-82 1C, E8721-02-36

Enclosed are the results for sample(s) received on January 09, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/18/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B17-0     | 1600174-01    | Soil   | 1/08/16 8:55  | 1/09/16 10:00 |
| B17-1     | 1600174-02    | Soil   | 1/08/16 8:55  | 1/09/16 10:00 |
| B17-2     | 1600174-03    | Soil   | 1/08/16 8:55  | 1/09/16 10:00 |
| B18-0     | 1600174-04    | Soil   | 1/08/16 9:00  | 1/09/16 10:00 |
| B18-1     | 1600174-05    | Soil   | 1/08/16 9:00  | 1/09/16 10:00 |
| B18-2     | 1600174-06    | Soil   | 1/08/16 9:00  | 1/09/16 10:00 |
| B19-0     | 1600174-07    | Soil   | 1/08/16 9:05  | 1/09/16 10:00 |
| B19-1     | 1600174-08    | Soil   | 1/08/16 9:05  | 1/09/16 10:00 |
| B19-2     | 1600174-09    | Soil   | 1/08/16 9:05  | 1/09/16 10:00 |
| B20-0     | 1600174-10    | Soil   | 1/08/16 9:10  | 1/09/16 10:00 |
| B20-1     | 1600174-11    | Soil   | 1/08/16 9:10  | 1/09/16 10:00 |
| B20-2     | 1600174-12    | Soil   | 1/08/16 9:10  | 1/09/16 10:00 |
| B21-0     | 1600174-13    | Soil   | 1/08/16 9:15  | 1/09/16 10:00 |
| B21-1     | 1600174-14    | Soil   | 1/08/16 9:15  | 1/09/16 10:00 |
| B21-2     | 1600174-15    | Soil   | 1/08/16 9:15  | 1/09/16 10:00 |
| B32-0     | 1600174-16    | Soil   | 1/08/16 10:48 | 1/09/16 10:00 |
| B32-1     | 1600174-17    | Soil   | 1/08/16 10:50 | 1/09/16 10:00 |
| B32-2     | 1600174-18    | Soil   | 1/08/16 10:54 | 1/09/16 10:00 |
| B33-0     | 1600174-19    | Soil   | 1/08/16 10:56 | 1/09/16 10:00 |
| B33-1     | 1600174-20    | Soil   | 1/08/16 10:58 | 1/09/16 10:00 |
| B33-2     | 1600174-21    | Soil   | 1/08/16 11:00 | 1/09/16 10:00 |
| B34-0     | 1600174-22    | Soil   | 1/08/16 11:00 | 1/09/16 10:00 |
| B34-1     | 1600174-23    | Soil   | 1/08/16 11:03 | 1/09/16 10:00 |
| B34-2     | 1600174-24    | Soil   | 1/08/16 11:07 | 1/09/16 10:00 |
| B35-0     | 1600174-25    | Soil   | 1/08/16 11:15 | 1/09/16 10:00 |
| B35-1     | 1600174-26    | Soil   | 1/08/16 11:20 | 1/09/16 10:00 |
| B35-2     | 1600174-27    | Soil   | 1/08/16 11:30 | 1/09/16 10:00 |
| B36-0     | 1600174-28    | Soil   | 1/08/16 11:16 | 1/09/16 10:00 |
| B36-1     | 1600174-29    | Soil   | 1/08/16 11:20 | 1/09/16 10:00 |
| B36-2     | 1600174-30    | Soil   | 1/08/16 11:30 | 1/09/16 10:00 |
| B37-0     | 1600174-31    | Soil   | 1/08/16 11:38 | 1/09/16 10:00 |
| B37-1     | 1600174-32    | Soil   | 1/08/16 11:42 | 1/09/16 10:00 |
| B37-2     | 1600174-33    | Soil   | 1/08/16 11:46 | 1/09/16 10:00 |
| B38-0     | 1600174-34    | Soil   | 1/08/16 11:40 | 1/09/16 10:00 |
| B38-1     | 1600174-35    | Soil   | 1/08/16 11:45 | 1/09/16 10:00 |
| B38-2     | 1600174-36    | Soil   | 1/08/16 11:50 | 1/09/16 10:00 |
| B39-0     | 1600174-37    | Soil   | 1/08/16 12:10 | 1/09/16 10:00 |



## Certificate of Analysis

Geocon Consultants, Inc.

Project Number : SR-92 / SR-82 1C, E8721-02-36

6671 Brisa Street

Report To : Luann Beadle

Livermore , CA 94550

Reported : 01/18/2016

|       |            |      |               |               |
|-------|------------|------|---------------|---------------|
| B39-1 | 1600174-38 | Soil | 1/08/16 12:10 | 1/09/16 10:00 |
| B39-2 | 1600174-39 | Soil | 1/08/16 12:10 | 1/09/16 10:00 |
| B40-0 | 1600174-40 | Soil | 1/08/16 12:05 | 1/09/16 10:00 |
| B40-1 | 1600174-41 | Soil | 1/08/16 12:05 | 1/09/16 10:00 |
| B40-2 | 1600174-42 | Soil | 1/08/16 12:05 | 1/09/16 10:00 |
| B41-0 | 1600174-43 | Soil | 1/08/16 12:15 | 1/09/16 10:00 |
| B41-1 | 1600174-44 | Soil | 1/08/16 12:15 | 1/09/16 10:00 |
| B41-2 | 1600174-45 | Soil | 1/08/16 12:15 | 1/09/16 10:00 |
| B43-0 | 1600174-46 | Soil | 1/08/16 9:25  | 1/09/16 10:00 |
| B43-1 | 1600174-47 | Soil | 1/08/16 9:25  | 1/09/16 10:00 |
| B43-2 | 1600174-48 | Soil | 1/08/16 9:25  | 1/09/16 10:00 |
| B44-0 | 1600174-49 | Soil | 1/08/16 9:30  | 1/09/16 10:00 |
| B44-1 | 1600174-50 | Soil | 1/08/16 9:30  | 1/09/16 10:00 |
| B44-2 | 1600174-51 | Soil | 1/08/16 9:30  | 1/09/16 10:00 |
| B45-0 | 1600174-52 | Soil | 1/08/16 9:40  | 1/09/16 10:00 |
| B45-1 | 1600174-53 | Soil | 1/08/16 9:40  | 1/09/16 10:00 |
| B45-2 | 1600174-54 | Soil | 1/08/16 9:40  | 1/09/16 10:00 |
| B46-0 | 1600174-55 | Soil | 1/08/16 9:35  | 1/09/16 10:00 |
| B46-1 | 1600174-56 | Soil | 1/08/16 9:35  | 1/09/16 10:00 |
| B46-2 | 1600174-57 | Soil | 1/08/16 9:35  | 1/09/16 10:00 |
| B47-0 | 1600174-58 | Soil | 1/08/16 9:45  | 1/09/16 10:00 |
| B47-1 | 1600174-59 | Soil | 1/08/16 9:45  | 1/09/16 10:00 |
| B47-2 | 1600174-60 | Soil | 1/08/16 9:45  | 1/09/16 10:00 |
| B48-0 | 1600174-61 | Soil | 1/08/16 9:50  | 1/09/16 10:00 |
| B48-1 | 1600174-62 | Soil | 1/08/16 9:50  | 1/09/16 10:00 |
| B48-2 | 1600174-63 | Soil | 1/08/16 9:50  | 1/09/16 10:00 |
| B49-0 | 1600174-64 | Soil | 1/08/16 10:00 | 1/09/16 10:00 |
| B49-1 | 1600174-65 | Soil | 1/08/16 10:00 | 1/09/16 10:00 |
| B49-2 | 1600174-66 | Soil | 1/08/16 10:00 | 1/09/16 10:00 |
| B50-0 | 1600174-67 | Soil | 1/08/16 10:05 | 1/09/16 10:00 |
| B50-1 | 1600174-68 | Soil | 1/08/16 10:05 | 1/09/16 10:00 |
| B50-2 | 1600174-69 | Soil | 1/08/16 10:05 | 1/09/16 10:00 |
| B51-0 | 1600174-70 | Soil | 1/08/16 10:15 | 1/09/16 10:00 |
| B51-1 | 1600174-71 | Soil | 1/08/16 10:15 | 1/09/16 10:00 |
| B51-2 | 1600174-72 | Soil | 1/08/16 10:15 | 1/09/16 10:00 |
| B52-0 | 1600174-73 | Soil | 1/08/16 10:25 | 1/09/16 10:00 |
| B52-1 | 1600174-74 | Soil | 1/08/16 10:25 | 1/09/16 10:00 |
| B52-2 | 1600174-75 | Soil | 1/08/16 10:25 | 1/09/16 10:00 |
| B53-0 | 1600174-76 | Soil | 1/08/16 13:00 | 1/09/16 10:00 |
| B53-1 | 1600174-77 | Soil | 1/08/16 13:00 | 1/09/16 10:00 |
| B53-2 | 1600174-78 | Soil | 1/08/16 13:00 | 1/09/16 10:00 |



## Certificate of Analysis

Geocon Consultants, Inc.

Project Number : SR-92 / SR-82 1C, E8721-02-36

6671 Brisa Street

Report To : Luann Beadle

Livermore , CA 94550

Reported : 01/18/2016

|       |            |      |               |               |
|-------|------------|------|---------------|---------------|
| B54-0 | 1600174-79 | Soil | 1/08/16 13:05 | 1/09/16 10:00 |
| B54-1 | 1600174-80 | Soil | 1/08/16 13:05 | 1/09/16 10:00 |
| B54-2 | 1600174-81 | Soil | 1/08/16 13:05 | 1/09/16 10:00 |
| B55-0 | 1600174-82 | Soil | 1/08/16 12:55 | 1/09/16 10:00 |
| B55-1 | 1600174-83 | Soil | 1/08/16 12:55 | 1/09/16 10:00 |
| B55-2 | 1600174-84 | Soil | 1/08/16 12:55 | 1/09/16 10:00 |
| B56-0 | 1600174-85 | Soil | 1/08/16 12:50 | 1/09/16 10:00 |
| B56-1 | 1600174-86 | Soil | 1/08/16 12:50 | 1/09/16 10:00 |
| B56-2 | 1600174-87 | Soil | 1/08/16 12:50 | 1/09/16 10:00 |
| B57-0 | 1600174-88 | Soil | 1/08/16 13:45 | 1/09/16 10:00 |
| B57-1 | 1600174-89 | Soil | 1/08/16 13:48 | 1/09/16 10:00 |
| B57-2 | 1600174-90 | Soil | 1/08/16 13:51 | 1/09/16 10:00 |
| B58-0 | 1600174-91 | Soil | 1/08/16 13:15 | 1/09/16 10:00 |
| B58-1 | 1600174-92 | Soil | 1/08/16 13:15 | 1/09/16 10:00 |
| B58-2 | 1600174-93 | Soil | 1/08/16 13:15 | 1/09/16 10:00 |
| B59-0 | 1600174-94 | Soil | 1/08/16 13:20 | 1/09/16 10:00 |
| B59-1 | 1600174-95 | Soil | 1/08/16 13:20 | 1/09/16 10:00 |
| B59-2 | 1600174-96 | Soil | 1/08/16 13:20 | 1/09/16 10:00 |
| B60-0 | 1600174-97 | Soil | 1/08/16 13:25 | 1/09/16 10:00 |
| B60-1 | 1600174-98 | Soil | 1/08/16 13:25 | 1/09/16 10:00 |
| B60-2 | 1600174-99 | Soil | 1/08/16 13:25 | 1/09/16 10:00 |
| B61-0 | 1600174-AA | Soil | 1/08/16 13:30 | 1/09/16 10:00 |
| B61-1 | 1600174-AB | Soil | 1/08/16 13:30 | 1/09/16 10:00 |
| B61-2 | 1600174-AC | Soil | 1/08/16 13:30 | 1/09/16 10:00 |
| B62-0 | 1600174-AD | Soil | 1/08/16 13:35 | 1/09/16 10:00 |
| B62-1 | 1600174-AE | Soil | 1/08/16 13:35 | 1/09/16 10:00 |
| B62-2 | 1600174-AF | Soil | 1/08/16 13:35 | 1/09/16 10:00 |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B17-0**

**Lab ID: 1600174-01**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 68                | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:37        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

**Client Sample ID B17-1**

**Lab ID: 1600174-02**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Antimony</b> | <b>3.4</b>        | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| <b>Arsenic</b>  | <b>4.2</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| <b>Barium</b>   | <b>160</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:24        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| <b>Chromium</b> | <b>170</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| <b>Cobalt</b>   | <b>23</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| <b>Copper</b>   | <b>34</b>         | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| <b>Lead</b>     | <b>4.7</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| <b>Nickel</b>   | <b>270</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| Silver          | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| <b>Vanadium</b> | <b>46</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |
| <b>Zinc</b>     | <b>44</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25        |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0309 | 01/15/2016 | 01/15/16 12:46        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B17-2**

**Lab ID: 1600174-03**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.0               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:44        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B18-0**

**Lab ID: 1600174-04**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 130               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:45        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B18-1**

**Lab ID: 1600174-05**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.2               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:47        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B18-2**

**Lab ID: 1600174-06**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 16                | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:49        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B19-0**  
**Lab ID: 1600174-07**

#### Total Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 67                | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:54        |       |

#### Diesel Range Organics by EPA 8015B

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>41</b>         | 2.0             | 2        | B6A0256 | 01/13/2016 | 01/13/16 14:10        |       |
| <b>ORO</b>                    | <b>59</b>         | 2.0             | 2        | B6A0256 | 01/13/2016 | 01/13/16 14:10        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>111 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 14:10</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B19-1**

**Lab ID: 1600174-08**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.8               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:56        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B19-2**  
**Lab ID: 1600174-09**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 5.3               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:58        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>7.4</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 12:42        |       |
| <b>ORO</b>                    | <b>5.2</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 12:42        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>110 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 12:42</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B20-0**

**Lab ID: 1600174-10**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 100               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 09:00        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B20-1**

**Lab ID: 1600174-11**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.7               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 09:02        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B20-2**  
**Lab ID: 1600174-12**

#### Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Antimony</b> | <b>4.5</b>        | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Arsenic</b>  | <b>3.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Barium</b>   | <b>89</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Chromium</b> | <b>230</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Cobalt</b>   | <b>27</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Copper</b>   | <b>39</b>         | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Lead</b>     | <b>4.0</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Nickel</b>   | <b>320</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| Silver          | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Vanadium</b> | <b>60</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Zinc</b>     | <b>48</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |

#### Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | 4.4               | 1.0            | 10       | B6A0309 | 01/15/2016 | 01/15/16 14:59        | D6    |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B21-0**

**Lab ID: 1600174-13**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 62                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:09        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B21-1**

**Lab ID: 1600174-14**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 14                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:21        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B21-2**

**Lab ID: 1600174-15**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 26                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:22        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B32-0**

**Lab ID: 1600174-16**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>320</b>        | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:24        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>44</b>         | 5.0             | 5        | B6A0256 | 01/13/2016 | 01/13/16 14:20        |       |
| <b>ORO</b>                    | <b>140</b>        | 5.0             | 5        | B6A0256 | 01/13/2016 | 01/13/16 14:20        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>62.0 %</i>     | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 14:20</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B32-1**

**Lab ID: 1600174-17**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 21                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:26        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B32-2**

**Lab ID: 1600174-18**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>56</b>         | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:28        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>2.9</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 12:51        |       |
| <b>ORO</b>                    | <b>4.9</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 12:51        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>102 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 12:51</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B33-0**

**Lab ID: 1600174-19**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 140               | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:29        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B33-1**

**Lab ID: 1600174-20**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 10                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:31        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B33-2**

**Lab ID: 1600174-21**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 13                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:33        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B34-0**

**Lab ID: 1600174-22**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 95                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:34        |       |



# Certificate of Analysis

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 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

**Client Sample ID B34-1**

**Lab ID: 1600174-23**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|-----------------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Antimony        | ND             | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| <b>Arsenic</b>  | <b>3.7</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| <b>Barium</b>   | <b>130</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| Beryllium       | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| Cadmium         | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| <b>Chromium</b> | <b>19</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| <b>Cobalt</b>   | <b>7.2</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| <b>Copper</b>   | <b>15</b>      | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| <b>Lead</b>     | <b>38</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| Molybdenum      | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| <b>Nickel</b>   | <b>23</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| Selenium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| Silver          | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| Thallium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| <b>Vanadium</b> | <b>27</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| <b>Zinc</b>     | <b>44</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Mercury | ND             | 0.10        | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:03     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B34-2**

**Lab ID: 1600174-24**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 09:44        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B35-0**

**Lab ID: 1600174-25**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 68                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 09:51        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B35-1**

**Lab ID: 1600174-26**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 74                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 09:53        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B35-2**

**Lab ID: 1600174-27**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 42                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 09:54        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B36-0**

**Lab ID: 1600174-28**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 41                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 09:56        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B36-1**

**Lab ID: 1600174-29**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 10:02        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B36-2**

**Lab ID: 1600174-30**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 24                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 10:03        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B37-0**

**Lab ID: 1600174-31**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 10:05        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>5.2</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:50        |       |
| <b>ORO</b>                    | <b>11</b>         | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:50        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>109 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 13:50</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B37-1**

**Lab ID: 1600174-32**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 10                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 10:07        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B37-2**  
**Lab ID: 1600174-33**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| <b>Arsenic</b>  | <b>3.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| <b>Barium</b>   | <b>150</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| <b>Chromium</b> | <b>28</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| <b>Cobalt</b>   | <b>9.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| <b>Copper</b>   | <b>18</b>         | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| <b>Lead</b>     | <b>12</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| <b>Nickel</b>   | <b>38</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| Silver          | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| <b>Vanadium</b> | <b>30</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| <b>Zinc</b>     | <b>53</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:05        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>2.6</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:01        |       |
| <b>ORO</b>                    | <b>4.3</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:01        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>109 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 13:01</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B38-0**

**Lab ID: 1600174-34**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 130               | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 10:09        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B38-1**

**Lab ID: 1600174-35**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 62                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:14        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B38-2**

**Lab ID: 1600174-36**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:25        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B39-0**

**Lab ID: 1600174-37**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 55                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:27        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B39-1**

**Lab ID: 1600174-38**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 16                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:29        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B39-2**

**Lab ID: 1600174-39**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 10                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:30        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B40-0**

**Lab ID: 1600174-40**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 930               | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:32        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B40-1**

**Lab ID: 1600174-41**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 66                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:34        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B40-2**

**Lab ID: 1600174-42**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 59                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:35        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B41-0**

**Lab ID: 1600174-43**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:37        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>3.2</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:11        |       |
| <b>ORO</b>                    | <b>4.8</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:11        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>115 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 13:11</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B41-1**

**Lab ID: 1600174-44**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 93                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:39        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

**Client Sample ID B41-2**

**Lab ID: 1600174-45**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|-----------------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Antimony        | ND             | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19     |       |
| <b>Arsenic</b>  | <b>3.2</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19     |       |
| <b>Barium</b>   | <b>140</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18     |       |
| Beryllium       | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18     |       |
| Cadmium         | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19     |       |
| <b>Chromium</b> | <b>21</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18     |       |
| <b>Cobalt</b>   | <b>7.8</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19     |       |
| <b>Copper</b>   | <b>15</b>      | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18     |       |
| <b>Lead</b>     | <b>13</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19     |       |
| Molybdenum      | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18     |       |
| <b>Nickel</b>   | <b>28</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18     |       |
| Selenium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19     |       |
| Silver          | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18     |       |
| Thallium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19     |       |
| <b>Vanadium</b> | <b>29</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18     |       |
| <b>Zinc</b>     | <b>33</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18     |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Mercury | ND             | 0.10        | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:07     |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result (mg/kg) | PQL (mg/kg)     | Dilution | Batch   | Prepared   | Date/Time Analyzed    | Notes |
|-------------------------------|----------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>12</b>      | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:40        |       |
| <b>ORO</b>                    | <b>14</b>      | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:40        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>103 %</i>   | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 13:40</i> |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B43-0**

**Lab ID: 1600174-46**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|-----------------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Antimony        | ND             | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Arsenic</b>  | <b>3.1</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Barium</b>   | <b>110</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| Beryllium       | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:21     |       |
| Cadmium         | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Chromium</b> | <b>23</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Cobalt</b>   | <b>7.2</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Copper</b>   | <b>15</b>      | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Lead</b>     | <b>69</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| Molybdenum      | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Nickel</b>   | <b>30</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| Selenium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| Silver          | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| Thallium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Vanadium</b> | <b>24</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Zinc</b>     | <b>63</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Mercury | ND             | 0.10        | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:09     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B43-1**

**Lab ID: 1600174-47**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.1               | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 10:48        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B43-2**

**Lab ID: 1600174-48**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.6               | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 10:55        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B44-0**

**Lab ID: 1600174-49**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 92                | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 10:56        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>13</b>         | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 14:00        |       |
| <b>ORO</b>                    | <b>22</b>         | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 14:00        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>122 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 14:00</i> |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B44-1**

**Lab ID: 1600174-50**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| <b>Arsenic</b>  | <b>2.6</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| <b>Barium</b>   | <b>160</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:25        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| <b>Chromium</b> | <b>26</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| <b>Cobalt</b>   | <b>5.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| <b>Copper</b>   | <b>13</b>         | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| <b>Lead</b>     | <b>4.0</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| <b>Nickel</b>   | <b>28</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| Silver          | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| <b>Vanadium</b> | <b>34</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| <b>Zinc</b>     | <b>32</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:11        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B44-2**

**Lab ID: 1600174-51**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Lead    | 20             | 1.0         | 1        | B6A0300 | 01/14/2016 | 01/15/16 10:58     |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result (mg/kg) | PQL (mg/kg)     | Dilution | Batch   | Prepared   | Date/Time Analyzed    | Notes |
|-------------------------------|----------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>6.1</b>     | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 12:32        |       |
| <b>ORO</b>                    | <b>4.7</b>     | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 12:32        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>107 %</i>   | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 12:32</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B45-0**

**Lab ID: 1600174-52**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 46                | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 11:00        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B45-1**

**Lab ID: 1600174-53**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 24                | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 11:05        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B45-2**

**Lab ID: 1600174-54**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 13                | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 11:07        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B46-0**

**Lab ID: 1600174-55**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Arsenic</b>  | <b>4.0</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Barium</b>   | <b>140</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:29        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Chromium</b> | <b>23</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Cobalt</b>   | <b>8.7</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Copper</b>   | <b>17</b>         | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Lead</b>     | <b>34</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Nickel</b>   | <b>30</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| Silver          | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Vanadium</b> | <b>29</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Zinc</b>     | <b>46</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:18        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B46-1**

**Lab ID: 1600174-56**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.5               | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 11:09        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B46-2**

**Lab ID: 1600174-57**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.6               | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 11:11        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B47-0**

**Lab ID: 1600174-58**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 37                | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 11:12        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B47-1**

**Lab ID: 1600174-59**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 29                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:18        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B47-2**

**Lab ID: 1600174-60**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:29        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B48-0**

**Lab ID: 1600174-61**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 38                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:30        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>21</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 09:19        |       |
| <b>ORO</b>                    | <b>40</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 09:19        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>103 %</i>      | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 09:19</i> |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B48-1**

**Lab ID: 1600174-62**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 15                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:32        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/18/2016

**Client Sample ID B48-2**

**Lab ID: 1600174-63**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Arsenic</b>  | <b>3.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Barium</b>   | <b>140</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:33        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Chromium</b> | <b>20</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Cobalt</b>   | <b>8.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Copper</b>   | <b>13</b>         | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Lead</b>     | <b>7.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Nickel</b>   | <b>24</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| Silver          | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Vanadium</b> | <b>29</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Zinc</b>     | <b>29</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:20        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>4.8</b>        | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:03        |       |
| <b>ORO</b>                    | <b>3.7</b>        | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:03        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>109 %</i>      | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 08:03</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B49-0**

**Lab ID: 1600174-64**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.8               | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:34        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B49-1**

**Lab ID: 1600174-65**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 54                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:35        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B49-2**

**Lab ID: 1600174-66**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.7               | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:37        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B50-0**

**Lab ID: 1600174-67**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 43                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:39        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B50-1**

**Lab ID: 1600174-68**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 10                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:41        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B50-2**

**Lab ID: 1600174-69**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.1               | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:42        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B51-0**  
**Lab ID: 1600174-70**

#### Total Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Lead    | 64             | 1.0         | 1        | B6A0303 | 01/14/2016 | 01/15/16 11:52     |       |

#### Diesel Range Organics by EPA 8015B

**Analyst: CR**

| Analyte                       | Result (mg/kg) | PQL (mg/kg)     | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|-------------------------------|----------------|-----------------|----------|---------|------------|--------------------|-------|
| <b>DRO</b>                    | <b>15</b>      | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:50     |       |
| <b>ORO</b>                    | <b>22</b>      | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:50     |       |
| <i>Surrogate: p-Terphenyl</i> | <i>101 %</i>   | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | 01/14/16 08:50     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B51-1**

**Lab ID: 1600174-71**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.4               | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 11:58        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B51-2**

**Lab ID: 1600174-72**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.9               | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:00        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>17</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 09:10        |       |
| <b>ORO</b>                    | <b>23</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 09:10        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>101 %</i>      | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 09:10</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B52-0**

**Lab ID: 1600174-73**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 23                | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:02        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B52-1**

**Lab ID: 1600174-74**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:03        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B52-2**

**Lab ID: 1600174-75**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.1               | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:09        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B53-0**

**Lab ID: 1600174-76**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 120               | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:11        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B53-1**

**Lab ID: 1600174-77**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 260               | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:12        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B53-2**

**Lab ID: 1600174-78**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.1               | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:14        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B54-0**

**Lab ID: 1600174-79**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 67                | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:16        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B54-1**

**Lab ID: 1600174-80**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 560               | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:21        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B54-2**

**Lab ID: 1600174-81**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.6               | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:32        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B55-0**

**Lab ID: 1600174-82**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>690</b>        | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:34        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes     |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-----------|
| <b>DRO</b>                    | <b>1200</b>       | 40              | 20       | B6A0264 | 01/13/2016 | 01/14/16 10:55        |           |
| <b>ORO</b>                    | <b>3300</b>       | 40              | 20       | B6A0264 | 01/13/2016 | 01/14/16 10:55        |           |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 10:55</i> | <i>S4</i> |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B55-1**  
**Lab ID: 1600174-83**

#### Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|-----------------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Antimony        | ND             | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| <b>Arsenic</b>  | <b>4.6</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| <b>Barium</b>   | <b>130</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| Beryllium       | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:44     |       |
| Cadmium         | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| <b>Chromium</b> | <b>25</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| <b>Cobalt</b>   | <b>10</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| <b>Copper</b>   | <b>24</b>      | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| <b>Lead</b>     | <b>8.2</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| Molybdenum      | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| <b>Nickel</b>   | <b>39</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| Selenium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| Silver          | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| Thallium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| <b>Vanadium</b> | <b>30</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |
| <b>Zinc</b>     | <b>45</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45     |       |

#### Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Mercury | ND             | 0.10        | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:22     |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B55-2**

**Lab ID: 1600174-84**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>14</b>         | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:36        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>13</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:41        |       |
| <b>ORO</b>                    | <b>14</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:41        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>111 %</i>      | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 08:41</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B56-0**

**Lab ID: 1600174-85**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 38                | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:38        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B56-1**

**Lab ID: 1600174-86**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:39        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B56-2**

**Lab ID: 1600174-87**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 160               | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:41        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B57-0**

**Lab ID: 1600174-88**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 54                | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:43        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B57-1**

**Lab ID: 1600174-89**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 15                | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:44        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B57-2**

**Lab ID: 1600174-90**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.1               | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:46        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B58-0**

**Lab ID: 1600174-91**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 12:56        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>11</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:31        |       |
| <b>ORO</b>                    | <b>15</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:31        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>108 %</i>      | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 08:31</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B58-1**

**Lab ID: 1600174-92**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.5               | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:03        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/18/2016

**Client Sample ID B58-2**

**Lab ID: 1600174-93**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Arsenic</b>  | <b>3.4</b>        | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Barium</b>   | <b>150</b>        | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:55        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Chromium</b> | <b>21</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Cobalt</b>   | <b>5.0</b>        | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Copper</b>   | <b>11</b>         | 2.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Lead</b>     | <b>5.7</b>        | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Nickel</b>   | <b>22</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| Silver          | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Vanadium</b> | <b>28</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Zinc</b>     | <b>35</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0310 | 01/15/2016 | 01/15/16 13:28        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>7.3</b>        | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 07:53        |       |
| <b>ORO</b>                    | <b>4.5</b>        | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 07:53        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>61.8 %</i>     | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 07:53</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B59-0**

**Lab ID: 1600174-94**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 240               | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:04        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B59-1**

**Lab ID: 1600174-95**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.9               | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:06        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B59-2**

**Lab ID: 1600174-96**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 10                | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:08        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B60-0**

**Lab ID: 1600174-97**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 470               | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:13        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B60-1**

**Lab ID: 1600174-98**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:15        |       |



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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B60-2**

**Lab ID: 1600174-99**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.5               | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:17        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B61-0**  
**Lab ID: 1600174-AA**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>280</b>        | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:19        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>32</b>         | 1.0             | 1        | B6A0329 | 01/14/2016 | 01/14/16 20:56        |       |
| <b>ORO</b>                    | <b>83</b>         | 1.0             | 1        | B6A0329 | 01/14/2016 | 01/14/16 20:56        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>99.6 %</i>     | <i>26 - 123</i> |          | B6A0329 | 01/14/2016 | <i>01/14/16 20:56</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B61-1**

**Lab ID: 1600174-AB**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 18                | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:20        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

**Client Sample ID B61-2**  
**Lab ID: 1600174-AC**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>7.0</b>        | 1.0            | 1        | B6A0306 | 01/14/2016 | 01/15/16 13:45        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>8.2</b>        | 1.0             | 1        | B6A0329 | 01/14/2016 | 01/14/16 19:08        |       |
| <b>ORO</b>                    | <b>6.6</b>        | 1.0             | 1        | B6A0329 | 01/14/2016 | 01/14/16 19:08        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>114 %</i>      | <i>26 - 123</i> |          | B6A0329 | 01/14/2016 | <i>01/14/16 19:08</i> |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B62-0**

**Lab ID: 1600174-AD**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 300               | 1.0            | 1        | B6A0306 | 01/14/2016 | 01/15/16 13:46        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B62-1**

**Lab ID: 1600174-AE**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.8               | 1.0            | 1        | B6A0306 | 01/14/2016 | 01/15/16 13:48        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
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 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/18/2016

**Client Sample ID B62-2**

**Lab ID: 1600174-AF**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Antimony</b> | <b>2.2</b>        | 2.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| <b>Arsenic</b>  | <b>5.0</b>        | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| <b>Barium</b>   | <b>75</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:08        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| <b>Chromium</b> | <b>45</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| <b>Cobalt</b>   | <b>12</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| <b>Copper</b>   | <b>27</b>         | 2.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| <b>Lead</b>     | <b>5.8</b>        | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| <b>Nickel</b>   | <b>73</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| Silver          | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| <b>Vanadium</b> | <b>35</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |
| <b>Zinc</b>     | <b>47</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09        |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0310 | 01/15/2016 | 01/15/16 13:42        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/18/2016

### QUALITY CONTROL SECTION

#### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec<br>% Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|----------------|-----------------|------|--------------|-------|
| <b>Batch B6A0296 - EPA 3050B_S</b>     |                   |                |                |   |                |                 |      |              |       |
| <b>Blank (B6A0296-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |                |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |   | NR             |                 |      |              |       |
| <b>LCS (B6A0296-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |                |                 |      |              |       |
| Lead                                   | 45.0884           | 1.0            | 50.0000        |   | 90.2           | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0296-DUP1)</b>        |                   |                |                | <b>Source: 1600174-01</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |                |                 |      |              |       |
| Lead                                   | 62.3231           | 1.0            |                | 68.1484   | NR             |                 | 8.93 | 20           |       |
| <b>Matrix Spike (B6A0296-MS1)</b>      |                   |                |                | <b>Source: 1600174-01</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |                |                 |      |              |       |
| Lead                                   | 180.270           | 1.0            | 125.000        | 68.1484   | 89.7           | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0296-MSD1)</b> |                   |                |                | <b>Source: 1600174-01</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |                |                 |      |              |       |
| Lead                                   | 152.488           | 1.0            | 125.000        | 68.1484   | 67.5           | 35 - 129        | 16.7 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0297 - EPA 3050B_S</b>     |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6A0297-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6A0297-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | 47.7711           | 1.0            | 50.0000        |   | 95.5  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0297-DUP1)</b>        |                   |                |                | <b>Source: 1600174-13</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 69.4240           | 1.0            |                | 62.3208   | NR    |                 | 10.8 | 20           |       |
| <b>Matrix Spike (B6A0297-MS1)</b>      |                   |                |                | <b>Source: 1600174-13</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 149.339           | 1.0            | 125.000        | 62.3208   | 69.6  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0297-MSD1)</b> |                   |                |                | <b>Source: 1600174-13</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 166.867           | 1.0            | 125.000        | 62.3208   | 83.6  | 35 - 129        | 11.1 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0298 - EPA 3050B_S</b>     |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6A0298-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6A0298-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | 47.2824           | 1.0            | 50.0000        |   | 94.6  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0298-DUP1)</b>        |                   |                |                | <b>Source: 1600174-24</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 11.3132           | 1.0            |                | 11.9410   | NR    |                 | 5.40 | 20           |       |
| <b>Matrix Spike (B6A0298-MS1)</b>      |                   |                |                | <b>Source: 1600174-24</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 115.306           | 1.0            | 125.000        | 11.9410   | 82.7  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0298-MSD1)</b> |                   |                |                | <b>Source: 1600174-24</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 106.637           | 1.0            | 125.000        | 11.9410   | 75.8  | 35 - 129        | 7.81 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0299 - EPA 3050B_S</b>     |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0299-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0299-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | 49.6644           | 1.0            | 50.0000        |  | 99.3  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0299-DUP1)</b>        |                   |                |                | Source: 1600174-35 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 39.9424           | 1.0            |                | 62.4146  | NR    |                 | 43.9 | 20           | R     |
| <b>Matrix Spike (B6A0299-MS1)</b>      |                   |                |                | Source: 1600174-35 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 144.528           | 1.0            | 125.000        | 62.4146  | 65.7  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0299-MSD1)</b> |                   |                |                | Source: 1600174-35 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 146.553           | 1.0            | 125.000        | 62.4146  | 67.3  | 35 - 129        | 1.39 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0300 - EPA 3050B_S</b>     |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6A0300-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6A0300-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | 46.9622           | 1.0            | 50.0000        |   | 93.9  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0300-DUP1)</b>        |                   |                |                | <b>Source: 1600174-47</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 7.28979           | 1.0            |                | 7.05886   | NR    |                 | 3.22 | 20           |       |
| <b>Matrix Spike (B6A0300-MS1)</b>      |                   |                |                | <b>Source: 1600174-47</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 96.6969           | 1.0            | 125.000        | 7.05886   | 71.7  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0300-MSD1)</b> |                   |                |                | <b>Source: 1600174-47</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 92.6999           | 1.0            | 125.000        | 7.05886   | 68.5  | 35 - 129        | 4.22 | 20           |       |



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 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0301 - EPA 3050B_S</b>     |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0301-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0301-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | 48.4559           | 1.0            | 50.0000        |  | 96.9  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0301-DUP1)</b>        |                   |                |                | Source: 1600174-59 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 26.6737           | 1.0            |                | 28.7461  | NR    |                 | 7.48 | 20           |       |
| <b>Matrix Spike (B6A0301-MS1)</b>      |                   |                |                | Source: 1600174-59 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 123.291           | 1.0            | 125.000        | 28.7461  | 75.6  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0301-MSD1)</b> |                   |                |                | Source: 1600174-59 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 119.111           | 1.0            | 125.000        | 28.7461  | 72.3  | 35 - 129        | 3.45 | 20           |       |



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 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0303 - EPA 3050B_S</b>     |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6A0303-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6A0303-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | 45.3731           | 1.0            | 50.0000        |   | 90.7  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0303-DUP1)</b>        |                   |                |                | <b>Source: 1600174-70</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 70.0058           | 1.0            |                | 63.7116   | NR    |                 | 9.41 | 20           |       |
| <b>Matrix Spike (B6A0303-MS1)</b>      |                   |                |                | <b>Source: 1600174-70</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 161.058           | 1.0            | 125.000        | 63.7116   | 77.9  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0303-MSD1)</b> |                   |                |                | <b>Source: 1600174-70</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 168.767           | 1.0            | 125.000        | 63.7116   | 84.0  | 35 - 129        | 4.67 | 20           |       |



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 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0304 - EPA 3050B_S</b>     |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6A0304-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6A0304-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | 47.4280           | 1.0            | 50.0000        |   | 94.9  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0304-DUP1)</b>        |                   |                |                | <b>Source: 1600174-80</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 690.673           | 1.0            |                | 562.930   | NR    |                 | 20.4 | 20           | R     |
| <b>Matrix Spike (B6A0304-MS1)</b>      |                   |                |                | <b>Source: 1600174-80</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 708.333           | 1.0            | 125.000        | 562.930   | 116   | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0304-MSD1)</b> |                   |                |                | <b>Source: 1600174-80</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 660.288           | 1.0            | 125.000        | 562.930   | 77.9  | 35 - 129        | 7.02 | 20           |       |



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 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0305 - EPA 3050B_S</b>     |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0305-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0305-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | 46.5886           | 1.0            | 50.0000        |  | 93.2  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0305-DUP1)</b>        |                   |                |                | Source: 1600174-91 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 11.6037           | 1.0            |                | 12.1519  | NR    |                 | 4.62 | 20           |       |
| <b>Matrix Spike (B6A0305-MS1)</b>      |                   |                |                | Source: 1600174-91 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 106.249           | 1.0            | 125.628        | 12.1519  | 74.9  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0305-MSD1)</b> |                   |                |                | Source: 1600174-91 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 103.299           | 1.0            | 125.000        | 12.1519  | 72.9  | 35 - 129        | 2.82 | 20           |       |



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 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0306 - EPA 3050B_S</b>     |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0306-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0306-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | 47.8807           | 1.0            | 50.0000        |  | 95.8  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0306-DUP1)</b>        |                   |                |                | Source: 1504447-01 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 3.69417           | 1.0            |                | 3.48094  | NR    |                 | 5.94 | 20           |       |
| <b>Matrix Spike (B6A0306-MS1)</b>      |                   |                |                | Source: 1504447-01 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 80.3503           | 1.0            | 125.000        | 3.48094  | 61.5  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0306-MSD1)</b> |                   |                |                | Source: 1504447-01 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 72.3505           | 1.0            | 125.000        | 3.48094  | 55.1  | 35 - 129        | 10.5 | 20           |       |



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Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6A0291 - EPA 3050B\_S**

**Blank (B6A0291-BLK1)**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |    |     |  |    |
|------------|----|-----|--|----|
| Antimony   | ND | 2.0 |  | NR |
| Arsenic    | ND | 1.0 |  | NR |
| Barium     | ND | 1.0 |  | NR |
| Beryllium  | ND | 1.0 |  | NR |
| Cadmium    | ND | 1.0 |  | NR |
| Chromium   | ND | 1.0 |  | NR |
| Cobalt     | ND | 1.0 |  | NR |
| Copper     | ND | 2.0 |  | NR |
| Lead       | ND | 1.0 |  | NR |
| Molybdenum | ND | 1.0 |  | NR |
| Nickel     | ND | 1.0 |  | NR |
| Selenium   | ND | 1.0 |  | NR |
| Silver     | ND | 1.0 |  | NR |
| Thallium   | ND | 1.0 |  | NR |
| Vanadium   | ND | 1.0 |  | NR |
| Zinc       | ND | 1.0 |  | NR |

**LCS (B6A0291-BS1)**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |         |      |          |
|------------|---------|-----|---------|------|----------|
| Antimony   | 45.6020 | 2.0 | 50.0000 | 91.2 | 80 - 120 |
| Arsenic    | 43.3948 | 1.0 | 50.0000 | 86.8 | 80 - 120 |
| Barium     | 48.0324 | 1.0 | 50.0000 | 96.1 | 80 - 120 |
| Beryllium  | 48.4965 | 1.0 | 50.0000 | 97.0 | 80 - 120 |
| Cadmium    | 44.9885 | 1.0 | 50.0000 | 90.0 | 80 - 120 |
| Chromium   | 45.5042 | 1.0 | 50.0000 | 91.0 | 80 - 120 |
| Cobalt     | 46.7857 | 1.0 | 50.0000 | 93.6 | 80 - 120 |
| Copper     | 47.4248 | 2.0 | 50.0000 | 94.8 | 80 - 120 |
| Lead       | 46.0400 | 1.0 | 50.0000 | 92.1 | 80 - 120 |
| Molybdenum | 46.9000 | 1.0 | 50.0000 | 93.8 | 80 - 120 |
| Nickel     | 45.9726 | 1.0 | 50.0000 | 91.9 | 80 - 120 |
| Selenium   | 42.2972 | 1.0 | 50.0000 | 84.6 | 80 - 120 |
| Silver     | 45.8679 | 1.0 | 50.0000 | 91.7 | 80 - 120 |
| Thallium   | 43.8376 | 1.0 | 50.0000 | 87.7 | 80 - 120 |
| Vanadium   | 47.0714 | 1.0 | 50.0000 | 94.1 | 80 - 120 |
| Zinc       | 43.7888 | 1.0 | 50.0000 | 87.6 | 80 - 120 |

**Duplicate (B6A0291-DUP1)**

**Source: 1600174-02**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|           |          |     |          |    |      |    |   |
|-----------|----------|-----|----------|----|------|----|---|
| Antimony  | 4.37428  | 2.0 | 3.43135  | NR | 24.2 | 20 | R |
| Arsenic   | 3.67808  | 1.0 | 4.16819  | NR | 12.5 | 20 |   |
| Barium    | 129.522  | 1.0 | 157.552  | NR | 19.5 | 20 |   |
| Beryllium | 0.732396 | 1.0 | 0.703256 | NR | 4.06 | 20 |   |
| Cadmium   | ND       | 1.0 | ND       | NR |      | 20 |   |
| Chromium  | 181.089  | 1.0 | 172.335  | NR | 4.95 | 20 |   |



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Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/18/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6A0291 - EPA 3050B\_S (continued)**

**Duplicate (B6A0291-DUP1) - Continued**

**Source: 1600174-02**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |  |         |    |  |       |    |  |
|------------|---------|-----|--|---------|----|--|-------|----|--|
| Cobalt     | 22.8796 | 1.0 |  | 22.6944 | NR |  | 0.813 | 20 |  |
| Copper     | 34.4844 | 2.0 |  | 33.6912 | NR |  | 2.33  | 20 |  |
| Lead       | 4.94538 | 1.0 |  | 4.69445 | NR |  | 5.21  | 20 |  |
| Molybdenum | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Nickel     | 279.708 | 1.0 |  | 267.631 | NR |  | 4.41  | 20 |  |
| Selenium   | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Silver     | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Thallium   | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Vanadium   | 48.2638 | 1.0 |  | 46.0948 | NR |  | 4.60  | 20 |  |
| Zinc       | 51.8958 | 1.0 |  | 44.3569 | NR |  | 15.7  | 20 |  |

**Matrix Spike (B6A0291-MS1)**

**Source: 1600174-02**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |         |          |       |          |  |  |    |
|------------|---------|-----|---------|----------|-------|----------|--|--|----|
| Antimony   | 84.1402 | 2.0 | 125.000 | 3.43135  | 64.6  | 28 - 106 |  |  |    |
| Arsenic    | 104.259 | 1.0 | 125.000 | 4.16819  | 80.1  | 57 - 109 |  |  |    |
| Barium     | 359.541 | 1.0 | 125.000 | 157.552  | 162   | 18 - 159 |  |  | M1 |
| Beryllium  | 103.582 | 1.0 | 125.000 | 0.703256 | 82.3  | 61 - 107 |  |  |    |
| Cadmium    | 89.6580 | 1.0 | 125.000 | ND       | 71.7  | 53 - 104 |  |  |    |
| Chromium   | 208.174 | 1.0 | 125.000 | 172.335  | 28.7  | 53 - 121 |  |  | M1 |
| Cobalt     | 109.971 | 1.0 | 125.000 | 22.6944  | 69.8  | 55 - 109 |  |  |    |
| Copper     | 154.287 | 2.0 | 125.000 | 33.6912  | 96.5  | 58 - 124 |  |  |    |
| Lead       | 97.2546 | 1.0 | 125.000 | 4.69445  | 74.0  | 35 - 129 |  |  |    |
| Molybdenum | 95.7166 | 1.0 | 125.000 | ND       | 76.6  | 57 - 108 |  |  |    |
| Nickel     | 267.973 | 1.0 | 125.000 | 267.631  | 0.274 | 44 - 122 |  |  | M1 |
| Selenium   | 95.0814 | 1.0 | 125.000 | ND       | 76.1  | 54 - 104 |  |  |    |
| Silver     | 111.526 | 1.0 | 125.000 | ND       | 89.2  | 60 - 112 |  |  |    |
| Thallium   | 85.5652 | 1.0 | 125.000 | ND       | 68.5  | 50 - 103 |  |  |    |
| Vanadium   | 144.652 | 1.0 | 125.000 | 46.0948  | 78.8  | 54 - 123 |  |  |    |
| Zinc       | 133.650 | 1.0 | 125.000 | 44.3569  | 71.4  | 29 - 132 |  |  |    |

**Matrix Spike Dup (B6A0291-MSD1)**

**Source: 1600174-02**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |         |          |      |          |       |    |    |
|------------|---------|-----|---------|----------|------|----------|-------|----|----|
| Antimony   | 77.5280 | 2.0 | 125.000 | 3.43135  | 59.3 | 28 - 106 | 8.18  | 20 |    |
| Arsenic    | 102.918 | 1.0 | 125.000 | 4.16819  | 79.0 | 57 - 109 | 1.29  | 20 |    |
| Barium     | 249.610 | 1.0 | 125.000 | 157.552  | 73.6 | 18 - 159 | 36.1  | 20 | R  |
| Beryllium  | 100.709 | 1.0 | 125.000 | 0.703256 | 80.0 | 61 - 107 | 2.81  | 20 |    |
| Cadmium    | 86.0514 | 1.0 | 125.000 | ND       | 68.8 | 53 - 104 | 4.11  | 20 |    |
| Chromium   | 218.346 | 1.0 | 125.000 | 172.335  | 36.8 | 53 - 121 | 4.77  | 20 | M1 |
| Cobalt     | 107.665 | 1.0 | 125.000 | 22.6944  | 68.0 | 55 - 109 | 2.12  | 20 |    |
| Copper     | 146.460 | 2.0 | 125.000 | 33.6912  | 90.2 | 58 - 124 | 5.21  | 20 |    |
| Lead       | 95.3322 | 1.0 | 125.000 | 4.69445  | 72.5 | 35 - 129 | 2.00  | 20 |    |
| Molybdenum | 92.9952 | 1.0 | 125.000 | ND       | 74.4 | 57 - 108 | 2.88  | 20 |    |
| Nickel     | 283.293 | 1.0 | 125.000 | 267.631  | 12.5 | 44 - 122 | 5.56  | 20 | M1 |
| Selenium   | 94.2200 | 1.0 | 125.000 | ND       | 75.4 | 54 - 104 | 0.910 | 20 |    |



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 Report To : Luann Beadle  
 Reported : 01/18/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0291 - EPA 3050B\_S (continued)**

**Matrix Spike Dup (B6A0291-MSD1) - Continued**

**Source: 1600174-02**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|          |         |     |         |         |      |          |       |    |  |
|----------|---------|-----|---------|---------|------|----------|-------|----|--|
| Silver   | 109.195 | 1.0 | 125.000 | ND      | 87.4 | 60 - 112 | 2.11  | 20 |  |
| Thallium | 83.1352 | 1.0 | 125.000 | ND      | 66.5 | 50 - 103 | 2.88  | 20 |  |
| Vanadium | 146.104 | 1.0 | 125.000 | 46.0948 | 80.0 | 54 - 123 | 0.999 | 20 |  |
| Zinc     | 128.447 | 1.0 | 125.000 | 44.3569 | 67.3 | 29 - 132 | 3.97  | 20 |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/18/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0292 - EPA 3050B\_S**

**Blank (B6A0292-BLK1)**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |    |     |  |    |
|------------|----|-----|--|----|
| Antimony   | ND | 2.0 |  | NR |
| Arsenic    | ND | 1.0 |  | NR |
| Barium     | ND | 1.0 |  | NR |
| Beryllium  | ND | 1.0 |  | NR |
| Cadmium    | ND | 1.0 |  | NR |
| Chromium   | ND | 1.0 |  | NR |
| Cobalt     | ND | 1.0 |  | NR |
| Copper     | ND | 2.0 |  | NR |
| Lead       | ND | 1.0 |  | NR |
| Molybdenum | ND | 1.0 |  | NR |
| Nickel     | ND | 1.0 |  | NR |
| Selenium   | ND | 1.0 |  | NR |
| Silver     | ND | 1.0 |  | NR |
| Thallium   | ND | 1.0 |  | NR |
| Vanadium   | ND | 1.0 |  | NR |
| Zinc       | ND | 1.0 |  | NR |

**LCS (B6A0292-BS1)**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |         |      |          |
|------------|---------|-----|---------|------|----------|
| Antimony   | 44.3898 | 2.0 | 50.0000 | 88.8 | 80 - 120 |
| Arsenic    | 42.7132 | 1.0 | 50.0000 | 85.4 | 80 - 120 |
| Barium     | 47.5112 | 1.0 | 50.0000 | 95.0 | 80 - 120 |
| Beryllium  | 47.4493 | 1.0 | 50.0000 | 94.9 | 80 - 120 |
| Cadmium    | 44.1855 | 1.0 | 50.0000 | 88.4 | 80 - 120 |
| Chromium   | 45.1795 | 1.0 | 50.0000 | 90.4 | 80 - 120 |
| Cobalt     | 46.1606 | 1.0 | 50.0000 | 92.3 | 80 - 120 |
| Copper     | 46.0923 | 2.0 | 50.0000 | 92.2 | 80 - 120 |
| Lead       | 45.4740 | 1.0 | 50.0000 | 90.9 | 80 - 120 |
| Molybdenum | 45.0625 | 1.0 | 50.0000 | 90.1 | 80 - 120 |
| Nickel     | 45.6462 | 1.0 | 50.0000 | 91.3 | 80 - 120 |
| Selenium   | 40.8742 | 1.0 | 50.0000 | 81.7 | 80 - 120 |
| Silver     | 44.5964 | 1.0 | 50.0000 | 89.2 | 80 - 120 |
| Thallium   | 42.5012 | 1.0 | 50.0000 | 85.0 | 80 - 120 |
| Vanadium   | 46.7833 | 1.0 | 50.0000 | 93.6 | 80 - 120 |
| Zinc       | 42.5961 | 1.0 | 50.0000 | 85.2 | 80 - 120 |

**Duplicate (B6A0292-DUP1)**

Source: 1600174-93

Prepared: 1/14/2016 Analyzed: 1/15/2016

|           |          |     |          |    |          |
|-----------|----------|-----|----------|----|----------|
| Antimony  | ND       | 2.0 | ND       | NR | 20       |
| Arsenic   | 3.18669  | 1.0 | 3.43624  | NR | 7.54 20  |
| Barium    | 145.911  | 1.0 | 146.868  | NR | 0.654 20 |
| Beryllium | 0.591004 | 1.0 | 0.610490 | NR | 3.24 20  |
| Cadmium   | ND       | 1.0 | ND       | NR | 20       |
| Chromium  | 22.9194  | 1.0 | 21.2777  | NR | 7.43 20  |



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Reported : 01/18/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6A0292 - EPA 3050B\_S (continued)**

**Duplicate (B6A0292-DUP1) - Continued**

**Source: 1600174-93**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |  |         |    |  |       |    |  |
|------------|---------|-----|--|---------|----|--|-------|----|--|
| Cobalt     | 5.17064 | 1.0 |  | 5.04189 | NR |  | 2.52  | 20 |  |
| Copper     | 10.5507 | 2.0 |  | 10.7492 | NR |  | 1.86  | 20 |  |
| Lead       | 5.39228 | 1.0 |  | 5.69986 | NR |  | 5.55  | 20 |  |
| Molybdenum | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Nickel     | 21.7686 | 1.0 |  | 21.9749 | NR |  | 0.943 | 20 |  |
| Selenium   | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Silver     | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Thallium   | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Vanadium   | 26.7933 | 1.0 |  | 27.9715 | NR |  | 4.30  | 20 |  |
| Zinc       | 34.0056 | 1.0 |  | 35.1621 | NR |  | 3.34  | 20 |  |

**Matrix Spike (B6A0292-MS1)**

**Source: 1600174-93**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |         |          |      |          |  |  |  |
|------------|---------|-----|---------|----------|------|----------|--|--|--|
| Antimony   | 82.9958 | 2.0 | 125.000 | ND       | 66.4 | 28 - 106 |  |  |  |
| Arsenic    | 94.0504 | 1.0 | 125.000 | 3.43624  | 72.5 | 57 - 109 |  |  |  |
| Barium     | 252.728 | 1.0 | 125.000 | 146.868  | 84.7 | 18 - 159 |  |  |  |
| Beryllium  | 102.117 | 1.0 | 125.000 | 0.610490 | 81.2 | 61 - 107 |  |  |  |
| Cadmium    | 90.2234 | 1.0 | 125.000 | ND       | 72.2 | 53 - 104 |  |  |  |
| Chromium   | 117.219 | 1.0 | 125.000 | 21.2777  | 76.8 | 53 - 121 |  |  |  |
| Cobalt     | 100.587 | 1.0 | 125.000 | 5.04189  | 76.4 | 55 - 109 |  |  |  |
| Copper     | 118.904 | 2.0 | 125.000 | 10.7492  | 86.5 | 58 - 124 |  |  |  |
| Lead       | 100.577 | 1.0 | 125.000 | 5.69986  | 75.9 | 35 - 129 |  |  |  |
| Molybdenum | 93.2192 | 1.0 | 125.000 | ND       | 74.6 | 57 - 108 |  |  |  |
| Nickel     | 116.923 | 1.0 | 125.000 | 21.9749  | 76.0 | 44 - 122 |  |  |  |
| Selenium   | 87.8866 | 1.0 | 125.000 | ND       | 70.3 | 54 - 104 |  |  |  |
| Silver     | 104.241 | 1.0 | 125.000 | ND       | 83.4 | 60 - 112 |  |  |  |
| Thallium   | 88.5022 | 1.0 | 125.000 | ND       | 70.8 | 50 - 103 |  |  |  |
| Vanadium   | 131.978 | 1.0 | 125.000 | 27.9715  | 83.2 | 54 - 123 |  |  |  |
| Zinc       | 133.336 | 1.0 | 125.000 | 35.1621  | 78.5 | 29 - 132 |  |  |  |

**Matrix Spike Dup (B6A0292-MSD1)**

**Source: 1600174-93**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |         |          |      |          |       |    |  |
|------------|---------|-----|---------|----------|------|----------|-------|----|--|
| Antimony   | 87.5088 | 2.0 | 125.000 | ND       | 70.0 | 28 - 106 | 5.29  | 20 |  |
| Arsenic    | 97.3127 | 1.0 | 125.000 | 3.43624  | 75.1 | 57 - 109 | 3.41  | 20 |  |
| Barium     | 254.329 | 1.0 | 125.000 | 146.868  | 86.0 | 18 - 159 | 0.632 | 20 |  |
| Beryllium  | 103.097 | 1.0 | 125.000 | 0.610490 | 82.0 | 61 - 107 | 0.955 | 20 |  |
| Cadmium    | 92.2930 | 1.0 | 125.000 | ND       | 73.8 | 53 - 104 | 2.27  | 20 |  |
| Chromium   | 119.063 | 1.0 | 125.000 | 21.2777  | 78.2 | 53 - 121 | 1.56  | 20 |  |
| Cobalt     | 103.454 | 1.0 | 125.000 | 5.04189  | 78.7 | 55 - 109 | 2.81  | 20 |  |
| Copper     | 121.485 | 2.0 | 125.000 | 10.7492  | 88.6 | 58 - 124 | 2.15  | 20 |  |
| Lead       | 104.347 | 1.0 | 125.000 | 5.69986  | 78.9 | 35 - 129 | 3.68  | 20 |  |
| Molybdenum | 95.5371 | 1.0 | 125.000 | ND       | 76.4 | 57 - 108 | 2.46  | 20 |  |
| Nickel     | 119.847 | 1.0 | 125.000 | 21.9749  | 78.3 | 44 - 122 | 2.47  | 20 |  |
| Selenium   | 90.5066 | 1.0 | 125.000 | ND       | 72.4 | 54 - 104 | 2.94  | 20 |  |



## Certificate of Analysis

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 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0292 - EPA 3050B\_S (continued)**

**Matrix Spike Dup (B6A0292-MSD1) - Continued**

**Source: 1600174-93**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|          |         |     |         |         |      |          |      |    |  |
|----------|---------|-----|---------|---------|------|----------|------|----|--|
| Silver   | 105.659 | 1.0 | 125.000 | ND      | 84.5 | 60 - 112 | 1.35 | 20 |  |
| Thallium | 90.5951 | 1.0 | 125.000 | ND      | 72.5 | 50 - 103 | 2.34 | 20 |  |
| Vanadium | 133.910 | 1.0 | 125.000 | 27.9715 | 84.8 | 54 - 123 | 1.45 | 20 |  |
| Zinc     | 144.671 | 1.0 | 125.000 | 35.1621 | 87.6 | 29 - 132 | 8.15 | 20 |  |



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Reported : 01/18/2016

### Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0309 - EPA 7471_S</b>      |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0309-BLK1)</b>            |                   |                |                | Prepared: 1/15/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Mercury                                | ND                | 0.10           |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0309-BS1)</b>               |                   |                |                | Prepared: 1/15/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Mercury                                | 0.810693          | 0.10           | 0.833333       |  | 97.3  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0309-DUP1)</b>        |                   |                |                | Source: 1600174-02 Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.048903          | 0.10           |                | 0.080207   | NR    |                 | 48.5 | 20           | R     |
| <b>Matrix Spike (B6A0309-MS1)</b>      |                   |                |                | Source: 1600174-02 Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.904898          | 0.10           | 0.833333       | 0.080207   | 99.0  | 70 - 130        |      |              |       |
| <b>Matrix Spike Dup (B6A0309-MSD1)</b> |                   |                |                | Source: 1600174-02 Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.926062          | 0.10           | 0.833333       | 0.080207   | 102   | 70 - 130        | 2.31 | 20           |       |
| <b>Post Spike (B6A0309-PS1)</b>        |                   |                |                | Source: 1600174-02 Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.006588          |                | 5.00000E-3     | 9.625E-4   | 113   | 85 - 115        |      |              |       |



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Report To : Luann Beadle

Reported : 01/18/2016

### Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0310 - EPA 7471_S</b>      |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0310-BLK1)</b>            |                   |                |                | Prepared: 1/15/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Mercury                                | ND                | 0.10           |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0310-BS1)</b>               |                   |                |                | Prepared: 1/15/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Mercury                                | 0.789313          | 0.10           | 0.833333       |  | 94.7  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0310-DUP1)</b>        |                   |                |                | Source: 1600174-93 Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.141125          | 0.10           |                | 0.046979   | NR    |                 | 100  | 20           | R     |
| <b>Matrix Spike (B6A0310-MS1)</b>      |                   |                |                | Source: 1600174-93 Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.838308          | 0.10           | 0.833333       | 0.046979   | 95.0  | 70 - 130        |      |              |       |
| <b>Matrix Spike Dup (B6A0310-MSD1)</b> |                   |                |                | Source: 1600174-93 Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.866257          | 0.10           | 0.833333       | 0.046979   | 98.3  | 70 - 130        | 3.28 | 20           |       |
| <b>Post Spike (B6A0310-PS1)</b>        |                   |                |                | Source: 1600174-93 Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.005909          |                | 5.00000E-3     | 0.000564   | 107   | 85 - 115        |      |              |       |



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Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

### Diesel Range Organics by EPA 8015B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level            | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|---------------------------|------------------|---|-----------------|------|--------------|-------|
| <b>Batch B6A0256 - GCSEMI_DRO_LL_S</b> |                   |                |                           |                  |   |                 |      |              |       |
| <b>Blank (B6A0256-BLK1)</b>            |                   |                |                           |                  | Prepared: 1/13/2016 Analyzed: 1/13/2016 |                 |      |              |       |
| DRO                                    | ND                | 1.0            |                           |                  |   | NR              |      |              |       |
| ORO                                    | ND                | 1.0            |                           |                  |   | NR              |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.805             |                | 2.66667                   |                  |   | 105             |      | 26 - 123     |       |
| <b>LCS (B6A0256-BS1)</b>               |                   |                |                           |                  | Prepared: 1/13/2016 Analyzed: 1/13/2016 |                 |      |              |       |
| DRO                                    | 32.7640           | 1.0            | 33.3333                   |                  |   | 98.3            |      | 47 - 127     |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.740             |                | 2.66667                   |                  |   | 103             |      | 26 - 123     |       |
| <b>Matrix Spike (B6A0256-MS1)</b>      |                   |                | <b>Source: 1600174-18</b> |                  | Prepared: 1/13/2016 Analyzed: 1/13/2016 |                 |      |              |       |
| DRO                                    | 33.4160           | 1.0            | 33.3333                   | 2.91767          | 91.5                                    | 16 - 123        |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.805             |                | 2.66667                   |                  |   | 105             |      | 26 - 123     |       |
| <b>Matrix Spike Dup (B6A0256-MSD1)</b> |                   |                | <b>Source: 1600174-18</b> |                  | Prepared: 1/13/2016 Analyzed: 1/13/2016 |                 |      |              |       |
| DRO                                    | 30.9620           | 1.0            | 33.3333                   | 2.91767          | 84.1                                    | 16 - 123        | 7.62 | 20           |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.704             |                | 2.66667                   |                  |   | 101             |      | 26 - 123     |       |



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 Reported : 01/18/2016

### Diesel Range Organics by EPA 8015B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|------------------|---|-----------------|------|--------------|-------|
| <b>Batch B6A0264 - GCSEMI_DRO_LL_S</b> |                   |                |                |                  |   |                 |      |              |       |
| <b>Blank (B6A0264-BLK1)</b>            |                   |                |                |                  | Prepared: 1/13/2016 Analyzed: 1/14/2016 |                 |      |              |       |
| DRO                                    | ND                | 1.0            |                |                  |   | NR              |      |              |       |
| ORO                                    | ND                | 1.0            |                |                  |   | NR              |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.615             |                | 2.66667        |                  | 98.1                                    | 26 - 123        |      |              |       |
| <b>LCS (B6A0264-BS1)</b>               |                   |                |                |                  | Prepared: 1/13/2016 Analyzed: 1/14/2016 |                 |      |              |       |
| DRO                                    | 31.8157           | 1.0            | 33.3333        |                  | 95.4                                    | 47 - 127        |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.789             |                | 2.66667        |                  | 105                                     | 26 - 123        |      |              |       |
| <b>Matrix Spike (B6A0264-MS1)</b>      |                   |                |                |                  | Prepared: 1/13/2016 Analyzed: 1/14/2016 |                 |      |              |       |
| DRO                                    | 41.0580           | 1.0            | 33.3333        | 4.80833          | 109                                     | 16 - 123        |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.847             |                | 2.66667        |                  | 107                                     | 26 - 123        |      |              |       |
| <b>Matrix Spike Dup (B6A0264-MSD1)</b> |                   |                |                |                  | Prepared: 1/13/2016 Analyzed: 1/14/2016 |                 |      |              |       |
| DRO                                    | 50.0347           | 1.0            | 33.3333        | 4.80833          | 136                                     | 16 - 123        | 19.7 | 20           | M2    |
| <i>Surrogate: p-Terphenyl</i>          | 2.886             |                | 2.66667        |                  | 108                                     | 26 - 123        |      |              |       |



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Reported : 01/18/2016

### Diesel Range Organics by EPA 8015B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|------------------|---|-----------------|------|--------------|-------|
| <b>Batch B6A0329 - GCSEMI_DRO_LL_S</b> |                   |                |                |                  |   |                 |      |              |       |
| <b>Blank (B6A0329-BLK1)</b>            |                   |                |                |                  | Prepared: 1/14/2016 Analyzed: 1/14/2016 |                 |      |              |       |
| DRO                                    | ND                | 1.0            |                |                  |   | NR              |      |              |       |
| ORO                                    | ND                | 1.0            |                |                  |   | NR              |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.919             |                | 2.66667        |                  |   | 109             |      | 26 - 123     |       |
| <b>LCS (B6A0329-BS1)</b>               |                   |                |                |                  | Prepared: 1/14/2016 Analyzed: 1/14/2016 |                 |      |              |       |
| DRO                                    | 30.5283           | 1.0            | 33.3333        |                  | 91.6                                    | 47 - 127        |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.953             |                | 2.66667        |                  |   | 111             |      | 26 - 123     |       |
| <b>Matrix Spike (B6A0329-MS1)</b>      |                   |                |                |                  | Prepared: 1/14/2016 Analyzed: 1/14/2016 |                 |      |              |       |
| DRO                                    | 39.7367           | 1.0            | 33.3333        | 8.21333          | 94.6                                    | 16 - 123        |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.919             |                | 2.66667        |                  |   | 109             |      | 26 - 123     |       |
| <b>Matrix Spike Dup (B6A0329-MSD1)</b> |                   |                |                |                  | Prepared: 1/14/2016 Analyzed: 1/14/2016 |                 |      |              |       |
| DRO                                    | 31.1723           | 1.0            | 33.3333        | 8.21333          | 68.9                                    | 16 - 123        | 24.2 | 20           | R     |
| <i>Surrogate: p-Terphenyl</i>          | 2.721             |                | 2.66667        |                  |   | 102             |      | 26 - 123     |       |



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Reported : 01/18/2016

### Notes and Definitions

|     |   |
|-----|---|
| S4  | Surrogate was diluted out.  |
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| M2  | Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.                                     |
| M1  | Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.   |
| D6  | Sample required dilution due to high concentration of target analyte.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.



# CHAIN OF CUSTODY RECORD

|   |   |  |  |
|---|---|--|--|
| <br><b>ADVANCED TECHNOLOGY</b><br>LABORATORIES<br><br>3275 Walnut Ave., Signal Hill, CA 90755<br>Tel: (562) 989-4045 • Fax: (562) 989-4040 | P.O.#: _____ Quote #: _____<br><br>Logged By: _____ Date: _____               | <b>FOR LABORATORY USE ONLY:</b><br><br>Method of Transport<br><input type="checkbox"/> Client <input type="checkbox"/> ATL<br><input type="checkbox"/> FedEx <input type="checkbox"/> OnTrac<br><input checked="" type="checkbox"/> GSO<br><input type="checkbox"/> Other: _____ | Sample Condition Upon Receipt<br>1. CHILLED    Y <input type="checkbox"/> N <input type="checkbox"/> 4. CUSTODY SEAL    Y <input type="checkbox"/> N <input type="checkbox"/><br>2. HEADSPACE (VOA)    Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC    Y <input type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT    Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED    Y <input type="checkbox"/> N <input type="checkbox"/> |
|   | NOTE: Please include your Quote No. to ensure proper pricing of your project. |  |  |

|   |   |  |
|---|---|--|
| Client: <b>Geocon Consultants, Inc.</b><br>Attn: <u>LANN BEADLE</u> | Address: <u>6671 Brisa Street</u><br>City: <u>Livmore</u> State: <u>CA</u> Zip Code: <u>94550</u> | TEL: (925) 371-5900<br>FAX: (925) 371-5915 |
|---|---|--|

|  |   |   |  |
|--|---|---|--|
| Project Name: <u>SR-92/SR-82 IC</u> Project #: <u>E8721-02-36</u> Sampler: <u>(Printed Name) CGIUNTOI</u> (Signature) <u>[Signature]</u> | Relinquished by: <u>[Signature]</u> Date: <u>1/8/16</u> Time: <u>1700</u> | Received by: <u>[Signature]</u> Date: <u>1/9/16</u> Time: <u>1000</u> | Relinquished by: _____    Date: _____    Time: _____<br>Received by: _____    Date: _____    Time: _____<br>Relinquished by: _____    Date: _____    Time: _____<br>Received by: _____    Date: _____    Time: _____ |
|--|---|---|--|

|  |  |   |                                |
|--|--|---|--------------------------------|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr /Submitter:<br><u>[Signature]</u> <u>1/8/16</u> Date<br>Print Name: _____<br>Signature: _____ | Send Report To:<br>Attn: <u>SEE ABOVE</u><br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Bill To:<br>Attn: <u>SAUPE</u><br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Special Instructions/Comments: |
|--|--|---|--------------------------------|

**Sample/Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 • Sample : \$2.00 / sample / mo (after 45 days)  
 • Records : \$1.00 / ATL workorder / mo (after 1 year)

| ITEM | LAB USE ONLY: |                 | Sample Description     |               |              |                    | SPECIFY APPROPRIATE MATRIX |                  |            |                     |                          |                               |            |          |       |      | PRESERVATION | QA/QC |                |              |            |            |         |     |   |      |       |
|------|---------------|-----------------|------------------------|---------------|--------------|--------------------|----------------------------|------------------|------------|---------------------|--------------------------|-------------------------------|------------|----------|-------|------|--------------|-------|----------------|--------------|------------|------------|---------|-----|---|------|-------|
|      | Batch #:      | Lab No.         | Sample I.D. / Location | Date          | Time         | 8081A (Pesticides) | 8082 (PCB)                 | 8088 (Volatiles) | 827C (BNA) | 8010B (Total Metal) | 8015B (GRO) / 8021 (BTX) | TITLE 22 (CAM 17 (8010/7000)) | TOTAL LEAD | SEDIMENT | SOLID | SOIL |              |       | DRINKING WATER | GROUND WATER | WASTEWATER | STORMWATER | AQUEOUS | TAT | # | Type | OTHER |
|      |               | <u>600174-6</u> | <u>B20-0</u>           | <u>1/8/16</u> | <u>0910</u>  |                    |                            |                  |            |                     |                          |                               |            |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               | <u>11</u>       | <u>B20-1</u>           |               |              |                    |                            |                  |            |                     |                          |                               |            |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               | <u>12</u>       | <u>B20-2</u>           |               |              |                    |                            |                  |            |                     |                          |                               |            |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               | <u>13</u>       | <u>B21-0</u>           |               | <u>0915</u>  |                    |                            |                  |            |                     |                          |                               |            |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               | <u>14</u>       | <u>B21-1</u>           |               |              |                    |                            |                  |            |                     |                          |                               |            |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               | <u>15</u>       | <u>B21-2</u>           |               |              |                    |                            |                  |            |                     |                          |                               |            |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               | <u>16</u>       | <u>B32-0</u>           |               | <u>10/18</u> |                    |                            |                  |            |                     |                          |                               |            |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               | <u>17</u>       | <u>B32-1</u>           |               | <u>10/20</u> |                    |                            |                  |            |                     |                          |                               |            |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               | <u>18</u>       | <u>B32-2</u>           |               | <u>10/21</u> |                    |                            |                  |            |                     |                          |                               |            |          |       |      |              |       |                |              |            |            |         |     |   |      |       |

|   |   |  |
|---|---|--|
| • TAT starts 8 a.m. following day if samples received after 5 p.m.                    | TAT: <input type="checkbox"/> A= Overnight ≤ 24 hrs <input type="checkbox"/> B= Emergency Next workday <input type="checkbox"/> C= Critical 2 Workdays <input type="checkbox"/> D= Urgent 3 Workdays <input type="checkbox"/> E= Routine 7 Workdays | Preservatives: H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C<br>Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |
| Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal |   |  |

Page 133 of 143

# CHAIN OF CUSTODY RECORD



**ADVANCED TECHNOLOGY  
LABORATORIES**

3275 Walnut Ave., Signal Hill, CA 90755  
Tel: (562) 989-4045 • Fax: (562) 989-4040

P.O.#: \_\_\_\_\_ Quote #: \_\_\_\_\_

Logged By: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Please include your Quote No. to ensure proper pricing of your project.

**FOR LABORATORY USE ONLY:**

|   |  |                        |   |                 |   |                    |   |                        |   |                     |   |              |   |
|---|--|------------------------|---|-----------------|---|--------------------|---|------------------------|---|---------------------|---|--------------|---|
| <p>Method of Transport</p> <input type="checkbox"/> Client <input type="checkbox"/> ATL<br><input type="checkbox"/> FedEx <input type="checkbox"/> OnTrac<br><input checked="" type="checkbox"/> GSO<br><input type="checkbox"/> Other: _____ | <p>Sample Condition Upon Receipt</p> <table border="0" style="width: 100%;"> <tr> <td>1. CHILLED</td> <td><input type="checkbox"/> Y <input type="checkbox"/> N</td> <td>4. CUSTODY SEAL</td> <td><input type="checkbox"/> Y <input type="checkbox"/> N</td> </tr> <tr> <td>2. HEADSPACE (VOA)</td> <td><input type="checkbox"/> Y <input type="checkbox"/> N</td> <td>5. # OF SPLS MATCH COC</td> <td><input type="checkbox"/> Y <input type="checkbox"/> N</td> </tr> <tr> <td>3. CONTAINER INTACT</td> <td><input type="checkbox"/> Y <input type="checkbox"/> N</td> <td>6. PRESERVED</td> <td><input type="checkbox"/> Y <input type="checkbox"/> N</td> </tr> </table> | 1. CHILLED             | <input type="checkbox"/> Y <input type="checkbox"/> N | 4. CUSTODY SEAL | <input type="checkbox"/> Y <input type="checkbox"/> N | 2. HEADSPACE (VOA) | <input type="checkbox"/> Y <input type="checkbox"/> N | 5. # OF SPLS MATCH COC | <input type="checkbox"/> Y <input type="checkbox"/> N | 3. CONTAINER INTACT | <input type="checkbox"/> Y <input type="checkbox"/> N | 6. PRESERVED | <input type="checkbox"/> Y <input type="checkbox"/> N |
| 1. CHILLED  | <input type="checkbox"/> Y <input type="checkbox"/> N  | 4. CUSTODY SEAL        | <input type="checkbox"/> Y <input type="checkbox"/> N |                 |   |                    |   |                        |   |                     |   |              |   |
| 2. HEADSPACE (VOA)  | <input type="checkbox"/> Y <input type="checkbox"/> N  | 5. # OF SPLS MATCH COC | <input type="checkbox"/> Y <input type="checkbox"/> N |                 |   |                    |   |                        |   |                     |   |              |   |
| 3. CONTAINER INTACT   | <input type="checkbox"/> Y <input type="checkbox"/> N  | 6. PRESERVED           | <input type="checkbox"/> Y <input type="checkbox"/> N |                 |   |                    |   |                        |   |                     |   |              |   |

|   |  |                     |
|---|--|---------------------|
| Client: <b>Geocon Consultants, Inc.</b> | Address: 6671 Brisa Street               | TEL: (925) 371-5900 |
| Attn: <u>LIANN BEADLE</u>               | City: Livemore State: CA Zip Code: 94550 | FAX: (925) 371-5915 |

|   |                               |                               |   |
|---|-------------------------------|-------------------------------|---|
| Project Name: <u>SR-92/SR-82 IC</u>                 | Project #: <u>EB721-02-36</u> | Sampler: _____ (Printed Name) | _____ (Signature)                               |
| Relinquished by: _____ (Signature and Printed Name) | Date: <u>1/8/16</u>           | Time: <u>1200</u>             | Received by: _____ (Signature and Printed Name) |
| Relinquished by: _____ (Signature and Printed Name) | Date: _____                   | Time: _____                   | Received by: _____ (Signature and Printed Name) |
| Relinquished by: _____ (Signature and Printed Name) | Date: _____                   | Time: _____                   | Received by: _____ (Signature and Printed Name) |

I hereby authorize ATL to perform the work indicated below:

Project Mgr /Submitter: \_\_\_\_\_

Print Name: \_\_\_\_\_ Date: 1/8/16

Signature: \_\_\_\_\_

Send Report To:

Attn: SEE ABOVE

Co: \_\_\_\_\_

Addr: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Bill To:

Attn: SAME

Co: \_\_\_\_\_

Addr: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Special Instructions/Comments:

**Sample/Records - Archival & Disposal**

Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**

- Sample : \$2.00 / sample / mo (after 45 days)
- Records : \$1.00 / ATL workorder / mo (after 1 year)

| Circle or Add Analysis(es) Requested | SPECIFY APPROPRIATE MATRIX |            |                   |             |                     |                           |                           |                               |          |       | TAT | # | Type | PRESERVATION | QA/QC |                |              |                                     |
|--------------------------------------|----------------------------|------------|-------------------|-------------|---------------------|---------------------------|---------------------------|-------------------------------|----------|-------|-----|---|------|--------------|-------|----------------|--------------|-------------------------------------|
|                                      | 8091A (Pesticides)         | 8092 (PCB) | 8280B (Volatiles) | 8270C (BNA) | 8010B (Total Metal) | 8015B (GRO) / 8021 (BTEX) | 8015B (DRO) / 8021 (BTEX) | TITLE 22 (CAM 17 (8010/7000)) | SEDIMENT | SOLID |     |   |      |              | SOIL  | DRINKING WATER | GROUND WATER | WASTEWATER                          |
| TOTAL LEAD                           |                            |            |                   |             |                     |                           |                           |                               |          |       |     |   |      |              |       |                |              | <input type="checkbox"/>            |
|                                      |                            |            |                   |             |                     |                           |                           |                               |          |       |     |   |      |              |       |                |              | <input checked="" type="checkbox"/> |
|                                      |                            |            |                   |             |                     |                           |                           |                               |          |       |     |   |      |              |       |                |              | <input type="checkbox"/>            |
|                                      |                            |            |                   |             |                     |                           |                           |                               |          |       |     |   |      |              |       |                |              | <input type="checkbox"/>            |

| ITEM | LAB USE ONLY: |            | Sample Description     |        |      |  |
|------|---------------|------------|------------------------|--------|------|--|
|      | Batch #:      | Lab No.    | Sample I.D. / Location | Date   | Time |  |
|      |               | 1650174-14 | B33-0                  | 1/8/16 | 1050 |  |
|      |               |            | B33-1                  |        | 1058 |  |
|      |               |            | B33-2                  |        | 1100 |  |
|      |               |            | B34-0                  |        | 1100 |  |
|      |               |            | B34-1                  |        | 1103 |  |
|      |               |            | B34-2                  |        | 1107 |  |
|      |               |            | B35-0                  |        | 1115 |  |
|      |               |            | B35-1                  |        | 1120 |  |
|      |               |            | B35-2                  |        | 1130 |  |

|   |   |  |
|---|---|--|
| • TAT starts 8 a.m. following day if samples received after 5 p.m.                    | TAT: <input type="checkbox"/> A= Overnight ≤ 24 hrs <input type="checkbox"/> B= Emergency Next workday <input type="checkbox"/> C= Critical 2 Workdays <input type="checkbox"/> D= Urgent 3 Workdays <input type="checkbox"/> E= Routine 7 Workdays | Preservatives: H=Hcl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C<br>Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>5</sub> |
| Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal |   |  |











# CHAIN OF CUSTODY RECORD

|  |   |  |  |
|--|---|--|--|
|  <p><b>ADVANCED TECHNOLOGY<br/>LABORATORIES</b></p> <p>3275 Walnut Ave., Signal Hill, CA 90755<br/>Tel: (562) 989-4045 • Fax: (562) 989-4040</p> | P.O.#: _____ Quote #: _____<br><br>Logged By: _____ Date: _____               | <b>FOR LABORATORY USE ONLY:</b><br><br>Method of Transport<br><input type="checkbox"/> Client <input type="checkbox"/> ATL<br><input type="checkbox"/> FedEx <input type="checkbox"/> OnTrac<br><input checked="" type="checkbox"/> GSO<br><input type="checkbox"/> Other: _____ | Sample Condition Upon Receipt<br>1. CHILLED    Y <input type="checkbox"/> N <input type="checkbox"/> 4. CUSTODY SEAL    Y <input type="checkbox"/> N <input type="checkbox"/><br>2. HEADSPACE (VOA)    Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC    Y <input type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT    Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED    Y <input type="checkbox"/> N <input type="checkbox"/> |
|  | NOTE: Please include your Quote No. to ensure proper pricing of your project. |  |  |

|  |  |  |
|--|--|--|
| Client: <b>Geocon Consultants, Inc.</b><br>Attn: <b>LIANU BEADLE</b> | Address: 6671 Brisa Street<br>City: <b>Livermore</b> State: <b>CA</b> Zip Code: <b>94550</b> | TEL: (925) 371-5900<br>FAX: (925) 371-5915 |
|--|--|--|

|  |                               |   |  |
|--|-------------------------------|---|--|
| Project Name: <b>SR-92/SR-82 IC</b>                              | Project #: <b>E0721-02-36</b> | Sampler: <b>C. GILLESPIE</b> (Printed Name) | (Signature) <i>[Signature]</i>                               |
| Relinquished by: <i>[Signature]</i> (Signature and Printed Name) | Date: <b>1/8/10</b>           | Time: <b>1700</b>                           | Received by: <i>[Signature]</i> (Signature and Printed Name) |
| Relinquished by: _____ (Signature and Printed Name)              | Date: _____                   | Time: _____                                 | Received by: _____ (Signature and Printed Name)              |
| Relinquished by: _____ (Signature and Printed Name)              | Date: _____                   | Time: _____                                 | Received by: _____ (Signature and Printed Name)              |

|   |   |   |                                |
|---|---|---|--------------------------------|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr /Submitter: <i>[Signature]</i> | Send Report To:<br>Attn: <b>SEE ABOVE</b>                       | Bill To:<br>Attn: <b>SAHF</b>                                   | Special Instructions/Comments: |
| Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____   | Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | _____                          |

**Sample/Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 • Sample : \$2.00 / sample / mo (after 45 days)  
 • Records : \$1.00 / ATL workorder / mo (after 1 year)

| ITEM | LAB USE ONLY: |            | Sample Description     |        |      |                    | SPECIFY APPROPRIATE MATRIX |                   |             |                      |                           |                           |                                 |          |       |      | PRESERVATION | QA/QC |                |              |            |            |         |     |   |      |       |
|------|---------------|------------|------------------------|--------|------|--------------------|----------------------------|-------------------|-------------|----------------------|---------------------------|---------------------------|---------------------------------|----------|-------|------|--------------|-------|----------------|--------------|------------|------------|---------|-----|---|------|-------|
|      | Batch #:      | Lab No.    | Sample I.D. / Location | Date   | Time | 8061A (Pesticides) | 8082 (PCB)                 | 8080B (Volatiles) | 8270C (BNA) | 8010B (Total Metals) | 8015B (GRO) / 8021 (BTEX) | 8015B (DRO) / 8021 (BTEX) | TITLE 22 / CAM 17 (8010 / 7000) | SEDIMENT | SOLID | SOIL |              |       | DRINKING WATER | GROUND WATER | WASTEWATER | STORMWATER | AQUEOUS | TAT | # | Type | OTHER |
|      |               | 1600174-73 | B52-0                  | 1/8/10 | 1025 |                    |                            |                   |             |                      |                           |                           |                                 |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               |            | B52-1                  |        |      |                    |                            |                   |             |                      |                           |                           |                                 |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               |            | B52-2                  |        |      |                    |                            |                   |             |                      |                           |                           |                                 |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               |            | B53-0                  |        | 1300 |                    |                            |                   |             |                      |                           |                           |                                 |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               |            | B53-1                  |        |      |                    |                            |                   |             |                      |                           |                           |                                 |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               |            | B53-2                  |        |      |                    |                            |                   |             |                      |                           |                           |                                 |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               |            | B54-0                  |        | 1305 |                    |                            |                   |             |                      |                           |                           |                                 |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               |            | B54-1                  |        |      |                    |                            |                   |             |                      |                           |                           |                                 |          |       |      |              |       |                |              |            |            |         |     |   |      |       |
|      |               |            | B54-2                  |        |      |                    |                            |                   |             |                      |                           |                           |                                 |          |       |      |              |       |                |              |            |            |         |     |   |      |       |

|   |   |  |
|---|---|--|
| • TAT starts 8 a.m. following day if samples received after 5 p.m.                    | TAT: <input type="checkbox"/> A= Overnight ≤ 24 hrs <input type="checkbox"/> B= Emergency Next workday <input type="checkbox"/> C= Critical 2 Workdays <input type="checkbox"/> D= Urgent 3 Workdays <input type="checkbox"/> E= Routine 7 Workdays | Preservatives: H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C<br>Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |
| Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal |   |  |

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# CHAIN OF CUSTODY RECORD

|  |   |  |   |
|--|---|--|---|
|  <p><b>ADVANCED TECHNOLOGY<br/>LABORATORIES</b></p> <p>3275 Walnut Ave., Signal Hill, CA 90755<br/>Tel: (562) 989-4045 • Fax: (562) 989-4040</p> | P.O.#: _____ Quote #: _____<br><br>Logged By: _____ Date: _____               | <b>Method of Transport</b><br><input type="checkbox"/> Client <input type="checkbox"/> ATL<br><input type="checkbox"/> FedEx <input type="checkbox"/> OnTrac<br><input checked="" type="checkbox"/> GSO<br><input type="checkbox"/> Other: _____ | <b>FOR LABORATORY USE ONLY:</b><br><br>Sample Condition Upon Receipt<br>1. CHILLED    Y <input type="checkbox"/> N <input type="checkbox"/> 4. CUSTODY SEAL    Y <input type="checkbox"/> N <input type="checkbox"/><br>2. HEADSPACE (VOA)    Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC    Y <input type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT    Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED    Y <input type="checkbox"/> N <input type="checkbox"/> |
|  | NOTE: Please include your Quote No. to ensure proper pricing of your project. |  |   |

|  |  |  |
|--|--|--|
| Client: <b>Geocon Consultants, Inc.</b><br>Attn: <u>LWANN BEADLE</u> | Address: 6671 Brisa Street<br>City: <u>Livermore</u> State: <u>CA</u> Zip Code: <u>94550</u> | TEL: (925) 371-5900<br>FAX: (925) 371-5915 |
|--|--|--|

|   |  |  |  |
|---|--|--|--|
| Project Name: <u>SR-92/SR-821C</u> Project #: <u>E8721-02-36</u> Sampler: <u>CGIUNTOU</u> (Printed Name)    _____ (Signature) | Relinquished by: _____ (Signature and Printed Name)    Date: <u>1/8/16</u> Time: <u>1700</u> | Received by: _____ (Signature and Printed Name)    Date: <u>1/9/16</u> Time: <u>1900</u> |  |
| Relinquished by: _____ (Signature and Printed Name)    Date: _____    Time: _____   | Received by: _____ (Signature and Printed Name)    Date: _____    Time: _____                |  |  |
| Relinquished by: _____ (Signature and Printed Name)    Date: _____    Time: _____   | Received by: _____ (Signature and Printed Name)    Date: _____    Time: _____                |  |  |

|  |  |   |                                |
|--|--|---|--------------------------------|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr /Submitter: <u>CL</u> <u>1/8/16</u><br>Print Name    Date<br>_____<br>Signature | Send Report To:<br>Attn: <u>SEE ABOVE</u><br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Bill To:<br>Attn: <u>SRMKE</u><br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Special Instructions/Comments: |
|--|--|---|--------------------------------|

**Sample/Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 • Sample : \$2.00 / sample / mo (after 45 days)  
 • Records : \$1.00 / ATL workorder / mo (after 1 year)

|  |  |                               |   |
|--|--|-------------------------------|---|
| Circle or Add Analysis(es) Requested<br>8091A (Pesticides)<br>8092 (PCB)<br>8098B (Volatiles)<br>8270C (BVA)<br>8010B (Total Metal)<br>8015B (GRO) / 8021 (BTEX)<br>8015B (DRO) / MOTOR OIL<br>TITLE 24 (CAM 17 (8010 / 7000))<br>TOTAL LEAD | SPECIFY APPROPRIATE MATRIX<br>SEDIMENT<br>SOLID<br>SOIL<br>DRINKING WATER<br>GROUND WATER<br>WASTEWATER<br>STORMWATER<br>AQUEOUS | Container(s)<br>TAT #    Type | PRESERVATION<br>RTNE <input type="checkbox"/><br>CT <input checked="" type="checkbox"/><br>Legal <input type="checkbox"/><br>SWRCB Logcode <input type="checkbox"/><br>OTHER _____<br>REMARKS |
|--|--|-------------------------------|---|

| ITEM | LAB USE ONLY: |                  | Sample Description     |               |             |  |  |  |
|------|---------------|------------------|------------------------|---------------|-------------|--|--|--|
|      | Batch #:      | Lab No.          | Sample I.D. / Location | Date          | Time        |  |  |  |
|      |               | <u>160174-91</u> | <u>B58-0</u>           | <u>1/8/16</u> | <u>1315</u> |  |  |  |
|      |               |                  | <u>B58-1</u>           |               |             |  |  |  |
|      |               |                  | <u>B58-2</u>           |               |             |  |  |  |
|      |               |                  | <u>B59-0</u>           |               | <u>1320</u> |  |  |  |
|      |               |                  | <u>B59-1</u>           |               |             |  |  |  |
|      |               |                  | <u>B59-2</u>           |               |             |  |  |  |
|      |               |                  | <u>B60-0</u>           |               | <u>1325</u> |  |  |  |
|      |               |                  | <u>B60-1</u>           |               |             |  |  |  |
|      |               |                  | <u>B60-2</u>           |               |             |  |  |  |

|   |   |  |
|---|---|--|
| • TAT starts 8 a.m. following day if samples received after 5 p.m.  | TAT: <input type="checkbox"/> A= Overnight ≤ 24 hrs <input type="checkbox"/> B= Emergency Next workday <input type="checkbox"/> C= Critical 2 Workdays <input type="checkbox"/> D= Urgent 3 Workdays <input type="checkbox"/> E= Routine 7 Workdays | Preservatives: H=HCl    N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C<br>Z=Zn(AC) <sub>2</sub> O=NaOH    T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |
| Container Types: T=Tube    V=VOA    L=Liter    P=Pint    J=Jar    B=Tedlar    G=Glass    P=Plastic    M=Metal |   |  |



January 27, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600174  
Client Reference : SR-92 / SR-82 1C, E8721-02-36

Enclosed are the results for sample(s) received on January 09, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.

Project Number : SR-92 / SR-82 1C, E8721-02-36

6671 Brisa Street

Report To : Luann Beadle

Livermore , CA 94550

Reported : 01/27/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B17-0     | 1600174-01    | Soil   | 1/08/16 8:55  | 1/09/16 10:00 |
| B17-1     | 1600174-02    | Soil   | 1/08/16 8:55  | 1/09/16 10:00 |
| B18-0     | 1600174-04    | Soil   | 1/08/16 9:00  | 1/09/16 10:00 |
| B19-0     | 1600174-07    | Soil   | 1/08/16 9:05  | 1/09/16 10:00 |
| B20-0     | 1600174-10    | Soil   | 1/08/16 9:10  | 1/09/16 10:00 |
| B20-2     | 1600174-12    | Soil   | 1/08/16 9:10  | 1/09/16 10:00 |
| B21-0     | 1600174-13    | Soil   | 1/08/16 9:15  | 1/09/16 10:00 |
| B32-0     | 1600174-16    | Soil   | 1/08/16 10:48 | 1/09/16 10:00 |
| B32-2     | 1600174-18    | Soil   | 1/08/16 10:54 | 1/09/16 10:00 |
| B33-0     | 1600174-19    | Soil   | 1/08/16 10:56 | 1/09/16 10:00 |
| B34-0     | 1600174-22    | Soil   | 1/08/16 11:00 | 1/09/16 10:00 |
| B35-0     | 1600174-25    | Soil   | 1/08/16 11:15 | 1/09/16 10:00 |
| B35-1     | 1600174-26    | Soil   | 1/08/16 11:20 | 1/09/16 10:00 |
| B38-0     | 1600174-34    | Soil   | 1/08/16 11:40 | 1/09/16 10:00 |
| B38-1     | 1600174-35    | Soil   | 1/08/16 11:45 | 1/09/16 10:00 |
| B39-0     | 1600174-37    | Soil   | 1/08/16 12:10 | 1/09/16 10:00 |
| B40-0     | 1600174-40    | Soil   | 1/08/16 12:05 | 1/09/16 10:00 |
| B40-1     | 1600174-41    | Soil   | 1/08/16 12:05 | 1/09/16 10:00 |
| B40-2     | 1600174-42    | Soil   | 1/08/16 12:05 | 1/09/16 10:00 |
| B41-1     | 1600174-44    | Soil   | 1/08/16 12:15 | 1/09/16 10:00 |
| B43-0     | 1600174-46    | Soil   | 1/08/16 9:25  | 1/09/16 10:00 |
| B44-0     | 1600174-49    | Soil   | 1/08/16 9:30  | 1/09/16 10:00 |
| B49-1     | 1600174-65    | Soil   | 1/08/16 10:00 | 1/09/16 10:00 |
| B51-0     | 1600174-70    | Soil   | 1/08/16 10:15 | 1/09/16 10:00 |
| B53-0     | 1600174-76    | Soil   | 1/08/16 13:00 | 1/09/16 10:00 |
| B53-1     | 1600174-77    | Soil   | 1/08/16 13:00 | 1/09/16 10:00 |
| B54-0     | 1600174-79    | Soil   | 1/08/16 13:05 | 1/09/16 10:00 |
| B54-1     | 1600174-80    | Soil   | 1/08/16 13:05 | 1/09/16 10:00 |
| B55-0     | 1600174-82    | Soil   | 1/08/16 12:55 | 1/09/16 10:00 |
| B56-2     | 1600174-87    | Soil   | 1/08/16 12:50 | 1/09/16 10:00 |
| B57-0     | 1600174-88    | Soil   | 1/08/16 13:45 | 1/09/16 10:00 |
| B59-0     | 1600174-94    | Soil   | 1/08/16 13:20 | 1/09/16 10:00 |
| B60-0     | 1600174-97    | Soil   | 1/08/16 13:25 | 1/09/16 10:00 |
| B61-0     | 1600174-AA    | Soil   | 1/08/16 13:30 | 1/09/16 10:00 |





## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/27/2016

### STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead

Analyst: SB

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600174-01    | B17-0            | 2.6    | mg/L  | 1.0 | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:08     |       |
| 1600174-04    | B18-0            | 5.0    | mg/L  | 1.0 | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:16     |       |
| 1600174-07    | B19-0            | 2.7    | mg/L  | 1.0 | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:19     |       |
| 1600174-10    | B20-0            | 4.6    | mg/L  | 1.0 | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:21     |       |
| 1600174-13    | B21-0            | 2.6    | mg/L  | 1.0 | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:26     |       |
| 1600174-16    | B32-0            | 24     | mg/L  | 1.0 | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:28     |       |
| 1600174-18    | B32-2            | ND     | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 14:46     |       |
| 1600174-19    | B33-0            | 6.0    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 14:49     |       |
| 1600174-22    | B34-0            | 4.3    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 14:51     |       |
| 1600174-25    | B35-0            | 3.4    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 14:53     |       |
| 1600174-26    | B35-1            | 2.2    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 14:56     |       |
| 1600174-34    | B38-0            | 1.3    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 14:58     |       |
| 1600174-35    | B38-1            | 1.1    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:00     |       |
| 1600174-37    | B39-0            | ND     | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:03     |       |
| 1600174-40    | B40-0            | 26     | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:05     |       |
| 1600174-41    | B40-1            | 2.8    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:11     |       |
| 1600174-42    | B40-2            | 1.0    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:21     |       |
| 1600174-44    | B41-1            | 3.9    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:23     |       |
| 1600174-46    | B43-0            | 3.0    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:26     |       |
| 1600174-49    | B44-0            | 2.4    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:28     |       |
| 1600174-65    | B49-1            | ND     | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:30     |       |
| 1600174-70    | B51-0            | 2.8    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:33     |       |
| 1600174-76    | B53-0            | 4.6    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:39     |       |
| 1600174-77    | B53-1            | 8.6    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:41     |       |
| 1600174-79    | B54-0            | 2.4    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:44     |       |
| 1600174-80    | B54-1            | 14     | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:46     |       |
| 1600174-82    | B55-0            | 19     | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 15:58     |       |
| 1600174-87    | B56-2            | 3.2    | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 16:00     |       |
| 1600174-88    | B57-0            | 1.7    | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 16:06     |       |
| 1600174-94    | B59-0            | 10     | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 16:09     |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/27/2016

#### STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead

Analyst: SB

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600174-97    | B60-0            | 24     | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 16:11     |       |
| 1600174-AA    | B61-0            | 20     | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 16:13     |       |
| 1600174-AD    | B62-0            | 17     | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 16:16     |       |

#### Client Sample ID B17-1

Lab ID: 1600174-02

#### STLC Metals by ICP-AES by EPA 6010B

Analyst: SB

| Analyte  | Result (mg/L) | PQL (mg/L) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|----------|---------------|------------|----------|---------|------------|--------------------|-------|
| Chromium | ND            | 1.0        | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:10     |       |
| Nickel   | ND            | 1.0        | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:10     |       |

#### Client Sample ID B20-2

Lab ID: 1600174-12

#### STLC Metals by ICP-AES by EPA 6010B

Analyst: SB

| Analyte  | Result (mg/L) | PQL (mg/L) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|----------|---------------|------------|----------|---------|------------|--------------------|-------|
| Chromium | ND            | 1.0        | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:24     |       |
| Nickel   | ND            | 1.0        | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:24     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/27/2016

### QUALITY CONTROL SECTION

#### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level            | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|--|------------------|---------------|---------------------------|------------------|---|-----------------|-------|--------------|-------|
| <b>Batch B6A0629 - STLC_S Extraction</b> |                  |               |                           |                  |   |                 |       |              |       |
| <b>Blank (B6A0629-BLK1)</b>              |                  |               |                           |                  | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |       |              |       |
| Chromium                                 | ND               | 1.0           |                           |                  | NR                                      |                 |       |              |       |
| Lead                                     | ND               | 1.0           |                           |                  | NR                                      |                 |       |              |       |
| Nickel                                   | ND               | 1.0           |                           |                  | NR                                      |                 |       |              |       |
| <b>Blank (B6A0629-BLK2)</b>              |                  |               |                           |                  | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |       |              |       |
| Chromium                                 | ND               | 1.0           |                           |                  | NR                                      |                 |       |              |       |
| Lead                                     | ND               | 1.0           |                           |                  | NR                                      |                 |       |              |       |
| Nickel                                   | ND               | 1.0           |                           |                  | NR                                      |                 |       |              |       |
| <b>LCS (B6A0629-BS1)</b>                 |                  |               |                           |                  | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |       |              |       |
| Chromium                                 | 1.97409          |               | 2.00000                   |                  | 98.7                                    | 80 - 120        |       |              |       |
| Lead                                     | 1.97679          |               | 2.00000                   |                  | 98.8                                    | 80 - 120        |       |              |       |
| Nickel                                   | 2.07849          |               | 2.00000                   |                  | 104                                     | 80 - 120        |       |              |       |
| <b>Duplicate (B6A0629-DUP1)</b>          |                  |               |                           |                  | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |       |              |       |
|  |                  |               | <b>Source: 1503892-07</b> |                  |   |                 |       |              |       |
| Chromium                                 | 0.155731         | 1.0           |                           | 0.163528         | NR                                      |                 | 4.88  | 20           |       |
| Lead                                     | 2.69915          | 1.0           |                           | 2.83140          | NR                                      |                 | 4.78  | 20           |       |
| Nickel                                   | 0.185408         | 1.0           |                           | 0.195934         | NR                                      |                 | 5.52  | 20           |       |
| <b>Duplicate (B6A0629-DUP2)</b>          |                  |               |                           |                  | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |       |              |       |
|  |                  |               | <b>Source: 1600174-16</b> |                  |   |                 |       |              |       |
| Chromium                                 | 0.256120         | 1.0           |                           | 0.208020         | NR                                      |                 | 20.7  | 20           | R     |
| Lead                                     | 22.7672          | 1.0           |                           | 23.6692          | NR                                      |                 | 3.88  | 20           |       |
| Nickel                                   | 0.536577         | 1.0           |                           | 0.515930         | NR                                      |                 | 3.92  | 20           |       |
| <b>Matrix Spike (B6A0629-MS1)</b>        |                  |               |                           |                  | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |       |              |       |
|  |                  |               | <b>Source: 1503892-07</b> |                  |   |                 |       |              |       |
| Chromium                                 | 2.29895          |               | 2.50000                   | 0.163528         | 85.4                                    | 74 - 121        |       |              |       |
| Lead                                     | 4.76964          |               | 2.50000                   | 2.83140          | 77.5                                    | 44 - 130        |       |              |       |
| Nickel                                   | 2.26314          |               | 2.50000                   | 0.195934         | 82.7                                    | 83 - 116        |       |              | M1    |
| <b>Matrix Spike (B6A0629-MS2)</b>        |                  |               |                           |                  | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |       |              |       |
|  |                  |               | <b>Source: 1600174-16</b> |                  |   |                 |       |              |       |
| Chromium                                 | 2.46818          |               | 2.50000                   | 0.208020         | 90.4                                    | 74 - 121        |       |              |       |
| Lead                                     | 26.3932          |               | 2.50000                   | 23.6692          | 109                                     | 44 - 130        |       |              |       |
| Nickel                                   | 2.85706          |               | 2.50000                   | 0.515930         | 93.6                                    | 83 - 116        |       |              |       |
| <b>Matrix Spike Dup (B6A0629-MSD1)</b>   |                  |               |                           |                  | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |       |              |       |
|  |                  |               | <b>Source: 1503892-07</b> |                  |   |                 |       |              |       |
| Chromium                                 | 2.39799          |               | 2.50000                   | 0.163528         | 89.4                                    | 74 - 121        | 4.22  | 20           |       |
| Lead                                     | 4.81381          |               | 2.50000                   | 2.83140          | 79.3                                    | 44 - 130        | 0.922 | 20           |       |
| Nickel                                   | 2.46424          |               | 2.50000                   | 0.195934         | 90.7                                    | 83 - 116        | 8.51  | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/27/2016

### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result                        | % Rec | % Rec<br>Limits                         | RPD  | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|---|-------|---|------|--------------|-------|
| <b>Batch B6A0630 - STLC_S Extraction</b> |                  |               |                |   |       |   |      |              |       |
| <b>Blank (B6A0630-BLK1)</b>              |                  |               |                | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |   |      |              |       |
| Chromium                                 | ND               | 1.0           |                |   | NR    |   |      |              |       |
| Lead                                     | ND               | 1.0           |                |   | NR    |   |      |              |       |
| Nickel                                   | ND               | 1.0           |                |   | NR    |   |      |              |       |
| <b>Blank (B6A0630-BLK2)</b>              |                  |               |                | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |   |      |              |       |
| Chromium                                 | ND               | 1.0           |                |   | NR    |   |      |              |       |
| Lead                                     | ND               | 1.0           |                |   | NR    |   |      |              |       |
| Nickel                                   | ND               | 1.0           |                |   | NR    |   |      |              |       |
| <b>LCS (B6A0630-BS1)</b>                 |                  |               |                | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |   |      |              |       |
| Chromium                                 | 2.04185          |               | 2.00000        |   | 102   | 80 - 120                                |      |              |       |
| Lead                                     | 2.00146          |               | 2.00000        |   | 100   | 80 - 120                                |      |              |       |
| Nickel                                   | 2.11485          |               | 2.00000        |   | 106   | 80 - 120                                |      |              |       |
| <b>Duplicate (B6A0630-DUP1)</b>          |                  |               |                | <b>Source: 1600174-41</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |      |              |       |
| Chromium                                 | 0.154063         | 1.0           |                | 0.164022                                | NR    |   | 6.26 | 20           |       |
| Lead                                     | 2.72101          | 1.0           |                | 2.83312                                 | NR    |   | 4.04 | 20           |       |
| Nickel                                   | 0.564367         | 1.0           |                | 0.593816                                | NR    |   | 5.09 | 20           |       |
| <b>Duplicate (B6A0630-DUP2)</b>          |                  |               |                | <b>Source: 1600174-80</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |      |              |       |
| Chromium                                 | 0.207599         | 1.0           |                | 0.195994                                | NR    |   | 5.75 | 20           |       |
| Lead                                     | 13.9738          | 1.0           |                | 13.5901                                 | NR    |   | 2.78 | 20           |       |
| Nickel                                   | 0.744551         | 1.0           |                | 0.728925                                | NR    |   | 2.12 | 20           |       |
| <b>Matrix Spike (B6A0630-MS1)</b>        |                  |               |                | <b>Source: 1600174-41</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |      |              |       |
| Chromium                                 | 2.31761          |               | 2.50000        | 0.164022                                | 86.1  | 74 - 121                                |      |              |       |
| Lead                                     | 4.76630          |               | 2.50000        | 2.83312                                 | 77.3  | 44 - 130                                |      |              |       |
| Nickel                                   | 2.77060          |               | 2.50000        | 0.593816                                | 87.1  | 83 - 116                                |      |              |       |
| <b>Matrix Spike (B6A0630-MS2)</b>        |                  |               |                | <b>Source: 1600174-80</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |      |              |       |
| Chromium                                 | 2.91599          |               | 2.50000        | 0.195994                                | 109   | 74 - 121                                |      |              |       |
| Lead                                     | 19.0160          |               | 2.50000        | 13.5901                                 | 217   | 44 - 130                                |      |              | M1    |
| Nickel                                   | 3.60901          |               | 2.50000        | 0.728925                                | 115   | 83 - 116                                |      |              |       |
| <b>Matrix Spike Dup (B6A0630-MSD1)</b>   |                  |               |                | <b>Source: 1600174-41</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |      |              |       |
| Chromium                                 | 2.37572          |               | 2.50000        | 0.164022                                | 88.5  | 74 - 121                                | 2.48 | 20           |       |
| Lead                                     | 4.84658          |               | 2.50000        | 2.83312                                 | 80.5  | 44 - 130                                | 1.67 | 20           |       |
| Nickel                                   | 2.82322          |               | 2.50000        | 0.593816                                | 89.2  | 83 - 116                                | 1.88 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/27/2016

### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6A0631 - STLC\_S Extraction**

**Blank (B6A0631-BLK1)**

Prepared: 1/25/2016 Analyzed: 1/25/2016

|          |    |     |  |  |    |  |  |  |  |
|----------|----|-----|--|--|----|--|--|--|--|
| Chromium | ND | 1.0 |  |  | NR |  |  |  |  |
| Lead     | ND | 1.0 |  |  | NR |  |  |  |  |
| Nickel   | ND | 1.0 |  |  | NR |  |  |  |  |

**LCS (B6A0631-BS1)**

Prepared: 1/25/2016 Analyzed: 1/25/2016

|          |         |  |         |  |      |          |  |  |  |
|----------|---------|--|---------|--|------|----------|--|--|--|
| Chromium | 2.07119 |  | 2.00000 |  | 104  | 80 - 120 |  |  |  |
| Lead     | 1.98481 |  | 2.00000 |  | 99.2 | 80 - 120 |  |  |  |
| Nickel   | 2.08072 |  | 2.00000 |  | 104  | 80 - 120 |  |  |  |

**Duplicate (B6A0631-DUP1)**

Source: 1600216-23

Prepared: 1/25/2016 Analyzed: 1/25/2016

|          |          |     |  |          |    |      |    |  |  |
|----------|----------|-----|--|----------|----|------|----|--|--|
| Chromium | 0.074199 | 1.0 |  | 0.072384 | NR | 2.48 | 20 |  |  |
| Lead     | 3.04383  | 1.0 |  | 3.12029  | NR | 2.48 | 20 |  |  |
| Nickel   | 0.273346 | 1.0 |  | 0.283273 | NR | 3.57 | 20 |  |  |

**Matrix Spike (B6A0631-MS1)**

Source: 1600216-23

Prepared: 1/25/2016 Analyzed: 1/25/2016

|          |         |  |         |          |      |          |  |  |  |
|----------|---------|--|---------|----------|------|----------|--|--|--|
| Chromium | 2.25171 |  | 2.50000 | 0.072384 | 87.2 | 74 - 121 |  |  |  |
| Lead     | 4.99581 |  | 2.50000 | 3.12029  | 75.0 | 44 - 130 |  |  |  |
| Nickel   | 2.45326 |  | 2.50000 | 0.283273 | 86.8 | 83 - 116 |  |  |  |

**Matrix Spike Dup (B6A0631-MSD1)**

Source: 1600216-23

Prepared: 1/25/2016 Analyzed: 1/25/2016

|          |         |  |         |          |     |          |      |    |  |
|----------|---------|--|---------|----------|-----|----------|------|----|--|
| Chromium | 2.61194 |  | 2.50000 | 0.072384 | 102 | 74 - 121 | 14.8 | 20 |  |
| Lead     | 5.76859 |  | 2.50000 | 3.12029  | 106 | 44 - 130 | 14.4 | 20 |  |
| Nickel   | 2.84675 |  | 2.50000 | 0.283273 | 103 | 83 - 116 | 14.8 | 20 |  |



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/27/2016

### Notes and Definitions

|     |   |
|-----|---|
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| M1  | Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

**Diane Galvan**

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Wednesday, January 20, 2016 12:33 PM  
**To:** Diane Galvan  
**Subject:** Lab Order 1600174 (82/92 Interchange)

Hi Diane,

Please run WET analyses on the following samples as indicated on a regular TAT:

|            |       |          |
|------------|-------|----------|
| 1600174-02 | B17-1 | Chromium |
| 1600174-12 | B20-2 | Chromium |
| 1600174-65 | B49-1 | Lead     |
| 1600174-88 | B57-0 | Lead     |
| 1600174-37 | B39-0 | Lead     |
| 1600174-18 | B32-2 | Lead     |
| 1600174-42 | B40-2 | Lead     |
| 1600174-13 | B21-0 | Lead     |
| 1600174-35 | B38-1 | Lead     |
| 1600174-70 | B51-0 | Lead     |
| 1600174-41 | B40-1 | Lead     |
| 1600174-07 | B19-0 | Lead     |
| 1600174-79 | B54-0 | Lead     |
| 1600174-01 | B17-0 | Lead     |
| 1600174-25 | B35-0 | Lead     |
| 1600174-46 | B43-0 | Lead     |
| 1600174-26 | B35-1 | Lead     |
| 1600174-49 | B44-0 | Lead     |
| 1600174-44 | B41-1 | Lead     |
| 1600174-22 | B34-0 | Lead     |
| 1600174-10 | B20-0 | Lead     |
| 1600174-76 | B53-0 | Lead     |
| 1600174-04 | B18-0 | Lead     |
| 1600174-34 | B38-0 | Lead     |
| 1600174-19 | B33-0 | Lead     |
| 1600174-87 | B56-2 | Lead     |
| 1600174-94 | B59-0 | Lead     |
| 1600174-77 | B53-1 | Lead     |
| 1600174-AA | B61-0 | Lead     |
| 1600174-AD | B62-0 | Lead     |
| 1600174-16 | B32-0 | Lead     |
| 1600174-97 | B60-0 | Lead     |
| 1600174-80 | B54-1 | Lead     |
| 1600174-82 | B55-0 | Lead     |
| 1600174-40 | B40-0 | Lead     |
| 1600174-02 | B17-1 | Nickel   |
| 1600174-12 | B20-2 | Nickel   |

Thanks,  
Luann



**Luann Beadle | Project Scientist**

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P | 925.371.5900 ext. 403 M | 925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [Linkedin](#)

*Bay Area - Sacramento - Fairfield - Los Angeles - Orange County - Riverside County - Palm Desert - San Diego*

Geotechnical Engineering

Land Development

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Infrastructure

Institutional

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Brownfields/Redevelopment

Construction Inspection

Natural Resources

February 05, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600174  
Client Reference : SR-92 / SR-82 1C, E8721-02-36

Enclosed are the results for sample(s) received on January 09, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 02/05/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B18-0     | 1600174-04    | Soil   | 1/08/16 9:00  | 1/09/16 10:00 |
| B32-0     | 1600174-16    | Soil   | 1/08/16 10:48 | 1/09/16 10:00 |
| B33-0     | 1600174-19    | Soil   | 1/08/16 10:56 | 1/09/16 10:00 |
| B40-0     | 1600174-40    | Soil   | 1/08/16 12:05 | 1/09/16 10:00 |
| B53-1     | 1600174-77    | Soil   | 1/08/16 13:00 | 1/09/16 10:00 |
| B54-1     | 1600174-80    | Soil   | 1/08/16 13:05 | 1/09/16 10:00 |
| B55-0     | 1600174-82    | Soil   | 1/08/16 12:55 | 1/09/16 10:00 |
| B59-0     | 1600174-94    | Soil   | 1/08/16 13:20 | 1/09/16 10:00 |
| B60-0     | 1600174-97    | Soil   | 1/08/16 13:25 | 1/09/16 10:00 |
| B61-0     | 1600174-AA    | Soil   | 1/08/16 13:30 | 1/09/16 10:00 |
| B62-0     | 1600174-AD    | Soil   | 1/08/16 13:35 | 1/09/16 10:00 |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/05/2016

### TCLP Metals by ICP-AES EPA 6010B

Analyte: Lead

Analyst: SB

| Laboratory ID | Client Sample ID | Result | Units | PQL   | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-------|----------|---------|------------|--------------------|-------|
| 1600174-04    | B18-0            | ND     | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:05     |       |
| 1600174-16    | B32-0            | 0.11   | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:07     |       |
| 1600174-19    | B33-0            | ND     | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:10     |       |
| 1600174-40    | B40-0            | 0.052  | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:12     |       |
| 1600174-77    | B53-1            | ND     | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:15     |       |
| 1600174-80    | B54-1            | 0.085  | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:17     |       |
| 1600174-82    | B55-0            | 0.28   | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:19     |       |
| 1600174-94    | B59-0            | 0.11   | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:26     |       |
| 1600174-97    | B60-0            | 0.067  | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:28     |       |
| 1600174-AA    | B61-0            | 0.086  | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:30     |       |
| 1600174-AD    | B62-0            | 0.072  | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:39     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/05/2016

### QUALITY CONTROL SECTION

#### TCLP Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                 | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---------------------------------------|-----------------|-------|--------------|-------|
| <b>Batch B6B0085 - EPA 3010A_S</b>     |                  |               |                |                  |                                       |                 |       |              |       |
| <b>Blank (B6B0085-BLK1)</b>            |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | ND               | 0.050         |                |                  |                                       |                 |       |              | NR    |
| <b>Blank (B6B0085-BLK2)</b>            |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | ND               | 0.050         |                |                  |                                       |                 |       |              | NR    |
| <b>LCS (B6B0085-BS1)</b>               |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 0.933581         | 0.050         | 1.00000        |                  | 93.4                                  | 80 - 120        |       |              |       |
| <b>Duplicate (B6B0085-DUP1)</b>        |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 0.081075         | 0.050         |                | 0.086121         | NR                                    |                 | 6.04  | 20           |       |
| <b>Duplicate (B6B0085-DUP2)</b>        |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 1.81236          | 0.050         |                | 1.80302          | NR                                    |                 | 0.517 | 20           |       |
| <b>Matrix Spike (B6B0085-MS1)</b>      |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 2.12458          | 0.050         | 2.50000        | 0.086121         | 81.5                                  | 77 - 121        |       |              |       |
| <b>Matrix Spike (B6B0085-MS2)</b>      |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 4.04682          | 0.050         | 2.50000        | 1.80302          | 89.8                                  | 77 - 121        |       |              |       |
| <b>Matrix Spike Dup (B6B0085-MSD1)</b> |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 2.33431          | 0.050         | 2.50000        | 0.086121         | 89.9                                  | 77 - 121        | 9.41  | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 02/05/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

## Diane Galvan

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Friday, January 29, 2016 1:34 PM  
**To:** Diane Galvan  
**Subject:** Lab Order 1600174 (82/92 Interchange)

Hi Diane,

Could you please run TCLP lead on the following samples on a regular TAT?

1600174-04 B18-0  
1600174-16 B32-0  
1600174-19 B33-0  
1600174-40 B40-0  
1600174-77 B53-1  
1600174-80 B54-1  
1600174-82 B55-0  
1600174-94 B59-0  
1600174-97 B60-0  
1600174-AA B61-0  
1600174-AD B62-0

Thanks,  
Luann



**Luann Beadle** | *Project Scientist*

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P|925.371.5900 ext. 403 M|925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [LinkedIn](#)

*Bay Area - Sacramento - Fairfield - Los Angeles - Orange County - Riverside County - Palm Desert - San Diego*

Geotechnical Engineering

Land Development

Environmental Services

Transportation

Infrastructure

Institutional

Engineering Geology

Brownfields/Redevelopment

Construction Inspection

Natural Resources

March 18, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600174  
Client Reference : SR-92 / SR-82 1C, E8721-02-36

Enclosed are the results for sample(s) received on January 09, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/18/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|--------------|---------------|
| B20-2     | 1600174-12    | Soil   | 1/08/16 9:10 | 1/09/16 10:00 |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/18/2016

### STLC Mercury by AA (Cold Vapor) EPA 7470A

**Analyte: Mercury**

**Analyst: SB**

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600174-12    | B20-2            | ND     | ug/L  | 1.0 | 1        | B6C0418 | 03/16/2016 | 03/17/16 09:25     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 03/18/2016

### QUALITY CONTROL SECTION

#### STLC Mercury by AA (Cold Vapor) EPA 7470A - Quality Control

| Analyte                                 | Result<br>(ug/L) | PQL<br>(ug/L)             | Spike<br>Level | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|---|------------------|---------------------------|----------------|------------------|---|-----------------|------|--------------|-------|
| <b>Batch B6C0418 - EPA 245.1/7470_S</b> |                  |                           |                |                  |   |                 |      |              |       |
| <b>Blank (B6C0418-BLK1)</b>             |                  |                           |                |                  | Prepared: 3/16/2016 Analyzed: 3/17/2016 |                 |      |              |       |
| Mercury                                 | ND               | 0.20                      |                |                  |   |                 |      |              | NR    |
| <b>LCS (B6C0418-BS1)</b>                |                  |                           |                |                  | Prepared: 3/16/2016 Analyzed: 3/17/2016 |                 |      |              |       |
| Mercury                                 | 10.2521          | 0.20                      | 10.0000        |                  | 103                                     | 80 - 120        |      |              |       |
| <b>Duplicate (B6C0418-DUP1)</b>         |                  |                           |                |                  | Prepared: 3/16/2016 Analyzed: 3/17/2016 |                 |      |              |       |
|   |                  | <b>Source: 1600174-12</b> |                |                  |   |                 |      |              |       |
| Mercury                                 | ND               | 1.0                       |                | ND               |   |                 |      |              | 20    |
| <b>Matrix Spike (B6C0418-MS1)</b>       |                  |                           |                |                  | Prepared: 3/16/2016 Analyzed: 3/17/2016 |                 |      |              |       |
|   |                  | <b>Source: 1600174-12</b> |                |                  |   |                 |      |              |       |
| Mercury                                 | 48.4260          | 1.0                       | 50.0000        | ND               | 96.9                                    | 70 - 130        |      |              |       |
| <b>Matrix Spike Dup (B6C0418-MSD1)</b>  |                  |                           |                |                  | Prepared: 3/16/2016 Analyzed: 3/17/2016 |                 |      |              |       |
|   |                  | <b>Source: 1600174-12</b> |                |                  |   |                 |      |              |       |
| Mercury                                 | 45.6333          | 1.0                       | 50.0000        | ND               | 91.3                                    | 70 - 130        | 5.94 |              | 20    |
| <b>Post Spike (B6C0418-PS1)</b>         |                  |                           |                |                  | Prepared: 3/16/2016 Analyzed: 3/17/2016 |                 |      |              |       |
|   |                  | <b>Source: 1600174-12</b> |                |                  |   |                 |      |              |       |
| Mercury                                 | 5.23728          |                           | 5.00000        | ND               | 105                                     | 85 - 115        |      |              |       |



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 03/18/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

## Diane Galvan

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Friday, March 11, 2016 12:23 PM  
**To:** Diane Galvan  
**Subject:** Lab Order 1600174 (82/92)

Hi Diane,

Could you please run WET mercury on sample B20-2 from this lab order on a regular TAT?

Thanks,  
Luann



Luann Beadle | *Project Scientist*

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P | 925.371.5900 ext. 403 M | 925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [LinkedIn](#)

*Bay Area - Sacramento - Fairfield - Los Angeles - Orange County - Riverside County - Palm Desert - San Diego*

Geotechnical Engineering

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Brownfields/Redevelopment

Construction Inspection

Natural Resources

March 28, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600174  
Client Reference : SR-92 / SR-82 1C, E8721-02-36

Enclosed are the results for sample(s) received on January 09, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 03/28/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B32-0     | 1600174-16    | Soil   | 1/08/16 10:48 | 1/09/16 10:00 |
| B40-0     | 1600174-40    | Soil   | 1/08/16 12:05 | 1/09/16 10:00 |
| B55-0     | 1600174-82    | Soil   | 1/08/16 12:55 | 1/09/16 10:00 |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/28/2016

### STLC DI Metals by ICP-AES by EPA 6010B

Analyte: Lead

Analyst: RR

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600174-16    | B32-0            | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:15     |       |
| 1600174-40    | B40-0            | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:17     |       |
| 1600174-82    | B55-0            | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:20     |       |

### pH by EPA 9045C

Analyte: pH

Analyst: LA

| Laboratory ID | Client Sample ID | Result | Units    | PQL  | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|----------|------|----------|---------|------------|--------------------|-------|
| 1600174-16    | B32-0            | 7.5    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16 14:28     |       |
| 1600174-40    | B40-0            | 7.7    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16 14:28     |       |
| 1600174-82    | B55-0            | 8.2    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16 14:28     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 03/28/2016

### QUALITY CONTROL SECTION

#### STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                     | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|---|------------------|---------------|----------------|------------------|---|-----------------|-------|--------------|-------|
| <b>Batch B6C0705 - STLC DI_S Extraction</b> |                  |               |                |                  |   |                 |       |              |       |
| <b>Blank (B6C0705-BLK1)</b>                 |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | ND               | 1.0           |                |                  |   |                 |       |              | NR    |
| <b>Blank (B6C0705-BLK2)</b>                 |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | ND               | 1.0           |                |                  |   |                 |       |              | NR    |
| <b>LCS (B6C0705-BS1)</b>                    |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 1.96188          |               | 2.00000        |                  | 98.1                                    | 80 - 120        |       |              |       |
| <b>Duplicate (B6C0705-DUP1)</b>             |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 0.187297         |               | 1.0            | 0.195913         | NR                                      |                 | 4.50  | 20           |       |
| <b>Duplicate (B6C0705-DUP2)</b>             |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 0.230340         |               | 1.0            | 0.235612         | NR                                      |                 | 2.26  | 20           |       |
| <b>Matrix Spike (B6C0705-MS1)</b>           |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 2.69768          |               | 2.50000        | 0.195913         | 100                                     | 70 - 130        |       |              |       |
| <b>Matrix Spike (B6C0705-MS2)</b>           |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 2.81552          |               | 2.50000        | 0.235612         | 103                                     | 70 - 130        |       |              |       |
| <b>Matrix Spike Dup (B6C0705-MSD1)</b>      |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 2.68080          |               | 2.50000        | 0.195913         | 99.4                                    | 70 - 130        | 0.628 | 20           |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/28/2016

#### pH by EPA 9045C - Quality Control

| Analyte | Result<br>(pH Units) | PQL<br>(pH Units) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|----------------------|-------------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|----------------------|-------------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6C0678 - Prep\_WC1\_S**

**Duplicate (B6C0678-DUP1)**

**Source: 1600328-58**

Prepared: 3/24/2016 Analyzed: 3/24/2016

|    |         |      |  |         |    |  |       |    |  |
|----|---------|------|--|---------|----|--|-------|----|--|
| pH | 6.91000 | 0.10 |  | 6.87000 | NR |  | 0.581 | 20 |  |
|----|---------|------|--|---------|----|--|-------|----|--|



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 03/28/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

**Diane Galvan**

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Wednesday, March 23, 2016 9:29 AM  
**To:** Diane Galvan  
**Subject:** Lab Orders 1600-174, 328 (SR-82/92)

Hi Diane,

Could you please run DI-WET lead and pH on the following samples from these lab orders on a 48-hr (plus extraction) TAT?

- B1-0
- B8-0
- B14-0
- B16-0
- B23-0
- B28-0
- B31-0
- B32-0
- B40-0
- B55-0
- B64-0
- B65-0

Thank you,  
Luann



**Luann Beadle | Project Scientist**  
**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550  
P | 925.371.5900 ext. 403 M | 925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [LinkedIn](#)

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Geotechnical Engineering   Environmental Services   Engineering Geology   Construction Inspection  
Land Development   Transportation   Infrastructure   Institutional   Brownfields/Redevelopment   Natural Resources

January 29, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600328  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on January 22, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 01/29/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B22-0'    | 1600328-01    | Soil   | 1/20/16 15:00 | 1/22/16 9:20  |
| B22-1'    | 1600328-02    | Soil   | 1/20/16 15:01 | 1/22/16 9:20  |
| B22-2'    | 1600328-03    | Soil   | 1/20/16 15:02 | 1/22/16 9:20  |
| B23-0'    | 1600328-04    | Soil   | 1/20/16 15:05 | 1/22/16 9:20  |
| B23-1'    | 1600328-05    | Soil   | 1/20/16 15:06 | 1/22/16 9:20  |
| B23-2'    | 1600328-06    | Soil   | 1/20/16 15:07 | 1/22/16 9:20  |
| B24-0'    | 1600328-07    | Soil   | 1/20/16 15:15 | 1/22/16 9:20  |
| B24-1'    | 1600328-08    | Soil   | 1/20/16 15:16 | 1/22/16 9:20  |
| B24-2'    | 1600328-09    | Soil   | 1/20/16 15:17 | 1/22/16 9:20  |
| B63-0'    | 1600328-10    | Soil   | 1/21/16 7:49  | 1/22/16 9:20  |
| B63-1'    | 1600328-11    | Soil   | 1/21/16 7:50  | 1/22/16 9:20  |
| B63-2'    | 1600328-12    | Soil   | 1/21/16 7:51  | 1/22/16 9:20  |
| B64-0'    | 1600328-13    | Soil   | 1/21/16 7:54  | 1/22/16 9:20  |
| B64-1'    | 1600328-14    | Soil   | 1/21/16 7:55  | 1/22/16 9:20  |
| B64-2'    | 1600328-15    | Soil   | 1/21/16 7:56  | 1/22/16 9:20  |
| B65-0'    | 1600328-16    | Soil   | 1/21/16 8:00  | 1/22/16 9:20  |
| B65-1'    | 1600328-17    | Soil   | 1/21/16 8:01  | 1/22/16 9:20  |
| B65-2'    | 1600328-18    | Soil   | 1/21/16 8:02  | 1/22/16 9:20  |
| B66-0'    | 1600328-19    | Soil   | 1/21/16 8:08  | 1/22/16 9:20  |
| B66-1'    | 1600328-20    | Soil   | 1/21/16 8:09  | 1/22/16 9:20  |
| B66-2'    | 1600328-21    | Soil   | 1/21/16 8:10  | 1/22/16 9:20  |
| B1-0'     | 1600328-22    | Soil   | 1/21/16 8:25  | 1/22/16 9:20  |
| B1-1'     | 1600328-23    | Soil   | 1/21/16 8:26  | 1/22/16 9:20  |
| B1-2'     | 1600328-24    | Soil   | 1/21/16 8:27  | 1/22/16 9:20  |
| B2-0'     | 1600328-25    | Soil   | 1/21/16 8:32  | 1/22/16 9:20  |
| B2-1'     | 1600328-26    | Soil   | 1/21/16 8:33  | 1/22/16 9:20  |
| B2-2'     | 1600328-27    | Soil   | 1/21/16 8:34  | 1/22/16 9:20  |
| B3-0'     | 1600328-28    | Soil   | 1/21/16 8:40  | 1/22/16 9:20  |
| B3-1'     | 1600328-29    | Soil   | 1/21/16 8:41  | 1/22/16 9:20  |
| B3-2'     | 1600328-30    | Soil   | 1/21/16 8:42  | 1/22/16 9:20  |
| B6-0'     | 1600328-31    | Soil   | 1/21/16 8:53  | 1/22/16 9:20  |
| B6-1'     | 1600328-32    | Soil   | 1/21/16 8:54  | 1/22/16 9:20  |
| B6-2'     | 1600328-33    | Soil   | 1/21/16 8:55  | 1/22/16 9:20  |
| B7-0'     | 1600328-34    | Soil   | 1/21/16 8:57  | 1/22/16 9:20  |
| B7-1'     | 1600328-35    | Soil   | 1/21/16 9:03  | 1/22/16 9:20  |
| B7-2'     | 1600328-36    | Soil   | 1/21/16 9:04  | 1/22/16 9:20  |
| B8-0'     | 1600328-37    | Soil   | 1/21/16 9:05  | 1/22/16 9:20  |



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 01/29/2016

|        |            |      |               |              |
|--------|------------|------|---------------|--------------|
| B8-1'  | 1600328-38 | Soil | 1/21/16 9:06  | 1/22/16 9:20 |
| B8-2'  | 1600328-39 | Soil | 1/21/16 9:08  | 1/22/16 9:20 |
| B9-0'  | 1600328-40 | Soil | 1/21/16 9:20  | 1/22/16 9:20 |
| B9-1'  | 1600328-41 | Soil | 1/21/16 9:21  | 1/22/16 9:20 |
| B9-2'  | 1600328-42 | Soil | 1/21/16 9:22  | 1/22/16 9:20 |
| B11-0' | 1600328-43 | Soil | 1/21/16 9:30  | 1/22/16 9:20 |
| B11-1' | 1600328-44 | Soil | 1/21/16 9:31  | 1/22/16 9:20 |
| B11-2' | 1600328-45 | Soil | 1/21/16 9:32  | 1/22/16 9:20 |
| B12-0' | 1600328-46 | Soil | 1/21/16 9:38  | 1/22/16 9:20 |
| B12-1' | 1600328-47 | Soil | 1/21/16 9:39  | 1/22/16 9:20 |
| B12-2' | 1600328-48 | Soil | 1/21/16 9:40  | 1/22/16 9:20 |
| B13-0' | 1600328-49 | Soil | 1/21/16 9:45  | 1/22/16 9:20 |
| B13-1' | 1600328-50 | Soil | 1/21/16 9:46  | 1/22/16 9:20 |
| B13-2' | 1600328-51 | Soil | 1/21/16 9:47  | 1/22/16 9:20 |
| B14-0' | 1600328-52 | Soil | 1/21/16 9:50  | 1/22/16 9:20 |
| B14-1' | 1600328-53 | Soil | 1/21/16 9:51  | 1/22/16 9:20 |
| B14-2' | 1600328-54 | Soil | 1/21/16 9:52  | 1/22/16 9:20 |
| B15-0' | 1600328-55 | Soil | 1/21/16 10:10 | 1/22/16 9:20 |
| B15-1' | 1600328-56 | Soil | 1/21/16 10:11 | 1/22/16 9:20 |
| B15-2' | 1600328-57 | Soil | 1/21/16 10:12 | 1/22/16 9:20 |
| B16-0' | 1600328-58 | Soil | 1/21/16 10:18 | 1/22/16 9:20 |
| B16-1' | 1600328-59 | Soil | 1/21/16 10:19 | 1/22/16 9:20 |
| B16-2' | 1600328-60 | Soil | 1/21/16 10:20 | 1/22/16 9:20 |
| B26-0' | 1600328-61 | Soil | 1/21/16 10:35 | 1/22/16 9:20 |
| B26-1' | 1600328-62 | Soil | 1/21/16 10:36 | 1/22/16 9:20 |
| B26-2' | 1600328-63 | Soil | 1/21/16 10:37 | 1/22/16 9:20 |
| B27-0' | 1600328-64 | Soil | 1/21/16 10:42 | 1/22/16 9:20 |
| B27-1' | 1600328-65 | Soil | 1/21/16 10:43 | 1/22/16 9:20 |
| B27-2' | 1600328-66 | Soil | 1/21/16 10:44 | 1/22/16 9:20 |
| B28-0' | 1600328-67 | Soil | 1/21/16 11:05 | 1/22/16 9:20 |
| B28-1' | 1600328-68 | Soil | 1/21/16 11:06 | 1/22/16 9:20 |
| B28-2' | 1600328-69 | Soil | 1/21/16 11:07 | 1/22/16 9:20 |
| B29-0' | 1600328-70 | Soil | 1/21/16 11:12 | 1/22/16 9:20 |
| B29-1' | 1600328-71 | Soil | 1/21/16 11:13 | 1/22/16 9:20 |
| B29-2' | 1600328-72 | Soil | 1/21/16 11:14 | 1/22/16 9:20 |
| B30-0' | 1600328-73 | Soil | 1/21/16 11:38 | 1/22/16 9:20 |
| B30-1' | 1600328-74 | Soil | 1/21/16 11:39 | 1/22/16 9:20 |
| B30-2' | 1600328-75 | Soil | 1/21/16 11:40 | 1/22/16 9:20 |
| B31-0' | 1600328-76 | Soil | 1/21/16 11:50 | 1/22/16 9:20 |
| B31-1' | 1600328-77 | Soil | 1/21/16 11:51 | 1/22/16 9:20 |
| B31-2' | 1600328-78 | Soil | 1/21/16 11:52 | 1/22/16 9:20 |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B22-0'**

**Lab ID: 1600328-01**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 170               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:14        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B22-1'**

**Lab ID: 1600328-02**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 98                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:16        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B22-2'**

**Lab ID: 1600328-03**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 66                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:18        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B23-0'**

**Lab ID: 1600328-04**

## Lead by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 200               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:20        |       |

## Diesel Range Organics by EPA 8015B

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>20</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:27        |       |
| <b>ORO</b>                    | <b>42</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:27        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | 01/25/16 21:27        | S4    |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B23-1'**

**Lab ID: 1600328-05**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Arsenic</b>  | <b>4.0</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Barium</b>   | <b>140</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Chromium</b> | <b>28</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Cobalt</b>   | <b>12</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Copper</b>   | <b>16</b>         | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Lead</b>     | <b>34</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Nickel</b>   | <b>37</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Thallium</b> | <b>4.4</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Vanadium</b> | <b>31</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Zinc</b>     | <b>45</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:24        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B23-2'**

**Lab ID: 1600328-06**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>29</b>         | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:22        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>38</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 22:16        |       |
| <b>ORO</b>                    | <b>120</b>        | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 22:16        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | 01/25/16 22:16        | S4    |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B24-0'**

**Lab ID: 1600328-07**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 160               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:23        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B24-1'**

**Lab ID: 1600328-08**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 23                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:25        |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B24-2'**

**Lab ID: 1600328-09**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 25                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:31        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B63-0'**

**Lab ID: 1600328-10**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 420               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:33        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B63-1'**

**Lab ID: 1600328-11**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 18:25        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B63-2'**

**Lab ID: 1600328-12**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 36                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:40        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B64-0'**

**Lab ID: 1600328-13**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>700</b>        | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:42        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>18</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:46        |       |
| <b>ORO</b>                    | <b>44</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:46        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | <i>01/25/16 21:46</i> | S4    |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B64-1'**

**Lab ID: 1600328-14**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.4               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:43        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B64-2'**

**Lab ID: 1600328-15**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 14                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:45        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>1.3</b>        | 1.0            | 1        | B6A0645 | 01/25/2016 | 01/25/16 20:29        |       |
| ORO                           | ND                | 1.0            | 1        | B6A0645 | 01/25/2016 | 01/25/16 20:29        |       |
| <i>Surrogate: p-Terphenyl</i> | 83.8 %            | 26 - 123       |          | B6A0645 | 01/25/2016 | 01/25/16 20:29        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B65-0'**

**Lab ID: 1600328-16**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 940               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:47        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B65-1'**

**Lab ID: 1600328-17**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 15:08        |       |
| <b>Arsenic</b>  | <b>4.1</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 15:08        |       |
| <b>Barium</b>   | <b>140</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Chromium</b> | <b>24</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Cobalt</b>   | <b>8.5</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Copper</b>   | <b>15</b>         | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Lead</b>     | <b>9.3</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Nickel</b>   | <b>28</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Thallium</b> | <b>2.6</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Vanadium</b> | <b>33</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Zinc</b>     | <b>98</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:34        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B65-2'**

**Lab ID: 1600328-18**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 22                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:53        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B66-0'**

**Lab ID: 1600328-19**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 630               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:54        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B66-1'**

**Lab ID: 1600328-20**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:56        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B66-2'**

**Lab ID: 1600328-21**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.9               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:58        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B1-0'**  
**Lab ID: 1600328-22**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony   | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Arsenic    | 5.1               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Barium     | 130               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Beryllium  | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Cadmium    | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Chromium   | 44                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Cobalt     | 8.6               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Copper     | 41                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Lead       | 420               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Molybdenum | 1.1               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Nickel     | 63                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Selenium   | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Silver     | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Thallium   | 2.7               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Vanadium   | 28                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Zinc       | 150               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:36        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B1-1'**

**Lab ID: 1600328-23**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 3.9               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:59        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B1-2'**

**Lab ID: 1600328-24**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.3               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:19        |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B2-0'**

**Lab ID: 1600328-25**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 28                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:26        |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B2-1'**

**Lab ID: 1600328-26**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.5               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:28        |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B2-2'**

**Lab ID: 1600328-27**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:30        |       |



### Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B3-0'**  
**Lab ID: 1600328-28**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>110</b>        | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:31        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes     |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-----------|
| <b>DRO</b>                    | <b>16</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:56        |           |
| <b>ORO</b>                    | <b>43</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:56        |           |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | <i>01/25/16 21:56</i> | <i>S4</i> |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B3-1'**

**Lab ID: 1600328-29**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:33        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B3-2'**  
**Lab ID: 1600328-30**

### Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Arsenic</b>  | <b>4.1</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Barium</b>   | <b>170</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Chromium</b> | <b>26</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Cobalt</b>   | <b>8.1</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Copper</b>   | <b>17</b>         | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Lead</b>     | <b>16</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Nickel</b>   | <b>30</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Thallium</b> | <b>3.0</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Vanadium</b> | <b>35</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Zinc</b>     | <b>39</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |

### Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:38        |       |

### Diesel Range Organics by EPA 8015B

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>4.0</b>        | 1.0             | 1        | B6A0645 | 01/25/2016 | 01/25/16 20:38        |       |
| <b>ORO</b>                    | <b>7.8</b>        | 1.0             | 1        | B6A0645 | 01/25/2016 | 01/25/16 20:38        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>78.2 %</i>     | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | <i>01/25/16 20:38</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B6-0'**

**Lab ID: 1600328-31**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 200               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:35        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B6-1'**

**Lab ID: 1600328-32**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 5.6               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:36        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B6-2'**

**Lab ID: 1600328-33**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.8               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:43        |       |



## Certificate of Analysis

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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B7-0'**

**Lab ID: 1600328-34**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 140               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:44        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B7-1'**

**Lab ID: 1600328-35**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 18                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:49        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B7-2'**

**Lab ID: 1600328-36**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 25                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:51        |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B8-0'**

**Lab ID: 1600328-37**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 150               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:53        |       |



# Certificate of Analysis

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 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

**Client Sample ID B8-1'**  
**Lab ID: 1600328-38**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Arsenic</b>  | <b>4.2</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Barium</b>   | <b>130</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Chromium</b> | <b>130</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Cobalt</b>   | <b>17</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Copper</b>   | <b>27</b>         | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Lead</b>     | <b>6.8</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Nickel</b>   | <b>170</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Vanadium</b> | <b>49</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Zinc</b>     | <b>41</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:44        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B8-2'**

**Lab ID: 1600328-39**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.5               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:55        |       |



### Certificate of Analysis

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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B9-0'**  
**Lab ID: 1600328-40**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 78                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:56        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>28</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:36        |       |
| <b>ORO</b>                    | <b>61</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:36        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | <i>01/25/16 21:36</i> | S4    |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B9-1'**

**Lab ID: 1600328-41**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 47                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:58        |       |



### Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B9-2'**

**Lab ID: 1600328-42**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>12</b>         | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 16:04        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>6.6</b>        | 1.0             | 1        | B6A0645 | 01/25/2016 | 01/25/16 21:17        |       |
| <b>ORO</b>                    | <b>14</b>         | 1.0             | 1        | B6A0645 | 01/25/2016 | 01/25/16 21:17        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>79.1 %</i>     | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | <i>01/25/16 21:17</i> |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B11-0'**

**Lab ID: 1600328-43**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 160               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 16:05        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B11-1'**

**Lab ID: 1600328-44**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 32                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 16:07        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B11-2'**

**Lab ID: 1600328-45**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.8               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 16:09        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

**Client Sample ID B12-0'**

**Lab ID: 1600328-46**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>61</b>         | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:26        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>72</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 22:06        |       |
| <b>ORO</b>                    | <b>150</b>        | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 22:06        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | 01/25/16 22:06        | S4    |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B12-1'**

**Lab ID: 1600328-47**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.5               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:28        |       |



### Certificate of Analysis

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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B12-2'**

**Lab ID: 1600328-48**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.0               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:30        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| DRO                           | ND                | 1.0            | 1        | B6A0645 | 01/25/2016 | 01/25/16 20:10        |       |
| ORO                           | ND                | 1.0            | 1        | B6A0645 | 01/25/2016 | 01/25/16 20:10        |       |
| <i>Surrogate: p-Terphenyl</i> | 76.2 %            | 26 - 123       |          | B6A0645 | 01/25/2016 | 01/25/16 20:10        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B13-0'**

**Lab ID: 1600328-49**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 150               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:32        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B13-1'**

**Lab ID: 1600328-50**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 5.6               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:33        |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B13-2'**

**Lab ID: 1600328-51**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 2.6               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:35        |       |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B14-0'**

**Lab ID: 1600328-52**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>610</b>        | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:38        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>160</b>        | 20              | 10       | B6A0674 | 01/26/2016 | 01/26/16 13:42        |       |
| <b>ORO</b>                    | <b>610</b>        | 20              | 10       | B6A0674 | 01/26/2016 | 01/26/16 13:42        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0674 | 01/26/2016 | <i>01/26/16 13:42</i> | S4    |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B14-1'**

**Lab ID: 1600328-53**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:39        |       |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B14-2'**

**Lab ID: 1600328-54**

### Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony   | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Arsenic    | 2.5               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 15:10        |       |
| Barium     | 73                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Beryllium  | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Cadmium    | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Chromium   | 240               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Cobalt     | 25                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Copper     | 34                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Lead       | 22                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Molybdenum | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Nickel     | 340               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Selenium   | 1.0               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Silver     | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Thallium   | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Vanadium   | 58                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Zinc       | 58                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |

### Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:46        |       |

### Diesel Range Organics by EPA 8015B

**Analyst: CR**

| Analyte                        | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--------------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| DRO                            | 5.0               | 1.0            | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:31        |       |
| ORO                            | 11                | 1.0            | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:31        |       |
| Surrogate: <i>p</i> -Terphenyl | 72.0 %            | 26 - 123       |          | B6A0674 | 01/26/2016 | 01/26/16 12:31        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B15-0'**

**Lab ID: 1600328-55**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Arsenic</b>  | <b>2.4</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Barium</b>   | <b>180</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Chromium</b> | <b>11</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Cobalt</b>   | <b>4.8</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Copper</b>   | <b>9.7</b>        | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Lead</b>     | <b>77</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Nickel</b>   | <b>14</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Vanadium</b> | <b>30</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Zinc</b>     | <b>140</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:48        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B15-1'**

**Lab ID: 1600328-56**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 10                | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:41        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B15-2'**

**Lab ID: 1600328-57**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 4.5               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:43        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B16-0'**

**Lab ID: 1600328-58**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 160               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:53        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>27</b>         | 2.0            | 2        | B6A0674 | 01/26/2016 | 01/26/16 13:12        |       |
| <b>ORO</b>                    | <b>91</b>         | 2.0            | 2        | B6A0674 | 01/26/2016 | 01/26/16 13:12        |       |
| <i>Surrogate: p-Terphenyl</i> | 65.9 %            | 26 - 123       |          | B6A0674 | 01/26/2016 | 01/26/16 13:12        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B16-1'**

**Lab ID: 1600328-59**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 4.9               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/28/16 09:17        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B16-2'**

**Lab ID: 1600328-60**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 4.7               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:57        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>1.5</b>        | 1.0            | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:01        |       |
| <b>ORO</b>                    | <b>1.4</b>        | 1.0            | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:01        |       |
| <i>Surrogate: p-Terphenyl</i> | 89.4 %            | 26 - 123       |          | B6A0674 | 01/26/2016 | 01/26/16 12:01        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B26-0'**

**Lab ID: 1600328-61**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>19</b>         | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:59        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes     |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-----------|
| <b>DRO</b>                    | <b>240</b>        | 10              | 10       | B6A0674 | 01/26/2016 | 01/26/16 13:52        |           |
| <b>ORO</b>                    | <b>690</b>        | 10              | 10       | B6A0674 | 01/26/2016 | 01/26/16 13:52        |           |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0674 | 01/26/2016 | <i>01/26/16 13:52</i> | <i>S4</i> |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B26-1'**

**Lab ID: 1600328-62**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 3.3               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 17:01        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B26-2'**

**Lab ID: 1600328-63**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 5.6               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 17:03        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>1.4</b>        | 1.0             | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:11        |       |
| <b>ORO</b>                    | <b>1.4</b>        | 1.0             | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:11        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>74.6 %</i>     | <i>26 - 123</i> |          | B6A0674 | 01/26/2016 | <i>01/26/16 12:11</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B27-0'**

**Lab ID: 1600328-64**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 1400              | 2.0            | 2        | B6A0710 | 01/27/2016 | 01/28/16 09:20        | D6    |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B27-1'**

**Lab ID: 1600328-65**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 17:06        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B27-2'**

**Lab ID: 1600328-66**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Arsenic</b>  | <b>5.5</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Barium</b>   | <b>120</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Chromium</b> | <b>63</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Cobalt</b>   | <b>13</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Copper</b>   | <b>33</b>         | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Lead</b>     | <b>24</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Nickel</b>   | <b>86</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 15:12        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Vanadium</b> | <b>45</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Zinc</b>     | <b>62</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | <b>0.14</b>       | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:50        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B28-0'**

**Lab ID: 1600328-67**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 720               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 17:12        |       |



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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B28-1'**

**Lab ID: 1600328-68**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 190               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 17:14        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B28-2'**

**Lab ID: 1600328-69**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 87                | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:28        |       |



### Certificate of Analysis

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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B29-0'**

**Lab ID: 1600328-70**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>110</b>        | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:29        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>3.2</b>        | 1.0             | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:51        |       |
| <b>ORO</b>                    | <b>7.4</b>        | 1.0             | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:51        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>72.0 %</i>     | <i>26 - 123</i> |          | B6A0674 | 01/26/2016 | <i>01/26/16 12:51</i> |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B29-1'**

**Lab ID: 1600328-71**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Arsenic</b>  | <b>4.3</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Barium</b>   | <b>120</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Chromium</b> | <b>130</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Cobalt</b>   | <b>20</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Copper</b>   | <b>38</b>         | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Lead</b>     | <b>13</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Nickel</b>   | <b>200</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Selenium</b> | <b>1.1</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Vanadium</b> | <b>48</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Zinc</b>     | <b>40</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:53        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B29-2'**

**Lab ID: 1600328-72**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.1               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:35        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>6.0</b>        | 1.0            | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:21        |       |
| <b>ORO</b>                    | <b>4.6</b>        | 1.0            | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:21        |       |
| <i>Surrogate: p-Terphenyl</i> | 78.8 %            | 26 - 123       |          | B6A0674 | 01/26/2016 | 01/26/16 12:21        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B30-0'**

**Lab ID: 1600328-73**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 240               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:37        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B30-1'**

**Lab ID: 1600328-74**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.3               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:39        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B30-2'**

**Lab ID: 1600328-75**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.7               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:40        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B31-0'**

**Lab ID: 1600328-76**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 390               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:42        |       |



# Certificate of Analysis

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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B31-1'**

**Lab ID: 1600328-77**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.4               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:44        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B31-2'**

**Lab ID: 1600328-78**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.2               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:45        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

### QUALITY CONTROL SECTION

#### Title 22 Metals by ICP-AES EPA 6010B - Quality Control

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0700 - EPA 3050B\_S**

**Blank (B6A0700-BLK1)**

Prepared: 1/28/2016 Analyzed: 1/28/2016

|            |    |     |  |  |    |  |  |  |
|------------|----|-----|--|--|----|--|--|--|
| Antimony   | ND | 2.0 |  |  | NR |  |  |  |
| Arsenic    | ND | 1.0 |  |  | NR |  |  |  |
| Barium     | ND | 1.0 |  |  | NR |  |  |  |
| Beryllium  | ND | 1.0 |  |  | NR |  |  |  |
| Cadmium    | ND | 1.0 |  |  | NR |  |  |  |
| Chromium   | ND | 1.0 |  |  | NR |  |  |  |
| Cobalt     | ND | 1.0 |  |  | NR |  |  |  |
| Copper     | ND | 2.0 |  |  | NR |  |  |  |
| Lead       | ND | 1.0 |  |  | NR |  |  |  |
| Molybdenum | ND | 1.0 |  |  | NR |  |  |  |
| Nickel     | ND | 1.0 |  |  | NR |  |  |  |
| Selenium   | ND | 1.0 |  |  | NR |  |  |  |
| Silver     | ND | 1.0 |  |  | NR |  |  |  |
| Thallium   | ND | 1.0 |  |  | NR |  |  |  |
| Vanadium   | ND | 1.0 |  |  | NR |  |  |  |
| Zinc       | ND | 1.0 |  |  | NR |  |  |  |

**LCS (B6A0700-BS1)**

Prepared: 1/28/2016 Analyzed: 1/28/2016

|            |         |     |         |  |      |          |  |  |
|------------|---------|-----|---------|--|------|----------|--|--|
| Antimony   | 52.0394 | 2.0 | 50.0000 |  | 104  | 80 - 120 |  |  |
| Arsenic    | 50.3382 | 1.0 | 50.0000 |  | 101  | 80 - 120 |  |  |
| Barium     | 54.6240 | 1.0 | 50.0000 |  | 109  | 80 - 120 |  |  |
| Beryllium  | 49.8568 | 1.0 | 50.0000 |  | 99.7 | 80 - 120 |  |  |
| Cadmium    | 51.2043 | 1.0 | 50.0000 |  | 102  | 80 - 120 |  |  |
| Chromium   | 54.5842 | 1.0 | 50.0000 |  | 109  | 80 - 120 |  |  |
| Cobalt     | 53.1658 | 1.0 | 50.0000 |  | 106  | 80 - 120 |  |  |
| Copper     | 50.6823 | 2.0 | 50.0000 |  | 101  | 80 - 120 |  |  |
| Lead       | 52.0709 | 1.0 | 50.0000 |  | 104  | 80 - 120 |  |  |
| Molybdenum | 50.9246 | 1.0 | 50.0000 |  | 102  | 80 - 120 |  |  |
| Nickel     | 51.3110 | 1.0 | 50.0000 |  | 103  | 80 - 120 |  |  |
| Selenium   | 46.2295 | 1.0 | 50.0000 |  | 92.5 | 80 - 120 |  |  |
| Silver     | 50.4886 | 1.0 | 50.0000 |  | 101  | 80 - 120 |  |  |
| Thallium   | 54.3756 | 1.0 | 50.0000 |  | 109  | 80 - 120 |  |  |
| Vanadium   | 54.8096 | 1.0 | 50.0000 |  | 110  | 80 - 120 |  |  |
| Zinc       | 49.4203 | 1.0 | 50.0000 |  | 98.8 | 80 - 120 |  |  |

**Duplicate (B6A0700-DUP1)**

Source: 1600328-05

Prepared: 1/28/2016 Analyzed: 1/28/2016

|           |          |     |  |          |    |  |      |    |
|-----------|----------|-----|--|----------|----|--|------|----|
| Antimony  | 0.477374 | 2.0 |  | 0.431806 | NR |  | 10.0 | 20 |
| Arsenic   | 3.79866  | 1.0 |  | 4.03576  | NR |  | 6.05 | 20 |
| Barium    | 127.950  | 1.0 |  | 140.018  | NR |  | 9.01 | 20 |
| Beryllium | 0.363250 | 1.0 |  | 0.406943 | NR |  | 11.3 | 20 |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 01/29/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0700 - EPA 3050B\_S (continued)**

**Duplicate (B6A0700-DUP1) - Continued**

**Source: 1600328-05**

Prepared: 1/28/2016 Analyzed: 1/28/2016

|            |          |     |  |          |    |  |      |    |   |
|------------|----------|-----|--|----------|----|--|------|----|---|
| Cadmium    | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Chromium   | 31.7662  | 1.0 |  | 27.8511  | NR |  | 13.1 | 20 |   |
| Cobalt     | 7.07919  | 1.0 |  | 12.3084  | NR |  | 53.9 | 20 | R |
| Copper     | 16.8758  | 2.0 |  | 15.7432  | NR |  | 6.94 | 20 |   |
| Lead       | 56.7332  | 1.0 |  | 33.5900  | NR |  | 51.2 | 20 | R |
| Molybdenum | 0.201055 | 1.0 |  | 0.296873 | NR |  | 38.5 | 20 | R |
| Nickel     | 35.7353  | 1.0 |  | 36.8797  | NR |  | 3.15 | 20 |   |
| Selenium   | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Silver     | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Thallium   | 2.51080  | 1.0 |  | 4.37419  | NR |  | 54.1 | 20 |   |
| Vanadium   | 33.3068  | 1.0 |  | 31.1010  | NR |  | 6.85 | 20 |   |
| Zinc       | 56.8986  | 1.0 |  | 45.4013  | NR |  | 22.5 | 20 | R |

**Matrix Spike (B6A0700-MS1)**

**Source: 1600328-05**

Prepared: 1/28/2016 Analyzed: 1/28/2016

|            |         |     |         |          |      |          |  |  |  |
|------------|---------|-----|---------|----------|------|----------|--|--|--|
| Antimony   | 98.1929 | 2.0 | 125.000 | 0.431806 | 78.2 | 28 - 106 |  |  |  |
| Arsenic    | 106.249 | 1.0 | 125.000 | 4.03576  | 81.8 | 57 - 109 |  |  |  |
| Barium     | 209.828 | 1.0 | 125.000 | 140.018  | 55.8 | 18 - 159 |  |  |  |
| Beryllium  | 105.472 | 1.0 | 125.000 | 0.406943 | 84.1 | 61 - 107 |  |  |  |
| Cadmium    | 98.4366 | 1.0 | 125.000 | ND       | 78.7 | 53 - 104 |  |  |  |
| Chromium   | 130.676 | 1.0 | 125.000 | 27.8511  | 82.3 | 53 - 121 |  |  |  |
| Cobalt     | 106.949 | 1.0 | 125.000 | 12.3084  | 75.7 | 55 - 109 |  |  |  |
| Copper     | 123.336 | 2.0 | 125.000 | 15.7432  | 86.1 | 58 - 124 |  |  |  |
| Lead       | 125.186 | 1.0 | 125.000 | 33.5900  | 73.3 | 35 - 129 |  |  |  |
| Molybdenum | 101.222 | 1.0 | 125.000 | 0.296873 | 80.7 | 57 - 108 |  |  |  |
| Nickel     | 126.152 | 1.0 | 125.000 | 36.8797  | 71.4 | 44 - 122 |  |  |  |
| Selenium   | 97.4664 | 1.0 | 125.000 | ND       | 78.0 | 54 - 104 |  |  |  |
| Silver     | 108.483 | 1.0 | 125.000 | ND       | 86.8 | 60 - 112 |  |  |  |
| Thallium   | 105.054 | 1.0 | 125.000 | 4.37419  | 80.5 | 50 - 103 |  |  |  |
| Vanadium   | 134.446 | 1.0 | 125.000 | 31.1010  | 82.7 | 54 - 123 |  |  |  |
| Zinc       | 134.953 | 1.0 | 125.000 | 45.4013  | 71.6 | 29 - 132 |  |  |  |

**Matrix Spike Dup (B6A0700-MSD1)**

**Source: 1600328-05**

Prepared: 1/28/2016 Analyzed: 1/28/2016

|            |         |     |         |          |      |          |      |    |  |
|------------|---------|-----|---------|----------|------|----------|------|----|--|
| Antimony   | 95.9526 | 2.0 | 125.000 | 0.431806 | 76.4 | 28 - 106 | 2.31 | 20 |  |
| Arsenic    | 103.659 | 1.0 | 125.000 | 4.03576  | 79.7 | 57 - 109 | 2.47 | 20 |  |
| Barium     | 225.114 | 1.0 | 125.000 | 140.018  | 68.1 | 18 - 159 | 7.03 | 20 |  |
| Beryllium  | 102.787 | 1.0 | 125.000 | 0.406943 | 81.9 | 61 - 107 | 2.58 | 20 |  |
| Cadmium    | 95.7122 | 1.0 | 125.000 | ND       | 76.6 | 53 - 104 | 2.81 | 20 |  |
| Chromium   | 136.638 | 1.0 | 125.000 | 27.8511  | 87.0 | 53 - 121 | 4.46 | 20 |  |
| Cobalt     | 104.863 | 1.0 | 125.000 | 12.3084  | 74.0 | 55 - 109 | 1.97 | 20 |  |
| Copper     | 125.434 | 2.0 | 125.000 | 15.7432  | 87.8 | 58 - 124 | 1.69 | 20 |  |
| Lead       | 142.203 | 1.0 | 125.000 | 33.5900  | 86.9 | 35 - 129 | 12.7 | 20 |  |
| Molybdenum | 97.7970 | 1.0 | 125.000 | 0.296873 | 78.0 | 57 - 108 | 3.44 | 20 |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0700 - EPA 3050B\_S (continued)**

**Matrix Spike Dup (B6A0700-MSD1) - Continued**

**Source: 1600328-05**

Prepared: 1/28/2016 Analyzed: 1/28/2016

|          |         |     |         |         |      |          |       |    |  |
|----------|---------|-----|---------|---------|------|----------|-------|----|--|
| Nickel   | 132.021 | 1.0 | 125.000 | 36.8797 | 76.1 | 44 - 122 | 4.55  | 20 |  |
| Selenium | 93.7210 | 1.0 | 125.000 | ND      | 75.0 | 54 - 104 | 3.92  | 20 |  |
| Silver   | 107.728 | 1.0 | 125.000 | ND      | 86.2 | 60 - 112 | 0.698 | 20 |  |
| Thallium | 102.561 | 1.0 | 125.000 | 4.37419 | 78.5 | 50 - 103 | 2.40  | 20 |  |
| Vanadium | 138.046 | 1.0 | 125.000 | 31.1010 | 85.6 | 54 - 123 | 2.64  | 20 |  |
| Zinc     | 138.954 | 1.0 | 125.000 | 45.4013 | 74.8 | 29 - 132 | 2.92  | 20 |  |



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### Lead by ICP-AES EPA 6010B - Quality Control

| Analyte                                    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0708 - EPA 3050 Modified_S</b> |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0708-BLK1)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>Blank (B6A0708-BLK2)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0708-BS1)</b>                   |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | 50.2568           | 1.0            | 50.0000        |  | 101   | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0708-DUP1)</b>            |                   |                |                | Source: 1600328-23 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 3.72734           | 1.0            |                | 3.89521  | NR    |                 | 4.40 | 20           |       |
| <b>Duplicate (B6A0708-DUP2)</b>            |                   |                |                | Source: 1600328-11 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 15.5396           | 1.0            |                | 11.6773  | NR    |                 | 28.4 | 20           | R     |
| <b>Matrix Spike (B6A0708-MS1)</b>          |                   |                |                | Source: 1600328-23 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 187.770           | 1.0            | 250.000        | 3.89521  | 73.5  | 35 - 129        |      |              |       |
| <b>Matrix Spike (B6A0708-MS2)</b>          |                   |                |                | Source: 1600328-11 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 204.949           | 1.0            | 250.000        | 11.6773  | 77.3  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0708-MSD1)</b>     |                   |                |                | Source: 1600328-23 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 192.224           | 1.0            | 250.000        | 3.89521  | 75.3  | 35 - 129        | 2.34 | 20           |       |



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 Reported : 01/29/2016

### Lead by ICP-AES EPA 6010B - Quality Control

| Analyte                                    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0709 - EPA 3050 Modified_S</b> |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0709-BLK1)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>Blank (B6A0709-BLK2)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0709-BS1)</b>                   |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | 52.2105           | 1.0            | 50.0000        |  | 104   | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0709-DUP1)</b>            |                   |                |                | Source: 1600328-45 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 9.02446           | 1.0            |                | 9.84905  | NR    |                 | 8.74 | 20           |       |
| <b>Duplicate (B6A0709-DUP2)</b>            |                   |                |                | Source: 1600328-34 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 128.326           | 1.0            |                | 142.996  | NR    |                 | 10.8 | 20           |       |
| <b>Matrix Spike (B6A0709-MS1)</b>          |                   |                |                | Source: 1600328-45 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 199.344           | 1.0            | 250.000        | 9.84905  | 75.8  | 35 - 129        |      |              |       |
| <b>Matrix Spike (B6A0709-MS2)</b>          |                   |                |                | Source: 1600328-34 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 318.353           | 1.0            | 250.000        | 142.996  | 70.1  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0709-MSD1)</b>     |                   |                |                | Source: 1600328-45 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 188.896           | 1.0            | 250.000        | 9.84905  | 71.6  | 35 - 129        | 5.38 | 20           |       |



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Reported : 01/29/2016

### Lead by ICP-AES EPA 6010B - Quality Control

| Analyte                                    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0710 - EPA 3050 Modified_S</b> |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0710-BLK1)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/28/2016                    |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>Blank (B6A0710-BLK2)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0710-BS1)</b>                   |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | 51.4550           | 1.0            | 50.0000        |  | 103   | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0710-DUP1)</b>            |                   |                |                | Source: 1600328-68 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 73.3604           | 1.0            |                | 193.606  | NR    |                 | 90.1 | 20           | R     |
| <b>Duplicate (B6A0710-DUP2)</b>            |                   |                |                | Source: 1600328-57 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 3.37077           | 1.0            |                | 4.46646  | NR    |                 | 28.0 | 20           | R     |
| <b>Matrix Spike (B6A0710-MS1)</b>          |                   |                |                | Source: 1600328-68 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 246.617           | 1.0            | 250.000        | 193.606  | 21.2  | 35 - 129        |      |              | M1    |
| <b>Matrix Spike (B6A0710-MS2)</b>          |                   |                |                | Source: 1600328-57 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 160.784           | 1.0            | 250.000        | 4.46646  | 62.5  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0710-MSD1)</b>     |                   |                |                | Source: 1600328-68 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 211.600           | 1.0            | 250.000        | 193.606  | 7.20  | 35 - 129        | 15.3 | 20           | M1    |



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 Reported : 01/29/2016

### Lead by ICP-AES EPA 6010B - Quality Control

| Analyte                                    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0711 - EPA 3050 Modified_S</b> |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6A0711-BLK1)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/28/2016                           |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>Blank (B6A0711-BLK2)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                           |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6A0711-BS1)</b>                   |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                           |       |                 |      |              |       |
| Lead                                       | 51.0236           | 1.0            | 50.0000        |   | 102   | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0711-DUP1)</b>            |                   |                |                | <b>Source: 1600334-15</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 4.00179           | 1.0            |                | 3.37964   | NR    |                 | 16.9 | 20           |       |
| <b>Duplicate (B6A0711-DUP2)</b>            |                   |                |                | <b>Source: 1600334-02</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 8.46478           | 1.0            |                | 8.01472   | NR    |                 | 5.46 | 20           |       |
| <b>Matrix Spike (B6A0711-MS1)</b>          |                   |                |                | <b>Source: 1600334-15</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 176.158           | 1.0            | 250.000        | 3.37964   | 69.1  | 35 - 129        |      |              |       |
| <b>Matrix Spike (B6A0711-MS2)</b>          |                   |                |                | <b>Source: 1600334-02</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 164.305           | 1.0            | 250.000        | 8.01472   | 62.5  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0711-MSD1)</b>     |                   |                |                | <b>Source: 1600334-15</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 185.459           | 1.0            | 250.000        | 3.37964   | 72.8  | 35 - 129        | 5.14 | 20           |       |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

### Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|-------|--------------|-------|
| <b>Batch B6A0705 - EPA 7471_S</b>      |                   |                |                |  |       |                 |       |              |       |
| <b>Blank (B6A0705-BLK1)</b>            |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |       |              |       |
| Mercury                                | ND                | 0.10           |                |  | NR    |                 |       |              |       |
| <b>LCS (B6A0705-BS1)</b>               |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |       |              |       |
| Mercury                                | 0.845466          | 0.10           | 0.833333       |  | 101   | 80 - 120        |       |              |       |
| <b>Duplicate (B6A0705-DUP1)</b>        |                   |                |                | Source: 1600328-05 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |       |              |       |
| Mercury                                | 0.038782          | 0.10           |                | 0.032938   | NR    |                 | 16.3  | 20           |       |
| <b>Matrix Spike (B6A0705-MS1)</b>      |                   |                |                | Source: 1600328-05 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |       |              |       |
| Mercury                                | 0.932381          | 0.10           | 0.833333       | 0.032938   | 108   | 70 - 130        |       |              |       |
| <b>Matrix Spike Dup (B6A0705-MSD1)</b> |                   |                |                | Source: 1600328-05 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |       |              |       |
| Mercury                                | 0.939131          | 0.10           | 0.847458       | 0.032938   | 107   | 70 - 130        | 0.721 | 20           |       |
| <b>Post Spike (B6A0705-PS1)</b>        |                   |                |                | Source: 1600328-05 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |       |              |       |
| Mercury                                | 0.006522          |                | 5.00000E-3     | 3.953E-4   | 123   | 85 - 115        |       |              | M1    |



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### Diesel Range Organics by EPA 8015B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result          | % Rec<br>% Rec                          | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---------------------------|---|-----------------|------|--------------|-------|
| <b>Batch B6A0645 - GCSEMI_DRO_LL_S</b> |                   |                |                |                           |   |                 |      |              |       |
| <b>Blank (B6A0645-BLK1)</b>            |                   |                |                |                           | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |      |              |       |
| DRO                                    | ND                | 1.0            |                |                           | NR                                      |                 |      |              |       |
| ORO                                    | ND                | 1.0            |                |                           | NR                                      |                 |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.436             |                | 2.80000        |                           | 87.0                                    | 26 - 123        |      |              |       |
| <b>LCS (B6A0645-BS1)</b>               |                   |                |                |                           | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |      |              |       |
| DRO                                    | 29.3657           | 1.0            | 33.3333        |                           | 88.1                                    | 47 - 127        |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.257             |                | 2.80000        |                           | 80.6                                    | 26 - 123        |      |              |       |
| <b>Duplicate (B6A0645-DUP1)</b>        |                   |                |                |                           | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |      |              |       |
|  |                   |                |                | <b>Source: 1600328-30</b> |   |                 |      |              |       |
| DRO                                    | 3.86067           | 1.0            |                | 3.96967                   | NR                                      |                 | 2.78 | 20           |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.284             |                | 2.80000        |                           | 81.6                                    | 26 - 123        |      |              |       |
| <b>Matrix Spike (B6A0645-MS1)</b>      |                   |                |                |                           | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |      |              |       |
|  |                   |                |                | <b>Source: 1600328-06</b> |   |                 |      |              |       |
| DRO                                    | 66.1433           | 10             | 33.3333        | 38.0433                   | 84.3                                    | 16 - 123        |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 0.000             |                | 2.80000        |                           | NR                                      | 26 - 123        |      |              | S4    |
| <b>Matrix Spike Dup (B6A0645-MSD1)</b> |                   |                |                |                           | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |      |              |       |
|  |                   |                |                | <b>Source: 1600328-06</b> |   |                 |      |              |       |
| DRO                                    | 64.0567           | 10             | 33.3333        | 38.0433                   | 78.0                                    | 16 - 123        | 3.21 | 20           |       |
| <i>Surrogate: p-Terphenyl</i>          | 0.000             |                | 2.80000        |                           | NR                                      | 26 - 123        |      |              | S4    |



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### Diesel Range Organics by EPA 8015B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec                          | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|------------------|---|-----------------|------------|--------------|-------|
| <b>Batch B6A0674 - GCSEMI_DRO_LL_S</b> |                   |                |                |                  |   |                 |            |              |       |
| <b>Blank (B6A0674-BLK1)</b>            |                   |                |                |                  | Prepared: 1/26/2016 Analyzed: 1/26/2016 |                 |            |              |       |
| DRO                                    | ND                | 1.0            |                |                  | NR                                      |                 |            |              |       |
| ORO                                    | ND                | 1.0            |                |                  | NR                                      |                 |            |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.354             |                | 2.80000        |                  | 84.1                                    | 26 - 123        |            |              |       |
| <b>LCS (B6A0674-BS1)</b>               |                   |                |                |                  | Prepared: 1/26/2016 Analyzed: 1/26/2016 |                 |            |              |       |
| DRO                                    | 28.4083           | 1.0            | 33.3333        |                  | 85.2                                    | 47 - 127        |            |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.165             |                | 2.80000        |                  | 77.3                                    | 26 - 123        |            |              |       |
| <b>Duplicate (B6A0674-DUP1)</b>        |                   |                |                |                  | Prepared: 1/26/2016 Analyzed: 1/26/2016 |                 |            |              |       |
| DRO                                    | 7.69367           | 1.0            |                | 5.03433          | NR                                      |                 | 41.8       | 20           | R2    |
| <i>Surrogate: p-Terphenyl</i>          | 2.014             |                | 2.80000        |                  | 71.9                                    | 26 - 123        |            |              |       |
| <b>Matrix Spike (B6A0674-MS1)</b>      |                   |                |                |                  | Prepared: 1/26/2016 Analyzed: 1/26/2016 |                 |            |              |       |
| DRO                                    | 84.8180           | 2.0            | 33.3333        | 26.6427          | 175                                     | 16 - 123        |            |              | M2    |
| <i>Surrogate: p-Terphenyl</i>          | 2.324             |                | 2.80000        |                  | 83.0                                    | 26 - 123        |            |              |       |
| <b>Matrix Spike Dup (B6A0674-MSD1)</b> |                   |                |                |                  | Prepared: 1/26/2016 Analyzed: 1/26/2016 |                 |            |              |       |
| DRO                                    | 87.4680           | 2.0            | 33.3333        | 26.6427          | 182                                     | 16 - 123        | 3.08       | 20           | M2    |
| <i>Surrogate: p-Terphenyl</i>          | 2.493             |                | 2.80000        |                  | 89.0                                    | 26 - 123        |            |              |       |



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Reported : 01/29/2016

### Notes and Definitions

|     |   |
|-----|---|
| S4  | Surrogate was diluted out.  |
| R2  | RPD value outside acceptance criteria due to possible matrix interference.  |
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| M2  | Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.                                     |
| M1  | Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.   |
| D6  | Sample required dilution due to high concentration of target analyte.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

# CHAIN OF CUSTODY RECORD



**Advanced Technology  
Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755  
Tel: (562) 989-4045 • Fax: (562) 989-4040

## FOR LABORATORY USE ONLY

Method of Transport: Client  ATL  CA OverN  FedEx  Other: ATL

Sample Condition Upon Receipt:  
 1. CHILLED  Y  N  4. SEALED  Y  N   
 2. HEADSPACE (VOA)  Y  N  5. # OF SPLS MATCH COC  Y  N   
 3. CONTAINER INTACT  Y  N  6. PRESERVED  Y  N

Client: Geocon Address: 6671 Brisa Street City: Livermore State: CA Zip Code: 94550  
 Attention: Rick Day Tel: 916-852-9118 Fax: 916-852-9132

Project Name: SR92/SR82 Interchange Project #: E8721-02-36 Sampler: Cord Dennig

Relinquished by: Cord Dennig Date: 1/21/16 Time: 1500 Received by: [Signature] Date: 1/21/16 Time: 1500

I hereby authorize ATL to perform the work indicated below:  
 Project Mgr /Submitter: [Signature] Date: 1/21/16  
 Send Report To: Attn: \_\_\_\_\_ Co: \_\_\_\_\_ Addr: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Bill To: Attn: \_\_\_\_\_ Co: \_\_\_\_\_ Addr: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Special Instructions/Comments: \_\_\_\_\_

**Sample/Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.  
**Storage Fees (applies when storage is requested):**  
 ■ Sample: \$2.00 / sample /mo (after 45 days)  
 ■ Records: \$1 /ATL workorder /mo (after 1 year)

| ITEM | LAB USE ONLY: |                      | Sample Description |      | SPECIFY APPROPRIATE MATRIX |               |               |            |      |      |       |              |            |       | PRESERVATION | QA/QC  |      |
|------|---------------|----------------------|--------------------|------|----------------------------|---------------|---------------|------------|------|------|-------|--------------|------------|-------|--------------|--------|------|
|      | Lab No.       | Sample ID / Location | Date               | Time | Total Lead                 | CAM 17 Metals | TPH/BTEX/MTBE | TPH/TPH/mo | VOCs | SOIL | WATER | GROUND WATER | WASTEWATER | TAT # |              |        | Type |
|      | 1600324-1     | B22-0'               | 1/20               | 1500 | X                          |               |               |            |      |      |       |              |            | E     | 1            | Screen |      |
|      | -2            | -1'                  |                    | 1501 | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -3            | -2'                  |                    | 1502 | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -4            | B23-0'               |                    | 1505 | X                          |               |               | X          |      |      |       |              |            |       |              |        |      |
|      | -5            | -1'                  |                    | 1506 | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -6            | -2'                  |                    | 1507 | X                          |               |               | X          |      |      |       |              |            |       |              |        |      |
|      | -7            | B24-0'               |                    | 1515 | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -8            | -1'                  |                    | 1516 | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -9            | -2'                  |                    | 1517 | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -10           | B63-0'               | 1/21               | 749  | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -11           | -1'                  |                    | 750  | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -12           | -2'                  |                    | 751  | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -13           | B64-0                |                    | 754  | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -14           | -1'                  |                    | 755  | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -15           | -2'                  |                    | 756  | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -16           | B65-0'               |                    | 800  | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -17           | -1'                  |                    | 801  | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -18           | -2'                  |                    | 802  | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -19           | B66-0'               |                    | 808  | X                          |               |               |            |      |      |       |              |            |       |              |        |      |
|      | -20           | -1'                  |                    | 809  | X                          |               |               |            |      |      |       |              |            |       |              |        |      |

TAT starts 8AM the following day if samples received after 3 PM  
 TAT:  A = Overnight ≤ 24 hrs     B = Emergency Next Workday     C = Critical 2 Workdays     D = Urgent 3 Workdays     E = Routine 7 Workdays  
 Preservatives: H=HCl N=HNO<sub>3</sub> S=H<sub>2</sub>SO<sub>4</sub> C=4°C Z=Zn(AC)<sub>2</sub> O=NaOH T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  
 Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

# CHAIN OF CUSTODY RECORD



**Advanced Technology  
Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755  
Tel: (562) 989-4045 • Fax: (562) 989-4040

## FOR LABORATORY USE ONLY

|               |   |   |
|---------------|---|---|
| P.O. #: _____ | Method of Transport<br>Client <input type="checkbox"/><br>ATL <input type="checkbox"/><br>CA OverN <input type="checkbox"/><br>FedEx <input type="checkbox"/><br>Other: <u>o-trac</u> | Sample Condition Upon Receipt<br>1. CHILLED Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/><br>2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> |
|---------------|---|---|

|                                       |   |  |
|---------------------------------------|---|--|
| Client: Geocon<br>Attention: Rick Day | Address: 6671 Brisa Street<br>City: Livermore State: CA Zip Code: 94550 | Tel: 916-852-9118<br>Fax: 916-852-9132 |
|---------------------------------------|---|--|

|  |                          |  |
|--|--------------------------|--|
| Project Name: SR92/SR82 Interchange                          | Project #: E8721-02-36   | Sampler: Cord Dennig                                 |
| Relinquished by: (Signature and Printed Name)<br>Cord Dennig | Date: 1/21/16 Time: 1500 | Received by: (Signature and Printed Name)<br>O. Trac |
| Relinquished by: (Signature and Printed Name)                | Date: _____ Time: _____  | Received by: (Signature and Printed Name)            |
| Relinquished by: (Signature and Printed Name)                | Date: _____ Time: _____  | Received by: (Signature and Printed Name)            |

|  |   |  |                                |
|--|---|--|--------------------------------|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr./Submitter:<br><u>R. Sullivan</u> 1/16/16<br>Print Name Date<br>Signature | Send Report To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Bill To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Special Instructions/Comments: |
|--|---|--|--------------------------------|

|   |  |  |  |
|---|--|--|--|
| <b>Sample/Records - Archival &amp; Disposal</b><br>Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.<br><b>Storage Fees (applies when storage is requested):</b><br>■ Sample: \$2.00 / sample /mo (after 45 days)<br>■ Records: \$1 /ATL workorder /mo (after 1 year) | Circle or Add Analysis(es) Requested<br>Total Lead<br>CAM 17 Metals<br>TPHg/BTEX/MTBE<br>TPHd/Pheno<br>VOCs<br>SOIL<br>WATER<br>GROUND WATER<br>WASTEWATER | SPECIFY APPROPRIATE MATRIX<br>Container(s)<br>TAT # Type | QA/QC<br>RTNE <input type="checkbox"/><br>CT <input checked="" type="checkbox"/><br>SWRCB Logcode <input type="checkbox"/><br>OTHER _____<br>REMARKS |
|---|--|--|--|

| ITEM | LAB USE ONLY: |                        | Sample Description |      |   |  | Total Lead | CAM 17 Metals | TPHg/BTEX/MTBE | TPHd/Pheno | VOCs | SOIL | WATER | GROUND WATER | WASTEWATER | TAT # | Type | PRESERVATION | REMARKS |
|------|---------------|------------------------|--------------------|------|---|--|------------|---------------|----------------|------------|------|------|-------|--------------|------------|-------|------|--------------|---------|
|      | Lab No.       | Sample ID / Location   | Date               | Time |   |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | 1800324-21    | B66-2'                 | 1/21               | 810  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -22           | B1-0'                  |                    | 825  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -23           | -1'                    |                    | 826  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -24           | -2'                    |                    | 827  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -25           | B2-0'                  |                    | 832  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -26           | -1'                    |                    | 833  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -27           | -2'                    |                    | 834  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -28           | B3-0'                  |                    | 840  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -29           | <del>B3-0'</del> B3-1' |                    | 841  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -30           | B3-2'                  |                    | 842  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -31           | B6-0'                  |                    | 853  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -32           | -1'                    |                    | 854  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -33           | -2'                    |                    | 855  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -34           | B7-0'                  |                    | 857  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -35           | -1'                    |                    | 903  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -36           | -2'                    |                    | 904  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -37           | B8-0'                  |                    | 905  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -38           | -1'                    |                    | 906  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -39           | -2'                    |                    | 908  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |
|      | -40           | B9-0'                  |                    | 920  | X |  |            |               |                |            |      |      |       |              |            |       |      |              |         |

|  |   |   |
|--|---|---|
| ■ TAT starts 8AM the following day if samples received after 3 PM                    | TAT: <input type="checkbox"/> A = Overnight ≤ 24 hrs <input type="checkbox"/> B = Emergency Next Workday <input type="checkbox"/> C = Critical 2 Workdays <input type="checkbox"/> D = Urgent 3 Workdays <input checked="" type="checkbox"/> E = Routine 7 Workdays | Preservatives:<br>H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C<br>Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |
| Container Types: T=Tube V=VOA L=Liter P=Pin J=Jar B=Tedlar G=Glass P=Plastic M=Metal |   |   |

# CHAIN OF CUSTODY RECORD

|   |               |   |   |   |   |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|---|---------------|---|---|---|---|---|---------------|--------------|------------|------|------|-------|--------------|------------|-----|--------------|-------------------------------|--------------|--|
|  <p><b>Advanced Technology Laboratories</b><br/>3275 Walnut Avenue<br/>Signal Hill, CA 90755<br/>Tel: (562) 989-4045 • Fax: (562) 989-4040</p>   |               | <b>FOR LABORATORY USE ONLY</b>  |   |   |   |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   |               | P.O. #: _____<br>Logged By: _____ Date: _____   |   | Method of Transport<br>Client <input type="checkbox"/> ATL <input type="checkbox"/><br>CA OverN <input type="checkbox"/> FedEx <input type="checkbox"/><br>Other: <u>OUTRAC</u> |   | Sample Condition Upon Receipt<br>1. CHILLED Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/><br>2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> |               |              |            |      |      |       |              |            |     |              |                               |              |  |
| Client: Geocoin<br>Attention: Rick Day  |               |   | Address: 6671 Brisa Street<br>City: Livermore State: CA Zip Code: 94550 |   |   | Tel: 916-852-9118<br>Fax: 916-852-9182  |               |              |            |      |      |       |              |            |     |              |                               |              |  |
| Project Name: SR92/SR82 Interchange   |               | Project #: E8721-02-36  |   | Sampler: Cord Dennig  |   | (Signature) _____   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
| Relinquished by: (Signature and Printed Name)<br>Cord Dennig <u>[Signature]</u>   |               | Date: 1/21/16<br>Time: 1900   |   | Received by: (Signature and Printed Name)<br>[Signature]  |   | Date: 1/21/16<br>Time: 1500   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
| Relinquished by: (Signature and Printed Name)   |               | Date: _____ Time: _____   |   | Received by: (Signature and Printed Name)   |   | Date: _____ Time: _____   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr./Submitter: <u>[Signature]</u>   |               | Send Report To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____   |   | Bill To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____  |   | Special Instructions/Comments:  |               |              |            |      |      |       |              |            |     |              |                               |              |  |
| <b>Sample/Records - Archival &amp; Disposal</b><br>Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.<br><b>Storage Fees (applies when storage is requested):</b><br>■ Sample: \$2.00 / sample /mo (after 45 days)<br>■ Records: \$1 /ATL workorder /mo (after 1 year) |               |   |   | Circle or Add Analysis(es) Requested  |   | SPECIFY APPROPRIATE MATRIX  |               |              |            |      |      |       |              |            |     |              |                               |              |  |
| ITEM  | LAB USE ONLY: | Sample Description  |   |   |   | Total Lead  | CAM 17 Metals | TPH/BTEX/MTE | TPHd/TPHmo | VOCs | SOIL | WATER | GROUND WATER | WASTEWATER | TAT | Container(s) |                               | PRESERVATION | QA/QC                                  |
|   | Lab No.       | Sample ID / Location  | Date  | Time  | # |   |               |              |            |      |      |       |              |            |     | Type         | RTNE <input type="checkbox"/> |              | CT <input checked="" type="checkbox"/> |
|   | 900324-41     | B9-1'   | 1/21  | 921   | X |   |               |              |            |      | X    |       |              |            | E   | 15L          |                               |              |  |
|   | -42           | -2'   |   | 922   | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -43           | B11-0'  |   | 930   | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -44           | -1'   |   | 931   | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -45           | -2'   |   | 932   | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -46           | B12-0'  |   | 938   | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -47           | -1'   |   | 939   | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -48           | -2'   |   | 940   | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -49           | B13-0'  |   | 945   | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -50           | -1'   |   | 946   | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -51           | -2'   |   | 947   | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -52           | B14-0'  |   | 950   | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -53           | -1'   |   | 951   | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -54           | -2'   |   | 992   | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -55           | B15-0'  |   | 1010  | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -56           | -1'   |   | 1011  | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -57           | -2'   |   | 1012  | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -58           | B16-0'  |   | 1018  | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -59           | -1'   |   | 1019  | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
|   | -60           | -2'   |   | 1020  | X |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
| ■ TAT starts 8AM the following day if samples received after 3 PM   |               | TAT: <input type="checkbox"/> A = Overnight ≤ 24 hrs <input type="checkbox"/> B = Emergency Next Workday <input type="checkbox"/> C = Critical 2 Workdays <input type="checkbox"/> D = Urgent 3 Workdays <input checked="" type="checkbox"/> E = Routine 7 Workdays |   | Preservatives:<br>H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C<br>Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>               |   |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |
| Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal   |               |   |   |   |   |   |               |              |            |      |      |       |              |            |     |              |                               |              |  |

# CHAIN OF CUSTODY RECORD



**Advanced Technology  
Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755  
Tel: (562) 989-4045 • Fax: (562) 989-4040

## FOR LABORATORY USE ONLY

|                              |  |   |
|------------------------------|--|---|
| P.O. #: _____                | Method of Transport<br>Client <input type="checkbox"/><br>ATL <input type="checkbox"/><br>CA OverN <input type="checkbox"/><br>FedEx <input type="checkbox"/><br>Other: <u>ATL</u> | Sample Condition Upon Receipt<br>1. CHILLED Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/><br>2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> |
| Logged By: _____ Date: _____ |  |   |

|                                      |   |  |
|--------------------------------------|---|--|
| Client: Geoco<br>Attention: Rick Day | Address: 6671 Brisa Street<br>City: Livermore State: CA Zip Code: 94550 | Tel: 916-852-9118<br>Fax: 916-852-9132 |
|--------------------------------------|---|--|

Project Name: SR92/SR82 Interchange Project #: E8721-02-36 Sampler: Cord Dennig (Signature)

|   |  |   |  |
|---|--|---|--|
| Relinquished by: (Signature and Printed Name)<br><u>Cord Dennig</u> | Date: <u>1/21/16</u> Time: <u>1500</u> | Received by: (Signature and Printed Name)<br><u>Barbara</u> | Date: <u>1/21/16</u> Time: <u>1900</u> |
|---|--|---|--|

|  |   |  |                                |
|--|---|--|--------------------------------|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr /Submitter: <u>R. SIVC</u> <u>1/21/16</u><br>Print Name Date<br><u>R. SIVC</u><br>Signature | Send Report To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Bill To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Special Instructions/Comments: |
|--|---|--|--------------------------------|

**Sample/Records - Archival & Disposal**  
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 ■ Sample: \$2.00 / sample /mo (after 45 days)  
 ■ Records: \$1 /ATL workorder /mo (after 1 year)

| ITEM | LAB USE ONLY: |                      | Sample Description |      | Total Lead | CAM 17 Metals | TPH/BTEX/MTBE | TPH/Phino | VOCs | SOIL | WATER | GROUND WATER | WASTEWATER | SPECIFY APPROPRIATE MATRIX |  | TAT # | Type | Container(s) | PRESERVATION | REMARKS |
|------|---------------|----------------------|--------------------|------|------------|---------------|---------------|-----------|------|------|-------|--------------|------------|----------------------------|--|-------|------|--------------|--------------|---------|
|      | Lab No.       | Sample ID / Location | Date               | Time |            |               |               |           |      |      |       |              |            |                            |  |       |      |              |              |         |
|      | 160034-C1     | B26-0'               | 1/21               | 1035 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -C2           | -1'                  |                    | 1036 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -C3           | -2'                  |                    | 1037 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -C4           | B27-0'               |                    | 1042 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -C5           | -1'                  |                    | 1043 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -C6           | -2'                  |                    | 1044 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -C7           | B28-0'               |                    | 1105 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -C8           | -1'                  |                    | 1106 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -C9           | -2'                  |                    | 1107 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -70           | B29-0'               |                    | 1112 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -71           | -1'                  |                    | 1113 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -72           | -2'                  |                    | 1114 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -73           | B30-0'               |                    | 1138 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -74           | -1'                  |                    | 1139 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -75           | -2'                  |                    | 1140 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -76           | B31-0'               |                    | 1150 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -77           | -1'                  |                    | 1151 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |
|      | -78           | -2'                  |                    | 1152 | X          |               | X             |           |      | X    |       |              |            |                            |  |       |      |              |              |         |

TAT starts 8AM the following day if samples received after 3 PM  
 TAT:  A = Overnight ≤24 hrs     B = Emergency Next Workday     C = Critical 2 Workdays     D = Urgent 3 Workdays     E = Routine 7 Workdays  
 Preservatives: H=HCl N=HNO<sub>3</sub> S=H<sub>2</sub>SO<sub>4</sub> C=4°C  
 Z=Zn(AC)<sub>2</sub> O=NaOH T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  
 Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

February 05, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600328  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on January 22, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 02/05/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B22-0'    | 1600328-01    | Soil   | 1/20/16 15:00 | 1/22/16 9:20  |
| B22-1'    | 1600328-02    | Soil   | 1/20/16 15:01 | 1/22/16 9:20  |
| B22-2'    | 1600328-03    | Soil   | 1/20/16 15:02 | 1/22/16 9:20  |
| B23-0'    | 1600328-04    | Soil   | 1/20/16 15:05 | 1/22/16 9:20  |
| B24-0'    | 1600328-07    | Soil   | 1/20/16 15:15 | 1/22/16 9:20  |
| B63-0'    | 1600328-10    | Soil   | 1/21/16 7:49  | 1/22/16 9:20  |
| B64-0'    | 1600328-13    | Soil   | 1/21/16 7:54  | 1/22/16 9:20  |
| B65-0'    | 1600328-16    | Soil   | 1/21/16 8:00  | 1/22/16 9:20  |
| B66-0'    | 1600328-19    | Soil   | 1/21/16 8:08  | 1/22/16 9:20  |
| B1-0'     | 1600328-22    | Soil   | 1/21/16 8:25  | 1/22/16 9:20  |
| B3-0'     | 1600328-28    | Soil   | 1/21/16 8:40  | 1/22/16 9:20  |
| B6-0'     | 1600328-31    | Soil   | 1/21/16 8:53  | 1/22/16 9:20  |
| B7-0'     | 1600328-34    | Soil   | 1/21/16 8:57  | 1/22/16 9:20  |
| B8-0'     | 1600328-37    | Soil   | 1/21/16 9:05  | 1/22/16 9:20  |
| B8-1'     | 1600328-38    | Soil   | 1/21/16 9:06  | 1/22/16 9:20  |
| B9-0'     | 1600328-40    | Soil   | 1/21/16 9:20  | 1/22/16 9:20  |
| B11-0'    | 1600328-43    | Soil   | 1/21/16 9:30  | 1/22/16 9:20  |
| B12-0'    | 1600328-46    | Soil   | 1/21/16 9:38  | 1/22/16 9:20  |
| B13-0'    | 1600328-49    | Soil   | 1/21/16 9:45  | 1/22/16 9:20  |
| B14-0'    | 1600328-52    | Soil   | 1/21/16 9:50  | 1/22/16 9:20  |
| B14-2'    | 1600328-54    | Soil   | 1/21/16 9:52  | 1/22/16 9:20  |
| B15-0'    | 1600328-55    | Soil   | 1/21/16 10:10 | 1/22/16 9:20  |
| B16-0'    | 1600328-58    | Soil   | 1/21/16 10:18 | 1/22/16 9:20  |
| B27-0'    | 1600328-64    | Soil   | 1/21/16 10:42 | 1/22/16 9:20  |
| B27-2'    | 1600328-66    | Soil   | 1/21/16 10:44 | 1/22/16 9:20  |
| B28-0'    | 1600328-67    | Soil   | 1/21/16 11:05 | 1/22/16 9:20  |
| B28-1'    | 1600328-68    | Soil   | 1/21/16 11:06 | 1/22/16 9:20  |
| B28-2'    | 1600328-69    | Soil   | 1/21/16 11:07 | 1/22/16 9:20  |
| B29-0'    | 1600328-70    | Soil   | 1/21/16 11:12 | 1/22/16 9:20  |
| B29-1'    | 1600328-71    | Soil   | 1/21/16 11:13 | 1/22/16 9:20  |
| B30-0'    | 1600328-73    | Soil   | 1/21/16 11:38 | 1/22/16 9:20  |
| B31-0'    | 1600328-76    | Soil   | 1/21/16 11:50 | 1/22/16 9:20  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 02/05/2016

### TCLP Metals by ICP-AES EPA 6010B

**Analyte: Lead**

**Analyst: SB**

| Laboratory ID | Client Sample ID | Result | Units | PQL   | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-------|----------|---------|------------|--------------------|-------|
| 1600328-64    | B27-0'           | 1.8    | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:42     |       |



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 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 02/05/2016

## STLC Metals by ICP-AES by EPA 6010B

Analyte: Chromium

Analyst: SB

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time |       | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|-----------|-------|-------|
|               |                  |        |       |     |          |         |            | Analized  |       |       |
| 1600328-38    | B8-1'            | ND     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:26 |       |
| 1600328-66    | B27-2'           | ND     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16  | 15:34 |       |
| 1600328-71    | B29-1'           | ND     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16  | 15:54 |       |

## STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead

Analyst: RR

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time |       | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|-----------|-------|-------|
|               |                  |        |       |     |          |         |            | Analized  |       |       |
| 1600328-01    | B22-0'           | 11     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 15:46 |       |
| 1600328-02    | B22-1'           | 4.5    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 16:54 |       |
| 1600328-03    | B22-2'           | 4.1    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 16:56 |       |
| 1600328-04    | B23-0'           | 15     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 16:58 |       |
| 1600328-07    | B24-0'           | 12     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:01 |       |
| 1600328-10    | B63-0'           | 35     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:03 |       |
| 1600328-13    | B64-0'           | 51     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:05 |       |
| 1600328-16    | B65-0'           | 71     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:08 |       |
| 1600328-19    | B66-0'           | 43     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:10 |       |
| 1600328-22    | B1-0'            | 23     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 16:00 |       |
| 1600328-28    | B3-0'            | 8.9    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:12 |       |
| 1600328-31    | B6-0'            | 8.1    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:15 |       |
| 1600328-34    | B7-0'            | 6.9    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:21 |       |
| 1600328-37    | B8-0'            | 8.5    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:23 |       |
| 1600328-40    | B9-0'            | 3.3    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:28 |       |
| 1600328-43    | B11-0'           | 7.3    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:30 |       |
| 1600328-46    | B12-0'           | 2.0    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:33 |       |
| 1600328-49    | B13-0'           | 8.2    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:35 |       |
| 1600328-52    | B14-0'           | 27     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16  | 14:58 |       |
| 1600328-55    | B15-0'           | 5.1    | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16  | 15:19 |       |
| 1600328-58    | B16-0'           | 10     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16  | 15:23 |       |
| 1600328-67    | B28-0'           | 46     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16  | 15:37 |       |



### Certificate of Analysis

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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 02/05/2016

#### STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead

Analyst: SB

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600328-68    | B28-1'           | 5.1    | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16 15:42     |       |
| 1600328-69    | B28-2'           | 6.5    | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16 15:46     |       |
| 1600328-70    | B29-0'           | 7.0    | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16 15:50     |       |
| 1600328-73    | B30-0'           | 16     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16 16:05     |       |
| 1600328-76    | B31-0'           | 28     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16 16:09     |       |

#### Client Sample ID B14-2'

Lab ID: 1600328-54

#### STLC Metals by ICP-AES by EPA 6010B

Analyst: SB

| Analyte  | Result (mg/L) | PQL (mg/L) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|----------|---------------|------------|----------|---------|------------|--------------------|-------|
| Chromium | ND            | 1.0        | 20       | B6B0171 | 02/04/2016 | 02/04/16 15:15     |       |
| Nickel   | 1.6           | 1.0        | 20       | B6B0171 | 02/04/2016 | 02/04/16 15:15     |       |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 02/05/2016

### QUALITY CONTROL SECTION

#### TCLP Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                 | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---------------------------------------|-----------------|-------|--------------|-------|
| <b>Batch B6B0085 - EPA 3010A_S</b>     |                  |               |                |                  |                                       |                 |       |              |       |
| <b>Blank (B6B0085-BLK1)</b>            |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | ND               | 0.050         |                |                  |                                       |                 |       |              | NR    |
| <b>Blank (B6B0085-BLK2)</b>            |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | ND               | 0.050         |                |                  |                                       |                 |       |              | NR    |
| <b>LCS (B6B0085-BS1)</b>               |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 0.933581         | 0.050         | 1.00000        |                  | 93.4                                  | 80 - 120        |       |              |       |
| <b>Duplicate (B6B0085-DUP1)</b>        |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 0.081075         | 0.050         |                | 0.086121         | NR                                    |                 | 6.04  | 20           |       |
| <b>Duplicate (B6B0085-DUP2)</b>        |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 1.81236          | 0.050         |                | 1.80302          | NR                                    |                 | 0.517 | 20           |       |
| <b>Matrix Spike (B6B0085-MS1)</b>      |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 2.12458          | 0.050         | 2.50000        | 0.086121         | 81.5                                  | 77 - 121        |       |              |       |
| <b>Matrix Spike (B6B0085-MS2)</b>      |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 4.04682          | 0.050         | 2.50000        | 1.80302          | 89.8                                  | 77 - 121        |       |              |       |
| <b>Matrix Spike Dup (B6B0085-MSD1)</b> |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 2.33431          | 0.050         | 2.50000        | 0.086121         | 89.9                                  | 77 - 121        | 9.41  | 20           |       |



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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 02/05/2016

### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result                      | % Rec | % Rec<br>Limits                       | RPD  | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|---------------------------------------|-------|---------------------------------------|------|--------------|-------|
| <b>Batch B6B0170 - STLC_S Extraction</b> |                  |               |                |                                       |       |                                       |      |              |       |
| <b>Blank (B6B0170-BLK1)</b>              |                  |               |                | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |                                       |      |              |       |
| Chromium                                 | ND               | 1.0           |                |                                       | NR    |                                       |      |              |       |
| Lead                                     | ND               | 1.0           |                |                                       | NR    |                                       |      |              |       |
| Nickel                                   | ND               | 1.0           |                |                                       | NR    |                                       |      |              |       |
| <b>Blank (B6B0170-BLK2)</b>              |                  |               |                | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |                                       |      |              |       |
| Chromium                                 | ND               | 1.0           |                |                                       | NR    |                                       |      |              |       |
| Lead                                     | ND               | 1.0           |                |                                       | NR    |                                       |      |              |       |
| Nickel                                   | ND               | 1.0           |                |                                       | NR    |                                       |      |              |       |
| <b>LCS (B6B0170-BS1)</b>                 |                  |               |                | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |                                       |      |              |       |
| Chromium                                 | 1.97659          |               | 2.00000        |                                       | 98.8  | 80 - 120                              |      |              |       |
| Lead                                     | 1.91275          |               | 2.00000        |                                       | 95.6  | 80 - 120                              |      |              |       |
| Nickel                                   | 1.94592          |               | 2.00000        |                                       | 97.3  | 80 - 120                              |      |              |       |
| <b>Duplicate (B6B0170-DUP1)</b>          |                  |               |                | <b>Source: 1600328-01</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |      |              |       |
| Chromium                                 | 0.158350         | 1.0           |                | 0.184268                              | NR    |                                       | 15.1 | 20           |       |
| Lead                                     | 10.9805          | 1.0           |                | 11.1144                               | NR    |                                       | 1.21 | 20           |       |
| Nickel                                   | 0.360379         | 1.0           |                | 0.380512                              | NR    |                                       | 5.43 | 20           |       |
| <b>Duplicate (B6B0170-DUP2)</b>          |                  |               |                | <b>Source: 1600328-22</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |      |              |       |
| Chromium                                 | 0.163514         | 1.0           |                | 0.203466                              | NR    |                                       | 21.8 | 20           | R     |
| Lead                                     | 22.9493          | 1.0           |                | 22.6827                               | NR    |                                       | 1.17 | 20           |       |
| Nickel                                   | 0.709407         | 1.0           |                | 0.747414                              | NR    |                                       | 5.22 | 20           |       |
| <b>Matrix Spike (B6B0170-MS1)</b>        |                  |               |                | <b>Source: 1600328-01</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |      |              |       |
| Chromium                                 | 2.54696          |               | 2.50000        | 0.184268                              | 94.5  | 74 - 121                              |      |              |       |
| Lead                                     | 12.8585          |               | 2.50000        | 11.1144                               | 69.8  | 44 - 130                              |      |              |       |
| Nickel                                   | 2.71413          |               | 2.50000        | 0.380512                              | 93.3  | 83 - 116                              |      |              |       |
| <b>Matrix Spike (B6B0170-MS2)</b>        |                  |               |                | <b>Source: 1600328-22</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |      |              |       |
| Chromium                                 | 2.59927          |               | 2.50000        | 0.203466                              | 95.8  | 74 - 121                              |      |              |       |
| Lead                                     | 24.4050          |               | 2.50000        | 22.6827                               | 68.9  | 44 - 130                              |      |              |       |
| Nickel                                   | 3.15653          |               | 2.50000        | 0.747414                              | 96.4  | 83 - 116                              |      |              |       |
| <b>Matrix Spike Dup (B6B0170-MSD1)</b>   |                  |               |                | <b>Source: 1600328-01</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |      |              |       |
| Chromium                                 | 2.64298          |               | 2.50000        | 0.184268                              | 98.3  | 74 - 121                              | 3.70 | 20           |       |
| Lead                                     | 13.2847          |               | 2.50000        | 11.1144                               | 86.8  | 44 - 130                              | 3.26 | 20           |       |
| Nickel                                   | 2.82996          |               | 2.50000        | 0.380512                              | 98.0  | 83 - 116                              | 4.18 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 02/05/2016

### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result                      | % Rec | % Rec<br>Limits                       | RPD   | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|---------------------------------------|-------|---------------------------------------|-------|--------------|-------|
| <b>Batch B6B0171 - STLC_S Extraction</b> |                  |               |                |                                       |       |                                       |       |              |       |
| <b>Blank (B6B0171-BLK1)</b>              |                  |               |                | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |                                       |       |              |       |
| Chromium                                 | ND               | 1.0           |                |                                       | NR    |                                       |       |              |       |
| Lead                                     | ND               | 1.0           |                |                                       | NR    |                                       |       |              |       |
| Nickel                                   | ND               | 1.0           |                |                                       | NR    |                                       |       |              |       |
| <b>Blank (B6B0171-BLK2)</b>              |                  |               |                | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |                                       |       |              |       |
| Chromium                                 | ND               | 1.0           |                |                                       | NR    |                                       |       |              |       |
| Lead                                     | ND               | 1.0           |                |                                       | NR    |                                       |       |              |       |
| Nickel                                   | ND               | 1.0           |                |                                       | NR    |                                       |       |              |       |
| <b>LCS (B6B0171-BS1)</b>                 |                  |               |                | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |                                       |       |              |       |
| Chromium                                 | 1.96473          |               | 2.00000        |                                       | 98.2  | 80 - 120                              |       |              |       |
| Lead                                     | 2.09085          |               | 2.00000        |                                       | 105   | 80 - 120                              |       |              |       |
| Nickel                                   | 2.10336          |               | 2.00000        |                                       | 105   | 80 - 120                              |       |              |       |
| <b>Duplicate (B6B0171-DUP1)</b>          |                  |               |                | <b>Source: 1600328-52</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |              |       |
| Chromium                                 | 0.120569         | 1.0           |                | 0.118426                              | NR    |                                       | 1.79  | 20           |       |
| Lead                                     | 27.8457          | 1.0           |                | 27.0307                               | NR    |                                       | 2.97  | 20           |       |
| Nickel                                   | 0.287387         | 1.0           |                | 0.283100                              | NR    |                                       | 1.50  | 20           |       |
| <b>Duplicate (B6B0171-DUP2)</b>          |                  |               |                | <b>Source: 1600328-71</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |              |       |
| Chromium                                 | 0.088463         | 1.0           |                | 0.090724                              | NR    |                                       | 2.52  | 20           |       |
| Lead                                     | ND               | 1.0           |                | ND                                    | NR    |                                       |       | 20           |       |
| Nickel                                   | 1.05967          | 1.0           |                | 1.06657                               | NR    |                                       | 0.650 | 20           |       |
| <b>Matrix Spike (B6B0171-MS1)</b>        |                  |               |                | <b>Source: 1600328-52</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |              |       |
| Chromium                                 | 2.57678          |               | 2.50000        | 0.118426                              | 98.3  | 74 - 121                              |       |              |       |
| Lead                                     | 30.5161          |               | 2.50000        | 27.0307                               | 139   | 44 - 130                              |       |              | M1    |
| Nickel                                   | 2.84513          |               | 2.50000        | 0.283100                              | 102   | 83 - 116                              |       |              |       |
| <b>Matrix Spike (B6B0171-MS2)</b>        |                  |               |                | <b>Source: 1600328-71</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |              |       |
| Chromium                                 | 2.54769          |               | 2.50000        | 0.090724                              | 98.3  | 74 - 121                              |       |              |       |
| Lead                                     | 2.56627          |               | 2.50000        | 0.031921                              | 101   | 44 - 130                              |       |              |       |
| Nickel                                   | 3.52780          |               | 2.50000        | 1.06657                               | 98.4  | 83 - 116                              |       |              |       |
| <b>Matrix Spike Dup (B6B0171-MSD1)</b>   |                  |               |                | <b>Source: 1600328-52</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |              |       |
| Chromium                                 | 2.55180          |               | 2.50000        | 0.118426                              | 97.3  | 74 - 121                              | 0.974 | 20           |       |
| Lead                                     | 29.9164          |               | 2.50000        | 27.0307                               | 115   | 44 - 130                              | 1.98  | 20           |       |
| Nickel                                   | 2.83805          |               | 2.50000        | 0.283100                              | 102   | 83 - 116                              | 0.249 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 02/05/2016

### Notes and Definitions

|     |   |
|-----|---|
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| M1  | Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

**Diane Galvan**

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Friday, January 29, 2016 3:26 PM  
**To:** Diane Galvan  
**Cc:** 'keith.fang@dot.ca.gov'  
**Subject:** RE: Results/EDD/Invoice - SR92/SR82 Interchange (1600328)

Hi Diane,

Thank you for the results. Could you please run WET analyses on the following:

|            |        |          |
|------------|--------|----------|
| 1600328-66 | B27-2' | Chromium |
| 1600328-38 | B8-1'  | Chromium |
| 1600328-71 | B29-1' | Chromium |
| 1600328-54 | B14-2' | Chromium |
| 1600328-46 | B12-0' | Lead     |
| 1600328-03 | B22-2' | Lead     |
| 1600328-55 | B15-0' | Lead     |
| 1600328-40 | B9-0'  | Lead     |
| 1600328-69 | B28-2' | Lead     |
| 1600328-02 | B22-1' | Lead     |
| 1600328-28 | B3-0'  | Lead     |
| 1600328-70 | B29-0' | Lead     |
| 1600328-34 | B7-0'  | Lead     |
| 1600328-37 | B8-0'  | Lead     |
| 1600328-49 | B13-0' | Lead     |
| 1600328-07 | B24-0' | Lead     |
| 1600328-43 | B11-0' | Lead     |
| 1600328-58 | B16-0' | Lead     |
| 1600328-01 | B22-0' | Lead     |
| 1600328-68 | B28-1' | Lead     |
| 1600328-04 | B23-0' | Lead     |
| 1600328-31 | B6-0'  | Lead     |
| 1600328-73 | B30-0' | Lead     |
| 1600328-76 | B31-0' | Lead     |
| 1600328-22 | B1-0'  | Lead     |
| 1600328-10 | B63-0' | Lead     |
| 1600328-52 | B14-0' | Lead     |
| 1600328-19 | B66-0' | Lead     |
| 1600328-13 | B64-0' | Lead     |
| 1600328-67 | B28-0' | Lead     |
| 1600328-16 | B65-0' | Lead     |
| 1600328-54 | B14-2' | Nickel   |

And TCLP lead for:

|            |        |
|------------|--------|
| 1600328-64 | B27-0' |
|------------|--------|

All on a regular TAT.

Thank you,  
Luann

March 07, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600328  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on January 22, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/07/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B22-0'    | 1600328-01    | Soil   | 1/20/16 15:00 | 1/22/16 9:20  |
| B23-0'    | 1600328-04    | Soil   | 1/20/16 15:05 | 1/22/16 9:20  |
| B24-0'    | 1600328-07    | Soil   | 1/20/16 15:15 | 1/22/16 9:20  |
| B63-0'    | 1600328-10    | Soil   | 1/21/16 7:49  | 1/22/16 9:20  |
| B64-0'    | 1600328-13    | Soil   | 1/21/16 7:54  | 1/22/16 9:20  |
| B65-0'    | 1600328-16    | Soil   | 1/21/16 8:00  | 1/22/16 9:20  |
| B66-0'    | 1600328-19    | Soil   | 1/21/16 8:08  | 1/22/16 9:20  |
| B1-0'     | 1600328-22    | Soil   | 1/21/16 8:25  | 1/22/16 9:20  |
| B3-0'     | 1600328-28    | Soil   | 1/21/16 8:40  | 1/22/16 9:20  |
| B6-0'     | 1600328-31    | Soil   | 1/21/16 8:53  | 1/22/16 9:20  |
| B7-0'     | 1600328-34    | Soil   | 1/21/16 8:57  | 1/22/16 9:20  |
| B8-0'     | 1600328-37    | Soil   | 1/21/16 9:05  | 1/22/16 9:20  |
| B11-0'    | 1600328-43    | Soil   | 1/21/16 9:30  | 1/22/16 9:20  |
| B13-0'    | 1600328-49    | Soil   | 1/21/16 9:45  | 1/22/16 9:20  |
| B14-0'    | 1600328-52    | Soil   | 1/21/16 9:50  | 1/22/16 9:20  |
| B16-0'    | 1600328-58    | Soil   | 1/21/16 10:18 | 1/22/16 9:20  |
| B28-0'    | 1600328-67    | Soil   | 1/21/16 11:05 | 1/22/16 9:20  |
| B28-1'    | 1600328-68    | Soil   | 1/21/16 11:06 | 1/22/16 9:20  |
| B29-0'    | 1600328-70    | Soil   | 1/21/16 11:12 | 1/22/16 9:20  |
| B30-0'    | 1600328-73    | Soil   | 1/21/16 11:38 | 1/22/16 9:20  |
| B31-0'    | 1600328-76    | Soil   | 1/21/16 11:50 | 1/22/16 9:20  |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/07/2016

### TCLP Metals by ICP-AES EPA 6010B

Analyte: Lead

Analyst: RR

| Laboratory ID | Client Sample ID | Result | Units | PQL   | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-------|----------|---------|------------|--------------------|-------|
| 1600328-01    | B22-0'           | 0.11   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:11     |       |
| 1600328-04    | B23-0'           | 0.20   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:20     |       |
| 1600328-07    | B24-0'           | 0.12   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:22     |       |
| 1600328-10    | B63-0'           | 0.33   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:24     |       |
| 1600328-13    | B64-0'           | 0.22   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:31     |       |
| 1600328-16    | B65-0'           | 0.34   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:33     |       |
| 1600328-19    | B66-0'           | 0.25   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:36     |       |
| 1600328-22    | B1-0'            | 0.16   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:38     |       |
| 1600328-28    | B3-0'            | ND     | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:40     |       |
| 1600328-31    | B6-0'            | ND     | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:43     |       |
| 1600328-34    | B7-0'            | ND     | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:50     |       |
| 1600328-37    | B8-0'            | ND     | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:52     |       |
| 1600328-43    | B11-0'           | 0.076  | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:58     |       |
| 1600328-49    | B13-0'           | 0.079  | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:00     |       |
| 1600328-52    | B14-0'           | 0.59   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:03     |       |
| 1600328-58    | B16-0'           | 0.087  | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:05     |       |
| 1600328-67    | B28-0'           | 0.26   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:08     |       |
| 1600328-68    | B28-1'           | 0.13   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:10     |       |
| 1600328-70    | B29-0'           | 0.052  | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:12     |       |
| 1600328-73    | B30-0'           | 0.097  | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:15     |       |
| 1600328-76    | B31-0'           | 0.11   | mg/L  | 0.050 | 1        | B6C0041 | 03/02/2016 | 03/02/16 17:25     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/07/2016

### QUALITY CONTROL SECTION

#### TCLP Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                 | % Rec<br>Limits | RPD     | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---------------------------------------|-----------------|---------|--------------|-------|
| <b>Batch B6C0040 - EPA 3010A_S</b>     |                  |               |                |                  |                                       |                 |         |              |       |
| <b>Blank (B6C0040-BLK1)</b>            |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | ND               | 0.050         |                |                  |                                       |                 |         |              | NR    |
| <b>Blank (B6C0040-BLK2)</b>            |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | ND               | 0.050         |                |                  |                                       |                 |         |              | NR    |
| <b>LCS (B6C0040-BS1)</b>               |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | 0.899873         | 0.050         | 1.00000        |                  | 90.0                                  | 80 - 120        |         |              |       |
| <b>Duplicate (B6C0040-DUP1)</b>        |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | 0.093858         | 0.050         |                | 0.112164         | NR                                    |                 | 17.8    |              | 20    |
| <b>Duplicate (B6C0040-DUP2)</b>        |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | 0.032297         | 0.050         |                | 0.034542         | NR                                    |                 | 6.72    |              | 20    |
| <b>Matrix Spike (B6C0040-MS1)</b>      |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | 2.21807          | 0.050         | 2.50000        | 0.112164         | 84.2                                  | 77 - 121        |         |              |       |
| <b>Matrix Spike (B6C0040-MS2)</b>      |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | 2.17143          | 0.050         | 2.50000        | 0.034542         | 85.5                                  | 77 - 121        |         |              |       |
| <b>Matrix Spike Dup (B6C0040-MSD1)</b> |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | 2.21791          | 0.050         | 2.50000        | 0.112164         | 84.2                                  | 77 - 121        | 0.00735 |              | 20    |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/07/2016

### TCLP Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                 | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---------------------------------------|-----------------|-------|--------------|-------|
| <b>Batch B6C0041 - EPA 3010A_S</b>     |                  |               |                |                  |                                       |                 |       |              |       |
| <b>Blank (B6C0041-BLK1)</b>            |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |       |              |       |
| Lead                                   | ND               | 0.050         |                |                  | NR                                    |                 |       |              |       |
| <b>LCS (B6C0041-BS1)</b>               |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |       |              |       |
| Lead                                   | 0.892433         | 0.050         | 1.00000        |                  | 89.2                                  | 80 - 120        |       |              |       |
| <b>Duplicate (B6C0041-DUP1)</b>        |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |       |              |       |
| Lead                                   | 0.100319         | 0.050         |                | 0.113864         | NR                                    |                 | 12.6  | 20           |       |
| <b>Matrix Spike (B6C0041-MS1)</b>      |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |       |              |       |
| Lead                                   | 2.18074          | 0.050         | 2.50000        | 0.113864         | 82.7                                  | 77 - 121        |       |              |       |
| <b>Matrix Spike Dup (B6C0041-MSD1)</b> |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |       |              |       |
| Lead                                   | 2.19477          | 0.050         | 2.50000        | 0.113864         | 83.2                                  | 77 - 121        | 0.641 | 20           |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/07/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

- Notes:
- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
  - (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
  - (3) Results are wet unless otherwise specified.

**Diane Galvan**

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Monday, February 29, 2016 9:50 AM  
**To:** Diane Galvan  
**Cc:** Rachelle Arada  
**Subject:** Lab Order 1600328 (82/92 Interchange)

Hi Diane,

Could you please run TCLP lead on these samples on a regular TAT?

- B1-0
- B3-0
- B6-0
- B7-0
- B8-0
- B11-0
- B13-0
- B14-0
- B16-0
- B22-0
- B23-0
- B24-0
- B28-0
- B28-1
- B29-0
- B30-0
- B31-0
- B63-0
- B64-0
- B65-0
- B66-0

Thanks,  
Luann



**Luann Beadle | Project Scientist**

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P|925.371.5900 ext. 403 M|925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [Linkedin](#)

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March 23, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

RE: ATL Work Order Number : 1600328  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on January, 22 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

A handwritten signature in black ink, appearing to be 'Gm', is written over a light gray rectangular background.

Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

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## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/23/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B29-1'    | 1600328-71    | Soil   | 1/21/16 11:13 | 1/22/16 9:20  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/23/2016

### STLC Metals by ICP-AES by EPA 6010B

**Analyte: Nickel**

**Analyst: SB**

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600328-71    | B29-1'           | 1.1    | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16 15:54     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/23/2016

### QUALITY CONTROL SECTION

#### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                 | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---------------------------------------|-----------------|-------|--------------|-------|
| <b>Batch B6B0171 - STLC_S Extraction</b> |                  |               |                |                  |                                       |                 |       |              |       |
| <b>Blank (B6B0171-BLK1)</b>              |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | ND               | 1.0           |                |                  |                                       |                 |       |              | NR    |
| <b>Blank (B6B0171-BLK2)</b>              |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | ND               | 1.0           |                |                  |                                       |                 |       |              | NR    |
| <b>LCS (B6B0171-BS1)</b>                 |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | 2.10336          |               | 2.00000        |                  | 105                                   | 80 - 120        |       |              |       |
| <b>Duplicate (B6B0171-DUP1)</b>          |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | 0.287387         |               |                | 0.283100         | NR                                    |                 | 1.50  |              | 20    |
| <b>Duplicate (B6B0171-DUP2)</b>          |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | 1.05967          |               |                | 1.06657          | NR                                    |                 | 0.650 |              | 20    |
| <b>Matrix Spike (B6B0171-MS1)</b>        |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | 2.84513          |               | 2.50000        | 0.283100         | 102                                   | 83 - 116        |       |              |       |
| <b>Matrix Spike (B6B0171-MS2)</b>        |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | 3.52780          |               | 2.50000        | 1.06657          | 98.4                                  | 83 - 116        |       |              |       |
| <b>Matrix Spike Dup (B6B0171-MSD1)</b>   |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | 2.83805          |               | 2.50000        | 0.283100         | 102                                   | 83 - 116        | 0.249 |              | 20    |



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/23/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

## Diane Galvan

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Tuesday, March 22, 2016 8:16 AM  
**To:** Diane Galvan  
**Subject:** Lab order 1600328 (82/92 Interchange)

Hi Diane,  
Could you please run WET nickel on sample B29-1 on a 48-hr (plus extraction) TAT?  
Thanks,  
Luann



**Luann Beadle | Project Scientist**  
**GEOCON CONSULTANTS, INC.**  
6671 Brisa Street, Livermore, California 94550  
P|925.371.5900 ext. 403 M|925.395.1669  
[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [LinkedIn](#)

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March 28, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600328  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on January 22, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/28/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B23-0'    | 1600328-04    | Soil   | 1/20/16 15:05 | 1/22/16 9:20  |
| B64-0'    | 1600328-13    | Soil   | 1/21/16 7:54  | 1/22/16 9:20  |
| B65-0'    | 1600328-16    | Soil   | 1/21/16 8:00  | 1/22/16 9:20  |
| B1-0'     | 1600328-22    | Soil   | 1/21/16 8:25  | 1/22/16 9:20  |
| B8-0'     | 1600328-37    | Soil   | 1/21/16 9:05  | 1/22/16 9:20  |
| B14-0'    | 1600328-52    | Soil   | 1/21/16 9:50  | 1/22/16 9:20  |
| B16-0'    | 1600328-58    | Soil   | 1/21/16 10:18 | 1/22/16 9:20  |
| B28-0'    | 1600328-67    | Soil   | 1/21/16 11:05 | 1/22/16 9:20  |
| B31-0'    | 1600328-76    | Soil   | 1/21/16 11:50 | 1/22/16 9:20  |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/28/2016

### STLC DI Metals by ICP-AES by EPA 6010B

**Analyte: Lead**

**Analyst: RR**

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time |       | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|-----------|-------|-------|
|               |                  |        |       |     |          |         |            | AnalYZed  |       |       |
| 1600328-04    | B23-0'           | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16  | 12:22 |       |
| 1600328-13    | B64-0'           | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16  | 12:24 |       |
| 1600328-16    | B65-0'           | 1.1    | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16  | 12:26 |       |
| 1600328-22    | B1-0'            | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16  | 12:29 |       |
| 1600328-37    | B8-0'            | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16  | 12:35 |       |
| 1600328-52    | B14-0'           | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16  | 12:37 |       |
| 1600328-58    | B16-0'           | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16  | 12:39 |       |
| 1600328-67    | B28-0'           | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16  | 12:48 |       |
| 1600328-76    | B31-0'           | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16  | 12:50 |       |

### pH by EPA 9045C

**Analyte: pH**

**Analyst: LA**

| Laboratory ID | Client Sample ID | Result | Units    | PQL  | Dilution | Batch   | Prepared   | Date/Time |       | Notes |
|---------------|------------------|--------|----------|------|----------|---------|------------|-----------|-------|-------|
|               |                  |        |          |      |          |         |            | AnalYZed  |       |       |
| 1600328-04    | B23-0'           | 7.4    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16  | 14:28 |       |
| 1600328-13    | B64-0'           | 7.1    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16  | 14:28 |       |
| 1600328-16    | B65-0'           | 6.9    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16  | 14:28 |       |
| 1600328-22    | B1-0'            | 6.2    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16  | 14:28 |       |
| 1600328-37    | B8-0'            | 7.4    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16  | 14:28 |       |
| 1600328-52    | B14-0'           | 6.9    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16  | 14:28 |       |
| 1600328-58    | B16-0'           | 6.9    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16  | 14:28 |       |
| 1600328-67    | B28-0'           | 7.0    | pH Units | 0.10 | 1        | B6C0679 | 03/24/2016 | 03/24/16  | 14:30 |       |
| 1600328-76    | B31-0'           | 6.9    | pH Units | 0.10 | 1        | B6C0679 | 03/24/2016 | 03/24/16  | 14:30 |       |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/28/2016

### QUALITY CONTROL SECTION

#### STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                     | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|---|------------------|---------------|----------------|------------------|---|-----------------|-------|--------------|-------|
| <b>Batch B6C0705 - STLC DI_S Extraction</b> |                  |               |                |                  |   |                 |       |              |       |
| <b>Blank (B6C0705-BLK1)</b>                 |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | ND               | 1.0           |                |                  |   |                 | NR    |              |       |
| <b>Blank (B6C0705-BLK2)</b>                 |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | ND               | 1.0           |                |                  |   |                 | NR    |              |       |
| <b>LCS (B6C0705-BS1)</b>                    |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 1.96188          |               | 2.00000        |                  | 98.1                                    | 80 - 120        |       |              |       |
| <b>Duplicate (B6C0705-DUP1)</b>             |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 0.187297         | 1.0           |                | 0.195913         | NR                                      |                 | 4.50  | 20           |       |
| <b>Duplicate (B6C0705-DUP2)</b>             |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 0.230340         | 1.0           |                | 0.235612         | NR                                      |                 | 2.26  | 20           |       |
| <b>Matrix Spike (B6C0705-MS1)</b>           |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 2.69768          |               | 2.50000        | 0.195913         | 100                                     | 70 - 130        |       |              |       |
| <b>Matrix Spike (B6C0705-MS2)</b>           |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 2.81552          |               | 2.50000        | 0.235612         | 103                                     | 70 - 130        |       |              |       |
| <b>Matrix Spike Dup (B6C0705-MSD1)</b>      |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 2.68080          |               | 2.50000        | 0.195913         | 99.4                                    | 70 - 130        | 0.628 | 20           |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/28/2016

#### pH by EPA 9045C - Quality Control

| Analyte | Result<br>(pH Units) | PQL<br>(pH Units) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|----------------------|-------------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|----------------------|-------------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6C0678 - Prep\_WC1\_S**

**Duplicate (B6C0678-DUP1)**

**Source: 1600328-58**

Prepared: 3/24/2016 Analyzed: 3/24/2016

|    |         |      |  |         |    |  |       |    |  |
|----|---------|------|--|---------|----|--|-------|----|--|
| pH | 6.91000 | 0.10 |  | 6.87000 | NR |  | 0.581 | 20 |  |
|----|---------|------|--|---------|----|--|-------|----|--|



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/28/2016

#### pH by EPA 9045C - Quality Control

| Analyte | Result<br>(pH Units) | PQL<br>(pH Units) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|----------------------|-------------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|----------------------|-------------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6C0679 - Prep\_WC1\_S**

**Duplicate (B6C0679-DUP1)**

Source: 1600328-67

Prepared: 3/24/2016 Analyzed: 3/24/2016

|    |         |      |  |         |    |  |       |    |  |
|----|---------|------|--|---------|----|--|-------|----|--|
| pH | 7.02000 | 0.10 |  | 6.98000 | NR |  | 0.571 | 20 |  |
|----|---------|------|--|---------|----|--|-------|----|--|



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/28/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

**Diane Galvan**

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Wednesday, March 23, 2016 9:29 AM  
**To:** Diane Galvan  
**Subject:** Lab Orders 1600-174, 328 (SR-82/92)

Hi Diane,

Could you please run DI-WET lead and pH on the following samples from these lab orders on a 48-hr (plus extraction) TAT?

- B1-0
- B8-0
- B14-0
- B16-0
- B23-0
- B28-0
- B31-0
- B32-0
- B40-0
- B55-0
- B64-0
- B65-0

Thank you,  
Luann



**Luann Beadle | Project Scientist**

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P|925.371.5900 ext. 403 M|925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [Linkedin](#)

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Geotechnical Engineering

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Institutional

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Brownfields/Redevelopment

Construction Inspection

Natural Resources

February 26, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax:(925) 371-5915

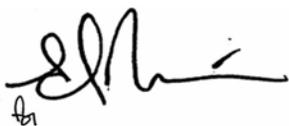
ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600683  
Client Reference : 82/92 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on February 19, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B67-0     | 1600683-01    | Soil   | 2/18/16 7:30  | 2/19/16 9:30  |
| B67-1     | 1600683-02    | Soil   | 2/18/16 7:30  | 2/19/16 9:30  |
| B67-2     | 1600683-03    | Soil   | 2/18/16 7:30  | 2/19/16 9:30  |
| B67-10    | 1600683-04    | Soil   | 2/18/16 7:50  | 2/19/16 9:30  |
| B67-25    | 1600683-05    | Soil   | 2/18/16 8:50  | 2/19/16 9:30  |
| B4-0      | 1600683-07    | Soil   | 2/18/16 10:15 | 2/19/16 9:30  |
| B4-1      | 1600683-08    | Soil   | 2/18/16 10:15 | 2/19/16 9:30  |
| B4-2      | 1600683-09    | Soil   | 2/18/16 10:15 | 2/19/16 9:30  |
| B4-10     | 1600683-10    | Soil   | 2/18/16 10:30 | 2/19/16 9:30  |
| B4-20     | 1600683-11    | Soil   | 2/18/16 11:00 | 2/19/16 9:30  |
| B10-0     | 1600683-12    | Soil   | 2/18/16 11:25 | 2/19/16 9:30  |
| B10-1     | 1600683-13    | Soil   | 2/18/16 11:25 | 2/19/16 9:30  |
| B10-2     | 1600683-14    | Soil   | 2/18/16 11:25 | 2/19/16 9:30  |
| B10-10    | 1600683-15    | Soil   | 2/18/16 11:35 | 2/19/16 9:30  |
| B10-25    | 1600683-17    | Soil   | 2/18/16 12:35 | 2/19/16 9:30  |
| B10-GW    | 1600683-18    | Water  | 2/18/16 13:30 | 2/19/16 9:30  |
| B67-GW    | 1600683-19    | Water  | 2/18/16 14:00 | 2/19/16 9:30  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B67-0**

**Lab ID: 1600683-01**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 74                | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:00        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B67-1**

**Lab ID: 1600683-02**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 21                | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:04        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B67-2**

**Lab ID: 1600683-03**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.2               | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:07        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B67-10**

**Lab ID: 1600683-04**

### Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Benzene                     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Bromobenzene                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Bromoform                   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Bromomethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Chlorobenzene               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Chloroethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Chloroform                  | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Chloromethane               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B67-10**

**Lab ID: 1600683-04**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| m,p-Xylene                              | ND                | 10              | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Methylene chloride                      | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Naphthalene                             | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| o-Xylene                                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Styrene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Toluene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Trichloroethene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>124 %</i>      | <i>20 - 189</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:09</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>98.7 %</i>     | <i>20 - 173</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:09</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>113 %</i>      | <i>26 - 178</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:09</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>112 %</i>      | <i>31 - 166</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:09</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B67-25**

**Lab ID: 1600683-05**

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Benzene                     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Bromobenzene                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Bromoform                   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Bromomethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Chlorobenzene               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Chloroethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Chloroform                  | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Chloromethane               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B67-25**

**Lab ID: 1600683-05**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| m,p-Xylene                              | ND                | 10              | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Methylene chloride                      | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Naphthalene                             | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| o-Xylene                                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Styrene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Toluene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Trichloroethene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>125 %</i>      | <i>20 - 189</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:28</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>93.7 %</i>     | <i>20 - 173</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:28</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>110 %</i>      | <i>26 - 178</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:28</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>108 %</i>      | <i>31 - 166</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:28</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B4-0**

**Lab ID: 1600683-07**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.2               | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:11        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B4-1**

**Lab ID: 1600683-08**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 1.9               | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:14        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B4-2**

**Lab ID: 1600683-09**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 1.9               | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:17        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B4-10**

**Lab ID: 1600683-10**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Benzene                     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Bromobenzene                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Bromoform                   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Bromomethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Chlorobenzene               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Chloroethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Chloroform                  | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Chloromethane               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B4-10**

**Lab ID: 1600683-10**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| m,p-Xylene                              | ND                | 10              | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Methylene chloride                      | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Naphthalene                             | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| o-Xylene                                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Styrene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Toluene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Trichloroethene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>123 %</i>      | <i>20 - 189</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:46</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>100 %</i>      | <i>20 - 173</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:46</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>112 %</i>      | <i>26 - 178</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:46</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>115 %</i>      | <i>31 - 166</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:46</i> |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B4-20**

**Lab ID: 1600683-11**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Benzene                     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Bromobenzene                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Bromoform                   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Bromomethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Chlorobenzene               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Chloroethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Chloroform                  | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Chloromethane               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B4-20**

**Lab ID: 1600683-11**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| m,p-Xylene                              | ND                | 10              | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Methylene chloride                      | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Naphthalene                             | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| o-Xylene                                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Styrene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Toluene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Trichloroethene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>116 %</i>      | <i>20 - 189</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 11:31</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>96.7 %</i>     | <i>20 - 173</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 11:31</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>105 %</i>      | <i>26 - 178</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 11:31</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>108 %</i>      | <i>31 - 166</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 11:31</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B10-0**

**Lab ID: 1600683-12**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 54                | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:21        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B10-1**

**Lab ID: 1600683-13**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 14                | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:31        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B10-2**

**Lab ID: 1600683-14**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 4.6               | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:35        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B10-10**

**Lab ID: 1600683-15**

### Gasoline Range Organics by EPA 8015B (Modified)

Analyst: QP/

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes     |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-----------|
| <b>Gasoline Range Organics</b>         | <b>150</b>        | 25              | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |           |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>448 %</i>      | <i>37 - 153</i> |          | B6B0717 | 02/22/2016 | <i>02/22/16 19:36</i> | <i>S7</i> |

### BTEX/MTBE by EPA 8021

Analyst: QP/

| Analyte                                | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes     |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-----------|
| MTBE                                   | ND                | 120             | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |           |
| Benzene                                | ND                | 120             | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |           |
| Toluene                                | ND                | 120             | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |           |
| <b>Ethylbenzene</b>                    | <b>520</b>        | 120             | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |           |
| m,p-Xylene                             | ND                | 250             | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |           |
| o-Xylene                               | ND                | 120             | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |           |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>227 %</i>      | <i>62 - 128</i> |          | B6B0717 | 02/22/2016 | <i>02/22/16 19:36</i> | <i>S7</i> |

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,1,1-Trichloroethane       | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,1,2,2-Tetrachloroethane   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,1,2-Trichloroethane       | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,1-Dichloroethane          | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,1-Dichloroethene          | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,1-Dichloropropene         | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2,3-Trichloropropane      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2,3-Trichlorobenzene      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2,4-Trichlorobenzene      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2,4-Trimethylbenzene      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2-Dibromo-3-chloropropane | ND                | 50             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2-Dibromoethane           | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2-Dichlorobenzene         | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2-Dichloroethane          | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2-Dichloropropane         | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,3,5-Trimethylbenzene      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,3-Dichlorobenzene         | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B10-10**

**Lab ID: 1600683-15**

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                   | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,3-Dichloropropane       | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,4-Dichlorobenzene       | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 2,2-Dichloropropane       | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 2-Chlorotoluene           | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 4-Chlorotoluene           | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <b>4-Isopropyltoluene</b> | <b>210</b>        | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Benzene                   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Bromobenzene              | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Bromodichloromethane      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Bromoform                 | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Bromomethane              | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Carbon tetrachloride      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Chlorobenzene             | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Chloroethane              | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Chloroform                | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Chloromethane             | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| cis-1,2-Dichloroethene    | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| cis-1,3-Dichloropropene   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Dibromochloromethane      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Dibromomethane            | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Dichlorodifluoromethane   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <b>Ethylbenzene</b>       | <b>500</b>        | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Hexachlorobutadiene       | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <b>Isopropylbenzene</b>   | <b>13000</b>      | 250            | 50       | B6B0731 | 02/23/2016 | 02/23/16 13:24        | D6    |
| m,p-Xylene                | ND                | 50             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Methylene chloride        | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <b>n-Butylbenzene</b>     | <b>4100</b>       | 250            | 50       | B6B0731 | 02/23/2016 | 02/23/16 13:24        | D6    |
| <b>n-Propylbenzene</b>    | <b>6700</b>       | 250            | 50       | B6B0731 | 02/23/2016 | 02/23/16 13:24        | D6    |
| <b>Naphthalene</b>        | <b>4900</b>       | 250            | 50       | B6B0731 | 02/23/2016 | 02/23/16 13:24        | D6    |
| o-Xylene                  | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <b>sec-Butylbenzene</b>   | <b>810</b>        | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Styrene                   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <b>tert-Butylbenzene</b>  | <b>120</b>        | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Tetrachloroethene         | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Toluene                   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| trans-1,2-Dichloroethene  | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Trichloroethene           | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 02/26/2016

**Client Sample ID B10-10**

**Lab ID: 1600683-15**

## Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Trichlorofluoromethane                  | ND                | 25              | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Vinyl chloride                          | ND                | 25              | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>123 %</i>      | <i>20 - 189</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:24</i> |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>98.0 %</i>     | <i>20 - 189</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:51</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>109 %</i>      | <i>20 - 173</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:24</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>132 %</i>      | <i>20 - 173</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:51</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>102 %</i>      | <i>26 - 178</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:51</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>113 %</i>      | <i>26 - 178</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:24</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>111 %</i>      | <i>31 - 166</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:24</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>110 %</i>      | <i>31 - 166</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:51</i> |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B10-25**

**Lab ID: 1600683-17**

**Gasoline Range Organics by EPA 8015B (Modified)**

**Analyst: QP/**

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Gasoline Range Organics                | ND                | 1.0             | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>110 %</i>      | <i>37 - 153</i> |          | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |

**BTEX/MTBE by EPA 8021**

**Analyst: QP/**

| Analyte                                | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| MTBE                                   | ND                | 5.0             | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| Benzene                                | ND                | 5.0             | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| Toluene                                | ND                | 5.0             | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| Ethylbenzene                           | ND                | 5.0             | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| m,p-Xylene                             | ND                | 10              | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| o-Xylene                               | ND                | 5.0             | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>109 %</i>      | <i>62 - 128</i> |          | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

## Client Sample ID B10-GW

Lab ID: 1600683-18

### Gasoline Range Organics by EPA 8015B (Modified)

Analyst: QP/

| Analyte                                | Result (mg/L) | PQL (mg/L)      | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|--|---------------|-----------------|----------|---------|------------|--------------------|-------|
| <b>Gasoline Range Organics</b>         | <b>1.3</b>    | 0.05            | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>1180 %</i> | <i>70 - 130</i> |          | B6B0748 | 02/23/2016 | 02/23/16 17:16     | S10   |

### BTEX/MTBE by EPA 8021

Analyst: QP/

| Analyte                                | Result (ug/L) | PQL (ug/L)      | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|--|---------------|-----------------|----------|---------|------------|--------------------|-------|
| MTBE                                   | ND            | 0.50            | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| <b>Benzene</b>                         | <b>16</b>     | 0.50            | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| Toluene                                | ND            | 0.50            | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| <b>Ethylbenzene</b>                    | <b>74</b>     | 0.50            | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| m,p-Xylene                             | ND            | 1.0             | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| o-Xylene                               | ND            | 0.50            | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>410 %</i>  | <i>70 - 130</i> |          | B6B0748 | 02/23/2016 | 02/23/16 17:16     | S10   |

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                     | Result (ug/L) | PQL (ug/L) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|-----------------------------|---------------|------------|----------|---------|------------|--------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,1,1-Trichloroethane       | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,1,2,2-Tetrachloroethane   | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,1,2-Trichloroethane       | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,1-Dichloroethane          | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,1-Dichloroethene          | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,1-Dichloropropene         | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2,3-Trichloropropane      | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2,3-Trichlorobenzene      | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2,4-Trichlorobenzene      | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2,4-Trimethylbenzene      | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2-Dibromo-3-chloropropane | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2-Dibromoethane           | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2-Dichlorobenzene         | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2-Dichloroethane          | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2-Dichloropropane         | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,3,5-Trimethylbenzene      | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,3-Dichlorobenzene         | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B10-GW**

**Lab ID: 1600683-18**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                  | Result<br>(ug/L) | PQL<br>(ug/L) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--------------------------|------------------|---------------|----------|---------|------------|-----------------------|-------|
| 1,3-Dichloropropane      | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| 1,4-Dichlorobenzene      | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| 2,2-Dichloropropane      | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| 2-Chlorotoluene          | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| 4-Chlorotoluene          | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| 4-Isopropyltoluene       | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>Benzene</b>           | <b>17</b>        | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Bromobenzene             | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Bromodichloromethane     | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Bromoform                | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Bromomethane             | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Carbon tetrachloride     | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Chlorobenzene            | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Chloroethane             | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Chloroform               | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Chloromethane            | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| cis-1,2-Dichloroethene   | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| cis-1,3-Dichloropropene  | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Dibromochloromethane     | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Dibromomethane           | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Dichlorodifluoromethane  | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>Ethylbenzene</b>      | <b>82</b>        | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Hexachlorobutadiene      | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>Isopropylbenzene</b>  | <b>510</b>       | 5.0           | 10       | B6B0681 | 02/24/2016 | 02/24/16 11:41        | D6    |
| m,p-Xylene               | ND               | 4.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Methylene chloride       | ND               | 4.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>n-Butylbenzene</b>    | <b>11</b>        | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>n-Propylbenzene</b>   | <b>110</b>       | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>Naphthalene</b>       | <b>7.8</b>       | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| o-Xylene                 | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>sec-Butylbenzene</b>  | <b>10</b>        | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Styrene                  | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>tert-Butylbenzene</b> | <b>2.4</b>       | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Tetrachloroethene        | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Toluene                  | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| trans-1,2-Dichloroethene | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Trichloroethene          | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B10-GW**  
**Lab ID: 1600683-18**

## Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                                 | Result<br>(ug/L) | PQL<br>(ug/L)   | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Trichlorofluoromethane                  | ND               | 2.0             | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Vinyl chloride                          | ND               | 2.0             | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>112 %</i>     | <i>49 - 148</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 13:53</i> |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>130 %</i>     | <i>49 - 148</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 11:41</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>96.1 %</i>    | <i>65 - 132</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 13:53</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>109 %</i>     | <i>65 - 132</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 11:41</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>117 %</i>     | <i>55 - 138</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 11:41</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>102 %</i>     | <i>55 - 138</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 13:53</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>92.5 %</i>    | <i>60 - 120</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 13:53</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>106 %</i>     | <i>60 - 120</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 11:41</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

Client Sample ID B67-GW

Lab ID: 1600683-19

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                     | Result<br>(ug/L) | PQL<br>(ug/L) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|------------------|---------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,1,1-Trichloroethane       | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,1,2,2-Tetrachloroethane   | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,1,2-Trichloroethane       | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,1-Dichloroethane          | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,1-Dichloroethene          | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,1-Dichloropropene         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2,3-Trichloropropane      | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2,3-Trichlorobenzene      | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2,4-Trichlorobenzene      | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2,4-Trimethylbenzene      | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2-Dibromo-3-chloropropane | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2-Dibromoethane           | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2-Dichlorobenzene         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2-Dichloroethane          | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2-Dichloropropane         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,3,5-Trimethylbenzene      | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,3-Dichlorobenzene         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,3-Dichloropropane         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,4-Dichlorobenzene         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 2,2-Dichloropropane         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 2-Chlorotoluene             | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 4-Chlorotoluene             | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 4-Isopropyltoluene          | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Benzene                     | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Bromobenzene                | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Bromodichloromethane        | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Bromoform                   | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Bromomethane                | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Carbon tetrachloride        | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Chlorobenzene               | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Chloroethane                | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Chloroform                  | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Chloromethane               | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| cis-1,2-Dichloroethene      | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| cis-1,3-Dichloropropene     | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Dibromochloromethane        | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 02/26/2016

**Client Sample ID B67-GW**  
**Lab ID: 1600683-19**

## Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                                 | Result<br>(ug/L) | PQL<br>(ug/L)   | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Dichlorodifluoromethane                 | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Ethylbenzene                            | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Hexachlorobutadiene                     | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Isopropylbenzene                        | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| m,p-Xylene                              | ND               | 1.0             | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Methylene chloride                      | ND               | 1.0             | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| n-Butylbenzene                          | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| n-Propylbenzene                         | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Naphthalene                             | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| o-Xylene                                | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| sec-Butylbenzene                        | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Styrene                                 | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| tert-Butylbenzene                       | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Tetrachloroethene                       | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Toluene                                 | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| trans-1,2-Dichloroethene                | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Trichloroethene                         | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Trichlorofluoromethane                  | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Vinyl chloride                          | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>134 %</i>     | <i>49 - 148</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 12:53</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>106 %</i>     | <i>65 - 132</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 12:53</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>118 %</i>     | <i>55 - 138</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 12:53</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>105 %</i>     | <i>60 - 120</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 12:53</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### QUALITY CONTROL SECTION

#### Lead by ICP-AES EPA 6010B - Quality Control

| Analyte                                    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6B0770 - EPA 3050 Modified_S</b> |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6B0770-BLK1)</b>                |                   |                |                | Prepared: 2/24/2016 Analyzed: 2/24/2016                           |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6B0770-BS1)</b>                   |                   |                |                | Prepared: 2/24/2016 Analyzed: 2/24/2016                           |       |                 |      |              |       |
| Lead                                       | 47.5195           | 1.0            | 50.0000        |   | 95.0  | 80 - 120        |      |              |       |
| <b>Duplicate (B6B0770-DUP1)</b>            |                   |                |                | <b>Source: 1600683-14</b> Prepared: 2/24/2016 Analyzed: 2/24/2016 |       |                 |      |              |       |
| Lead                                       | 4.89553           | 1.0            |                | 4.63817   | NR    |                 | 5.40 | 20           |       |
| <b>Matrix Spike (B6B0770-MS1)</b>          |                   |                |                | <b>Source: 1600683-14</b> Prepared: 2/24/2016 Analyzed: 2/24/2016 |       |                 |      |              |       |
| Lead                                       | 180.722           | 1.0            | 250.000        | 4.63817   | 70.4  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6B0770-MSD1)</b>     |                   |                |                | <b>Source: 1600683-14</b> Prepared: 2/24/2016 Analyzed: 2/24/2016 |       |                 |      |              |       |
| Lead                                       | 175.023           | 1.0            | 250.000        | 4.63817   | 68.2  | 35 - 129        | 3.20 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg)            | Spike<br>Level | Source<br>Result                        | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|--|-------------------|---------------------------|----------------|---|----------------|-----------------|------------|--------------|-------|
| <b>Batch B6B0717 - GCVOA_S</b>         |                   |                           |                |   |                |                 |            |              |       |
| <b>Blank (B6B0717-BLK1)</b>            |                   |                           |                |   |                |                 |            |              |       |
|  |                   |                           |                | Prepared: 2/22/2016 Analyzed: 2/22/2016 |                |                 |            |              |       |
| Gasoline Range Organics                | ND                | 1.0                       |                |   | NR             |                 |            |              |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2144            |                           | 0.199892       |   | 107            | 37 - 153        |            |              |       |
| <b>LCS (B6B0717-BS1)</b>               |                   |                           |                |   |                |                 |            |              |       |
|  |                   |                           |                | Prepared: 2/22/2016 Analyzed: 2/22/2016 |                |                 |            |              |       |
| Gasoline Range Organics                | 4.60800           | 1.0                       | 5.00000        |   | 92.2           | 70 - 130        |            |              |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2198            |                           | 0.199892       |   | 110            | 37 - 153        |            |              |       |
| <b>Duplicate (B6B0717-DUP1)</b>        |                   |                           |                |   |                |                 |            |              |       |
|  |                   | <b>Source: 1600683-17</b> |                | Prepared: 2/22/2016 Analyzed: 2/23/2016 |                |                 |            |              |       |
| Gasoline Range Organics                | ND                | 1.0                       |                | ND                                      | NR             |                 |            | 20           |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2027            |                           | 0.199892       |   | 101            | 37 - 153        |            |              |       |
| <b>Matrix Spike (B6B0717-MS1)</b>      |                   |                           |                |   |                |                 |            |              |       |
|  |                   | <b>Source: 1600683-17</b> |                | Prepared: 2/22/2016 Analyzed: 2/22/2016 |                |                 |            |              |       |
| Gasoline Range Organics                | 4.60100           | 1.0                       | 5.00000        | ND                                      | 92.0           | 20 - 130        |            |              |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2275            |                           | 0.199892       |   | 114            | 37 - 153        |            |              |       |
| <b>Matrix Spike Dup (B6B0717-MSD1)</b> |                   |                           |                |   |                |                 |            |              |       |
|  |                   | <b>Source: 1600683-17</b> |                | Prepared: 2/22/2016 Analyzed: 2/22/2016 |                |                 |            |              |       |
| Gasoline Range Organics                | 4.61100           | 1.0                       | 5.00000        | ND                                      | 92.2           | 20 - 130        | 0.217      | 20           |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2274            |                           | 0.199892       |   | 114            | 37 - 153        |            |              |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 02/26/2016

### Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

| Analyte | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0748 - GCVOA\_W**

**Blank (B6B0748-BLK1)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                         |    |      |  |  |  |    |  |  |  |
|-------------------------|----|------|--|--|--|----|--|--|--|
| Gasoline Range Organics | ND | 0.05 |  |  |  | NR |  |  |  |
|-------------------------|----|------|--|--|--|----|--|--|--|

*Surrogate: 4-Bromofluorobenzene*

0.09994

9.99460E-2

100

70 - 130

**LCS (B6B0748-BS1)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                         |          |      |         |  |      |          |  |  |  |
|-------------------------|----------|------|---------|--|------|----------|--|--|--|
| Gasoline Range Organics | 0.887000 | 0.05 | 1.00000 |  | 88.7 | 70 - 130 |  |  |  |
|-------------------------|----------|------|---------|--|------|----------|--|--|--|

*Surrogate: 4-Bromofluorobenzene*

0.08227

9.99460E-2

82.3

70 - 130

**LCS Dup (B6B0748-BSD1)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                         |          |      |         |  |      |          |      |    |  |
|-------------------------|----------|------|---------|--|------|----------|------|----|--|
| Gasoline Range Organics | 0.941000 | 0.05 | 1.00000 |  | 94.1 | 70 - 130 | 5.91 | 20 |  |
|-------------------------|----------|------|---------|--|------|----------|------|----|--|

*Surrogate: 4-Bromofluorobenzene*

0.07581

9.99460E-2

75.8

70 - 130



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### BTEX/MTBE by EPA 8021 - Quality Control

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6B0717 - GCVOA\_S**

**Blank (B6B0717-BLK1)**

Prepared: 2/22/2016 Analyzed: 2/22/2016

|              |    |     |  |  |    |  |  |  |  |
|--------------|----|-----|--|--|----|--|--|--|--|
| MTBE         | ND | 5.0 |  |  | NR |  |  |  |  |
| Benzene      | ND | 5.0 |  |  | NR |  |  |  |  |
| Toluene      | ND | 5.0 |  |  | NR |  |  |  |  |
| Ethylbenzene | ND | 5.0 |  |  | NR |  |  |  |  |
| m,p-Xylene   | ND | 10  |  |  | NR |  |  |  |  |
| o-Xylene     | ND | 5.0 |  |  | NR |  |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      216.7      199.892      108      62 - 128

**LCS (B6B0717-BS2)**

Prepared: 2/22/2016 Analyzed: 2/22/2016

|              |         |     |         |  |      |          |  |  |  |
|--------------|---------|-----|---------|--|------|----------|--|--|--|
| MTBE         | 111.354 | 5.0 | 100.000 |  | 111  | 70 - 130 |  |  |  |
| Benzene      | 89.1720 | 5.0 | 100.000 |  | 89.2 | 70 - 130 |  |  |  |
| Toluene      | 90.1520 | 5.0 | 100.000 |  | 90.2 | 70 - 130 |  |  |  |
| Ethylbenzene | 86.3540 | 5.0 | 100.000 |  | 86.4 | 70 - 130 |  |  |  |
| m,p-Xylene   | 179.343 | 10  | 200.000 |  | 89.7 | 70 - 130 |  |  |  |
| o-Xylene     | 87.7590 | 5.0 | 100.000 |  | 87.8 | 70 - 130 |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      235.3      199.892      118      62 - 128

**Duplicate (B6B0717-DUP1)**

Source: 1600683-17

Prepared: 2/22/2016 Analyzed: 2/23/2016

|              |          |     |  |          |    |  |      |    |   |
|--------------|----------|-----|--|----------|----|--|------|----|---|
| MTBE         | ND       | 5.0 |  | 4.61900  | NR |  |      | 20 |   |
| Benzene      | 0.699000 | 5.0 |  | 0.928000 | NR |  | 28.1 | 20 | R |
| Toluene      | 0.613000 | 5.0 |  | 2.41600  | NR |  | 119  | 20 | R |
| Ethylbenzene | ND       | 5.0 |  | 0.773000 | NR |  |      | 20 |   |
| m,p-Xylene   | 0.999000 | 10  |  | 2.28500  | NR |  | 78.3 | 20 | R |
| o-Xylene     | ND       | 5.0 |  | 0.877000 | NR |  |      | 20 |   |

*Surrogate: 4-Bromofluorobenzene*      203.8      199.892      102      62 - 128

**Matrix Spike (B6B0717-MS1)**

Source: 1600683-17

Prepared: 2/22/2016 Analyzed: 2/22/2016

|              |         |     |         |          |      |          |  |  |  |
|--------------|---------|-----|---------|----------|------|----------|--|--|--|
| MTBE         | 547.842 | 5.0 | 430.000 | 4.61900  | 126  | 37 - 135 |  |  |  |
| Benzene      | 36.0270 | 5.0 | 40.7500 | 0.928000 | 86.1 | 29 - 143 |  |  |  |
| Toluene      | 165.333 | 5.0 | 202.250 | 2.41600  | 80.6 | 24 - 125 |  |  |  |
| Ethylbenzene | 49.0180 | 5.0 | 76.0000 | 0.773000 | 63.5 | 13 - 99  |  |  |  |
| m,p-Xylene   | 173.645 | 10  | 206.500 | 2.28500  | 83.0 | 15 - 141 |  |  |  |
| o-Xylene     | 66.3890 | 5.0 | 73.5000 | 0.877000 | 89.1 | 16 - 144 |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      228.6      199.892      114      62 - 128

**Matrix Spike Dup (B6B0717-MSD1)**

Source: 1600683-17

Prepared: 2/22/2016 Analyzed: 2/22/2016

|              |         |     |         |          |      |          |       |    |  |
|--------------|---------|-----|---------|----------|------|----------|-------|----|--|
| MTBE         | 561.217 | 5.0 | 430.000 | 4.61900  | 129  | 37 - 135 | 2.41  | 20 |  |
| Benzene      | 36.7460 | 5.0 | 40.7500 | 0.928000 | 87.9 | 29 - 143 | 1.98  | 20 |  |
| Toluene      | 167.460 | 5.0 | 202.250 | 2.41600  | 81.6 | 24 - 125 | 1.28  | 20 |  |
| Ethylbenzene | 49.4530 | 5.0 | 76.0000 | 0.773000 | 64.1 | 13 - 99  | 0.884 | 20 |  |
| m,p-Xylene   | 175.841 | 10  | 206.500 | 2.28500  | 84.0 | 15 - 141 | 1.26  | 20 |  |



## Certificate of Analysis

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 6671 Brisa Street  
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Project Number : 82/92 Interchange, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 02/26/2016

### BTEX/MTBE by EPA 8021 - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0717 - GCVOA\_S (continued)**

**Matrix Spike Dup (B6B0717-MSD1) - Continued**

Source: 1600683-17

Prepared: 2/22/2016 Analyzed: 2/22/2016

|                                 |         |     |         |          |      |          |      |    |  |
|---------------------------------|---------|-----|---------|----------|------|----------|------|----|--|
| o-Xylene                        | 67.2170 | 5.0 | 73.5000 | 0.877000 | 90.3 | 16 - 144 | 1.24 | 20 |  |
| Surrogate: 4-Bromofluorobenzene | 229.5   |     | 199.892 |          | 115  | 62 - 128 |      |    |  |



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Project Number : 82/92 Interchange, E8721-02-36  
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 Reported : 02/26/2016

### BTEX/MTBE by EPA 8021 - Quality Control

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0748 - GCVOA\_W**

**Blank (B6B0748-BLK1)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|              |    |      |  |  |  |    |  |  |  |
|--------------|----|------|--|--|--|----|--|--|--|
| MTBE         | ND | 0.50 |  |  |  | NR |  |  |  |
| Benzene      | ND | 0.50 |  |  |  | NR |  |  |  |
| Toluene      | ND | 0.50 |  |  |  | NR |  |  |  |
| Ethylbenzene | ND | 0.50 |  |  |  | NR |  |  |  |
| m,p-Xylene   | ND | 1.0  |  |  |  | NR |  |  |  |
| o-Xylene     | ND | 0.50 |  |  |  | NR |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      89.88      99.9460      89.9      70 - 130

**LCS (B6B0748-BS2)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|              |         |      |         |  |      |          |  |  |  |
|--------------|---------|------|---------|--|------|----------|--|--|--|
| MTBE         | 40.9350 | 0.50 | 50.0000 |  | 81.9 | 70 - 130 |  |  |  |
| Benzene      | 38.3620 | 0.50 | 50.0000 |  | 76.7 | 70 - 130 |  |  |  |
| Toluene      | 39.0790 | 0.50 | 50.0000 |  | 78.2 | 70 - 130 |  |  |  |
| Ethylbenzene | 39.6090 | 0.50 | 50.0000 |  | 79.2 | 70 - 130 |  |  |  |
| m,p-Xylene   | 85.1070 | 1.0  | 100.000 |  | 85.1 | 70 - 130 |  |  |  |
| o-Xylene     | 40.3690 | 0.50 | 50.0000 |  | 80.7 | 70 - 130 |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      100.6      99.9460      101      70 - 130

**LCS Dup (B6B0748-BS2)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|              |         |      |         |  |      |          |      |    |  |
|--------------|---------|------|---------|--|------|----------|------|----|--|
| MTBE         | 44.1050 | 0.50 | 50.0000 |  | 88.2 | 70 - 130 | 7.46 | 20 |  |
| Benzene      | 40.5300 | 0.50 | 50.0000 |  | 81.1 | 70 - 130 | 5.50 | 20 |  |
| Toluene      | 41.4440 | 0.50 | 50.0000 |  | 82.9 | 70 - 130 | 5.87 | 20 |  |
| Ethylbenzene | 41.9150 | 0.50 | 50.0000 |  | 83.8 | 70 - 130 | 5.66 | 20 |  |
| m,p-Xylene   | 90.7790 | 1.0  | 100.000 |  | 90.8 | 70 - 130 | 6.45 | 20 |  |
| o-Xylene     | 43.0720 | 0.50 | 50.0000 |  | 86.1 | 70 - 130 | 6.48 | 20 |  |

*Surrogate: 4-Bromofluorobenzene*      94.81      99.9460      94.9      70 - 130



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Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>Limits | RPD<br>RPD | Limit<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|------------------|------------|----------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|------------------|------------|----------------|-------|

**Batch B6B0731 - MSVOA\_S**

**Blank (B6B0731-BLK1)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                             |    |     |  |    |
|-----------------------------|----|-----|--|----|
| 1,1,1,2-Tetrachloroethane   | ND | 5.0 |  | NR |
| 1,1,1-Trichloroethane       | ND | 5.0 |  | NR |
| 1,1,2,2-Tetrachloroethane   | ND | 5.0 |  | NR |
| 1,1,2-Trichloroethane       | ND | 5.0 |  | NR |
| 1,1-Dichloroethane          | ND | 5.0 |  | NR |
| 1,1-Dichloroethene          | ND | 5.0 |  | NR |
| 1,1-Dichloropropene         | ND | 5.0 |  | NR |
| 1,2,3-Trichloropropane      | ND | 5.0 |  | NR |
| 1,2,3-Trichlorobenzene      | ND | 5.0 |  | NR |
| 1,2,4-Trichlorobenzene      | ND | 5.0 |  | NR |
| 1,2,4-Trimethylbenzene      | ND | 5.0 |  | NR |
| 1,2-Dibromo-3-chloropropane | ND | 10  |  | NR |
| 1,2-Dibromoethane           | ND | 5.0 |  | NR |
| 1,2-Dichlorobenzene         | ND | 5.0 |  | NR |
| 1,2-Dichloroethane          | ND | 5.0 |  | NR |
| 1,2-Dichloropropane         | ND | 5.0 |  | NR |
| 1,3,5-Trimethylbenzene      | ND | 5.0 |  | NR |
| 1,3-Dichlorobenzene         | ND | 5.0 |  | NR |
| 1,3-Dichloropropane         | ND | 5.0 |  | NR |
| 1,4-Dichlorobenzene         | ND | 5.0 |  | NR |
| 2,2-Dichloropropane         | ND | 5.0 |  | NR |
| 2-Chlorotoluene             | ND | 5.0 |  | NR |
| 4-Chlorotoluene             | ND | 5.0 |  | NR |
| 4-Isopropyltoluene          | ND | 5.0 |  | NR |
| Benzene                     | ND | 5.0 |  | NR |
| Bromobenzene                | ND | 5.0 |  | NR |
| Bromodichloromethane        | ND | 5.0 |  | NR |
| Bromoform                   | ND | 5.0 |  | NR |
| Bromomethane                | ND | 5.0 |  | NR |
| Carbon tetrachloride        | ND | 5.0 |  | NR |
| Chlorobenzene               | ND | 5.0 |  | NR |
| Chloroethane                | ND | 5.0 |  | NR |
| Chloroform                  | ND | 5.0 |  | NR |
| Chloromethane               | ND | 5.0 |  | NR |
| cis-1,2-Dichloroethene      | ND | 5.0 |  | NR |
| cis-1,3-Dichloropropene     | ND | 5.0 |  | NR |
| Dibromochloromethane        | ND | 5.0 |  | NR |
| Dibromomethane              | ND | 5.0 |  | NR |
| Dichlorodifluoromethane     | ND | 5.0 |  | NR |
| Ethylbenzene                | ND | 5.0 |  | NR |
| Hexachlorobutadiene         | ND | 5.0 |  | NR |



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Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0731 - MSVOA\_S (continued)**

**Blank (B6B0731-BLK1) - Continued**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|   |              |     |                |  |             |                 |  |  |  |
|---|--------------|-----|----------------|--|-------------|-----------------|--|--|--|
| Isopropylbenzene                        | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| m,p-Xylene                              | ND           | 10  |                |  | NR          |                 |  |  |  |
| Methylene chloride                      | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| n-Butylbenzene                          | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| n-Propylbenzene                         | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Naphthalene                             | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| o-Xylene                                | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| sec-Butylbenzene                        | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Styrene                                 | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| tert-Butylbenzene                       | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Tetrachloroethene                       | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Toluene                                 | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| trans-1,2-Dichloroethene                | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Trichloroethene                         | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Trichlorofluoromethane                  | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Vinyl chloride                          | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| <hr/>                                   |              |     |                |  |             |                 |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>52.96</i> |     | <i>50.0000</i> |  | <i>106</i>  | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>48.48</i> |     | <i>50.0000</i> |  | <i>97.0</i> | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>50.86</i> |     | <i>50.0000</i> |  | <i>102</i>  | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>51.71</i> |     | <i>50.0000</i> |  | <i>103</i>  | <i>31 - 166</i> |  |  |  |

**LCS (B6B0731-BS1)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                             |         |     |         |  |      |          |  |  |  |
|-----------------------------|---------|-----|---------|--|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 53.4700 | 5.0 | 50.0000 |  | 107  | 74 - 117 |  |  |  |
| 1,1,1-Trichloroethane       | 55.1100 | 5.0 | 50.0000 |  | 110  | 65 - 130 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 49.0400 | 5.0 | 50.0000 |  | 98.1 | 63 - 123 |  |  |  |
| 1,1,2-Trichloroethane       | 48.3700 | 5.0 | 50.0000 |  | 96.7 | 66 - 122 |  |  |  |
| 1,1-Dichloroethane          | 53.9600 | 5.0 | 50.0000 |  | 108  | 65 - 124 |  |  |  |
| 1,1-Dichloroethene          | 54.6200 | 5.0 | 50.0000 |  | 109  | 60 - 130 |  |  |  |
| 1,1-Dichloropropene         | 54.8200 | 5.0 | 50.0000 |  | 110  | 75 - 121 |  |  |  |
| 1,2,3-Trichloropropane      | 51.8600 | 5.0 | 50.0000 |  | 104  | 62 - 126 |  |  |  |
| 1,2,3-Trichlorobenzene      | 50.6700 | 5.0 | 50.0000 |  | 101  | 72 - 120 |  |  |  |
| 1,2,4-Trichlorobenzene      | 53.9900 | 5.0 | 50.0000 |  | 108  | 75 - 121 |  |  |  |
| 1,2,4-Trimethylbenzene      | 57.6000 | 5.0 | 50.0000 |  | 115  | 82 - 118 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 52.5600 | 10  | 50.0000 |  | 105  | 67 - 121 |  |  |  |
| 1,2-Dibromoethane           | 50.5100 | 5.0 | 50.0000 |  | 101  | 69 - 123 |  |  |  |
| 1,2-Dichlorobenzene         | 53.1200 | 5.0 | 50.0000 |  | 106  | 81 - 114 |  |  |  |
| 1,2-Dichloroethane          | 52.8700 | 5.0 | 50.0000 |  | 106  | 71 - 119 |  |  |  |
| 1,2-Dichloropropane         | 51.2100 | 5.0 | 50.0000 |  | 102  | 71 - 118 |  |  |  |
| 1,3,5-Trimethylbenzene      | 57.0800 | 5.0 | 50.0000 |  | 114  | 81 - 120 |  |  |  |
| 1,3-Dichlorobenzene         | 53.9200 | 5.0 | 50.0000 |  | 108  | 80 - 115 |  |  |  |
| 1,3-Dichloropropane         | 52.6300 | 5.0 | 50.0000 |  | 105  | 77 - 117 |  |  |  |



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Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6B0731 - MSVOA\_S (continued)**

**LCS (B6B0731-BS1) - Continued**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                                  |         |     |         |  |      |          |  |  |    |
|----------------------------------|---------|-----|---------|--|------|----------|--|--|----|
| 1,4-Dichlorobenzene              | 53.3100 | 5.0 | 50.0000 |  | 107  | 80 - 115 |  |  |    |
| 2,2-Dichloropropane              | 61.8100 | 5.0 | 50.0000 |  | 124  | 58 - 141 |  |  |    |
| 2-Chlorotoluene                  | 57.1800 | 5.0 | 50.0000 |  | 114  | 78 - 120 |  |  |    |
| 4-Chlorotoluene                  | 57.2500 | 5.0 | 50.0000 |  | 114  | 79 - 119 |  |  |    |
| 4-Isopropyltoluene               | 58.2500 | 5.0 | 50.0000 |  | 116  | 81 - 125 |  |  |    |
| Benzene                          | 102.650 | 5.0 | 100.000 |  | 103  | 73 - 116 |  |  |    |
| Bromobenzene                     | 51.6300 | 5.0 | 50.0000 |  | 103  | 78 - 115 |  |  |    |
| Bromodichloromethane             | 50.2000 | 5.0 | 50.0000 |  | 100  | 73 - 120 |  |  |    |
| Bromoform                        | 50.4200 | 5.0 | 50.0000 |  | 101  | 68 - 124 |  |  |    |
| Bromomethane                     | 80.5000 | 5.0 | 50.0000 |  | 161  | 26 - 163 |  |  |    |
| Carbon tetrachloride             | 53.1800 | 5.0 | 50.0000 |  | 106  | 67 - 130 |  |  |    |
| Chlorobenzene                    | 53.0800 | 5.0 | 50.0000 |  | 106  | 82 - 114 |  |  |    |
| Chloroethane                     | 70.4300 | 5.0 | 50.0000 |  | 141  | 40 - 151 |  |  |    |
| Chloroform                       | 53.8500 | 5.0 | 50.0000 |  | 108  | 68 - 124 |  |  |    |
| Chloromethane                    | 69.9000 | 5.0 | 50.0000 |  | 140  | 18 - 144 |  |  |    |
| cis-1,2-Dichloroethene           | 53.3000 | 5.0 | 50.0000 |  | 107  | 66 - 125 |  |  |    |
| cis-1,3-Dichloropropene          | 49.7600 | 5.0 | 50.0000 |  | 99.5 | 77 - 120 |  |  |    |
| Dibromochloromethane             | 50.3900 | 5.0 | 50.0000 |  | 101  | 76 - 118 |  |  |    |
| Dibromomethane                   | 48.6600 | 5.0 | 50.0000 |  | 97.3 | 69 - 122 |  |  |    |
| Dichlorodifluoromethane          | 62.3100 | 5.0 | 50.0000 |  | 125  | 0 - 155  |  |  |    |
| Ethylbenzene                     | 113.280 | 5.0 | 100.000 |  | 113  | 79 - 115 |  |  |    |
| Hexachlorobutadiene              | 54.7700 | 5.0 | 50.0000 |  | 110  | 71 - 121 |  |  |    |
| Isopropylbenzene                 | 57.7700 | 5.0 | 50.0000 |  | 116  | 78 - 126 |  |  |    |
| m,p-Xylene                       | 118.210 | 10  | 100.000 |  | 118  | 80 - 119 |  |  |    |
| Methylene chloride               | 54.0800 | 5.0 | 50.0000 |  | 108  | 56 - 129 |  |  |    |
| MTBE                             | 53.8100 | 5.0 | 50.0000 |  | 108  | 61 - 124 |  |  |    |
| n-Butylbenzene                   | 61.3900 | 5.0 | 50.0000 |  | 123  | 78 - 127 |  |  |    |
| n-Propylbenzene                  | 59.1000 | 5.0 | 50.0000 |  | 118  | 77 - 128 |  |  |    |
| Naphthalene                      | 49.7600 | 5.0 | 50.0000 |  | 99.5 | 61 - 141 |  |  |    |
| o-Xylene                         | 116.150 | 5.0 | 100.000 |  | 116  | 81 - 116 |  |  | L5 |
| sec-Butylbenzene                 | 58.9000 | 5.0 | 50.0000 |  | 118  | 81 - 125 |  |  |    |
| Styrene                          | 56.9200 | 5.0 | 50.0000 |  | 114  | 82 - 120 |  |  |    |
| tert-Butylbenzene                | 56.5300 | 5.0 | 50.0000 |  | 113  | 80 - 123 |  |  |    |
| Tetrachloroethene                | 54.1200 | 5.0 | 50.0000 |  | 108  | 75 - 123 |  |  |    |
| Toluene                          | 107.500 | 5.0 | 100.000 |  | 108  | 75 - 119 |  |  |    |
| trans-1,2-Dichloroethene         | 53.1900 | 5.0 | 50.0000 |  | 106  | 62 - 127 |  |  |    |
| Trichloroethene                  | 51.2900 | 5.0 | 50.0000 |  | 103  | 73 - 119 |  |  |    |
| Trichlorofluoromethane           | 49.8200 | 5.0 | 50.0000 |  | 99.6 | 47 - 157 |  |  |    |
| Vinyl chloride                   | 62.2900 | 5.0 | 50.0000 |  | 125  | 27 - 147 |  |  |    |
| Surrogate: 1,2-Dichloroethane-d4 | 55.81   |     | 50.0000 |  | 112  | 20 - 189 |  |  |    |
| Surrogate: 4-Bromofluorobenzene  | 51.64   |     | 50.0000 |  | 103  | 20 - 173 |  |  |    |



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Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0731 - MSVOA\_S (continued)**

**LCS (B6B0731-BS1) - Continued**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                                 |       |         |     |          |
|---------------------------------|-------|---------|-----|----------|
| Surrogate: Dibromofluoromethane | 54.15 | 50.0000 | 108 | 26 - 178 |
| Surrogate: Toluene-d8           | 54.43 | 50.0000 | 109 | 31 - 166 |

**Duplicate (B6B0731-DUP1)**

**Source: 1600683-11**

Prepared: 2/23/2016 Analyzed: 2/23/2016

| Analyte                     | Result | PQL | Spike | Source | % Rec | % Rec | RPD | RPD | Notes |
|-----------------------------|--------|-----|-------|--------|-------|-------|-----|-----|-------|
| 1,1,1,2-Tetrachloroethane   | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,1,1-Trichloroethane       | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,1,2,2-Tetrachloroethane   | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,1,2-Trichloroethane       | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,1-Dichloroethane          | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,1-Dichloroethene          | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,1-Dichloropropene         | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,2,3-Trichloropropane      | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,2,3-Trichlorobenzene      | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,2,4-Trichlorobenzene      | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,2,4-Trimethylbenzene      | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,2-Dibromo-3-chloropropane | ND     | 10  | ND    | NR     |       |       |     | 20  |       |
| 1,2-Dibromoethane           | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,2-Dichlorobenzene         | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,2-Dichloroethane          | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,2-Dichloropropane         | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,3,5-Trimethylbenzene      | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,3-Dichlorobenzene         | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,3-Dichloropropane         | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 1,4-Dichlorobenzene         | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 2,2-Dichloropropane         | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 2-Chlorotoluene             | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 4-Chlorotoluene             | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| 4-Isopropyltoluene          | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| Benzene                     | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| Bromobenzene                | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| Bromodichloromethane        | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| Bromoform                   | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| Bromomethane                | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| Carbon tetrachloride        | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| Chlorobenzene               | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| Chloroethane                | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| Chloroform                  | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| Chloromethane               | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| cis-1,2-Dichloroethene      | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| cis-1,3-Dichloropropene     | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| Dibromochloromethane        | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |
| Dibromomethane              | ND     | 5.0 | ND    | NR     |       |       |     | 20  |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6B0731 - MSVOA\_S (continued)**

**Duplicate (B6B0731-DUP1) - Continued**

**Source: 1600683-11**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                          |    |     |  |    |    |  |  |    |  |
|--------------------------|----|-----|--|----|----|--|--|----|--|
| Dichlorodifluoromethane  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Ethylbenzene             | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Hexachlorobutadiene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Isopropylbenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| m,p-Xylene               | ND | 10  |  | ND | NR |  |  | 20 |  |
| Methylene chloride       | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| MTBE                     | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| n-Butylbenzene           | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| n-Propylbenzene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Naphthalene              | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| o-Xylene                 | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| sec-Butylbenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Styrene                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| tert-Butylbenzene        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Tetrachloroethene        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Toluene                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| trans-1,2-Dichloroethene | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Trichloroethene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Trichlorofluoromethane   | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Vinyl chloride           | ND | 5.0 |  | ND | NR |  |  | 20 |  |

|   |       |  |         |  |      |          |  |  |  |
|---|-------|--|---------|--|------|----------|--|--|--|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 58.58 |  | 50.0000 |  | 117  | 20 - 189 |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 47.71 |  | 50.0000 |  | 95.4 | 20 - 173 |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | 52.06 |  | 50.0000 |  | 104  | 26 - 178 |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | 52.37 |  | 50.0000 |  | 105  | 31 - 166 |  |  |  |

**Matrix Spike (B6B0731-MS1)**

**Source: 1600683-11**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                             |         |     |         |    |      |          |  |  |  |
|-----------------------------|---------|-----|---------|----|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 47.2200 | 5.0 | 50.0000 | ND | 94.4 | 45 - 122 |  |  |  |
| 1,1,1-Trichloroethane       | 50.0300 | 5.0 | 50.0000 | ND | 100  | 46 - 131 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 46.8900 | 5.0 | 50.0000 | ND | 93.8 | 34 - 133 |  |  |  |
| 1,1,2-Trichloroethane       | 49.3300 | 5.0 | 50.0000 | ND | 98.7 | 40 - 133 |  |  |  |
| 1,1-Dichloroethane          | 48.4700 | 5.0 | 50.0000 | ND | 96.9 | 50 - 120 |  |  |  |
| 1,1-Dichloroethene          | 49.4900 | 5.0 | 50.0000 | ND | 99.0 | 42 - 130 |  |  |  |
| 1,1-Dichloropropene         | 50.5900 | 5.0 | 50.0000 | ND | 101  | 49 - 125 |  |  |  |
| 1,2,3-Trichloropropane      | 48.6700 | 5.0 | 50.0000 | ND | 97.3 | 42 - 130 |  |  |  |
| 1,2,3-Trichlorobenzene      | 45.2500 | 5.0 | 50.0000 | ND | 90.5 | 2 - 136  |  |  |  |
| 1,2,4-Trichlorobenzene      | 45.7300 | 5.0 | 50.0000 | ND | 91.5 | 6 - 137  |  |  |  |
| 1,2,4-Trimethylbenzene      | 50.2200 | 5.0 | 50.0000 | ND | 100  | 37 - 129 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 50.8400 | 10  | 50.0000 | ND | 102  | 36 - 135 |  |  |  |
| 1,2-Dibromoethane           | 50.6900 | 5.0 | 50.0000 | ND | 101  | 43 - 129 |  |  |  |
| 1,2-Dichlorobenzene         | 46.8300 | 5.0 | 50.0000 | ND | 93.7 | 31 - 129 |  |  |  |
| 1,2-Dichloroethane          | 53.2800 | 5.0 | 50.0000 | ND | 107  | 50 - 122 |  |  |  |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6B0731 - MSVOA\_S (continued)**

**Matrix Spike (B6B0731-MS1) - Continued**

**Source: 1600683-11**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                          |         |     |         |    |      |          |  |  |  |
|--------------------------|---------|-----|---------|----|------|----------|--|--|--|
| 1,2-Dichloropropane      | 48.0800 | 5.0 | 50.0000 | ND | 96.2 | 51 - 119 |  |  |  |
| 1,3,5-Trimethylbenzene   | 49.6700 | 5.0 | 50.0000 | ND | 99.3 | 38 - 130 |  |  |  |
| 1,3-Dichlorobenzene      | 47.3300 | 5.0 | 50.0000 | ND | 94.7 | 31 - 128 |  |  |  |
| 1,3-Dichloropropane      | 48.4700 | 5.0 | 50.0000 | ND | 96.9 | 52 - 122 |  |  |  |
| 1,4-Dichlorobenzene      | 47.0300 | 5.0 | 50.0000 | ND | 94.1 | 31 - 128 |  |  |  |
| 2,2-Dichloropropane      | 54.9900 | 5.0 | 50.0000 | ND | 110  | 42 - 140 |  |  |  |
| 2-Chlorotoluene          | 49.3000 | 5.0 | 50.0000 | ND | 98.6 | 38 - 129 |  |  |  |
| 4-Chlorotoluene          | 50.1200 | 5.0 | 50.0000 | ND | 100  | 38 - 128 |  |  |  |
| 4-Isopropyltoluene       | 50.5400 | 5.0 | 50.0000 | ND | 101  | 31 - 137 |  |  |  |
| Benzene                  | 96.2300 | 5.0 | 100.000 | ND | 96.2 | 51 - 117 |  |  |  |
| Bromobenzene             | 45.6900 | 5.0 | 50.0000 | ND | 91.4 | 41 - 125 |  |  |  |
| Bromodichloromethane     | 47.6600 | 5.0 | 50.0000 | ND | 95.3 | 50 - 122 |  |  |  |
| Bromoform                | 47.0900 | 5.0 | 50.0000 | ND | 94.2 | 39 - 131 |  |  |  |
| Bromomethane             | 64.3300 | 5.0 | 50.0000 | ND | 129  | 10 - 154 |  |  |  |
| Carbon tetrachloride     | 48.5400 | 5.0 | 50.0000 | ND | 97.1 | 44 - 131 |  |  |  |
| Chlorobenzene            | 47.2600 | 5.0 | 50.0000 | ND | 94.5 | 46 - 123 |  |  |  |
| Chloroethane             | 60.1800 | 5.0 | 50.0000 | ND | 120  | 27 - 143 |  |  |  |
| Chloroform               | 49.1200 | 5.0 | 50.0000 | ND | 98.2 | 50 - 124 |  |  |  |
| Chloromethane            | 61.7000 | 5.0 | 50.0000 | ND | 123  | 8 - 139  |  |  |  |
| cis-1,2-Dichloroethene   | 48.6000 | 5.0 | 50.0000 | ND | 97.2 | 48 - 125 |  |  |  |
| cis-1,3-Dichloropropene  | 45.5600 | 5.0 | 50.0000 | ND | 91.1 | 51 - 123 |  |  |  |
| Dibromochloromethane     | 46.7300 | 5.0 | 50.0000 | ND | 93.5 | 48 - 124 |  |  |  |
| Dibromomethane           | 46.6300 | 5.0 | 50.0000 | ND | 93.3 | 48 - 124 |  |  |  |
| Dichlorodifluoromethane  | 53.7300 | 5.0 | 50.0000 | ND | 107  | 0 - 150  |  |  |  |
| Ethylbenzene             | 100.710 | 5.0 | 100.000 | ND | 101  | 46 - 123 |  |  |  |
| Hexachlorobutadiene      | 45.0300 | 5.0 | 50.0000 | ND | 90.1 | 5 - 132  |  |  |  |
| Isopropylbenzene         | 50.1300 | 5.0 | 50.0000 | ND | 100  | 43 - 132 |  |  |  |
| m,p-Xylene               | 105.690 | 10  | 100.000 | ND | 106  | 45 - 128 |  |  |  |
| Methylene chloride       | 48.9000 | 5.0 | 50.0000 | ND | 97.8 | 37 - 126 |  |  |  |
| MTBE                     | 51.1900 | 5.0 | 50.0000 | ND | 102  | 46 - 125 |  |  |  |
| n-Butylbenzene           | 52.3200 | 5.0 | 50.0000 | ND | 105  | 24 - 138 |  |  |  |
| n-Propylbenzene          | 51.7900 | 5.0 | 50.0000 | ND | 104  | 40 - 133 |  |  |  |
| Naphthalene              | 46.4300 | 5.0 | 50.0000 | ND | 92.9 | 10 - 149 |  |  |  |
| o-Xylene                 | 104.290 | 5.0 | 100.000 | ND | 104  | 45 - 125 |  |  |  |
| sec-Butylbenzene         | 50.9800 | 5.0 | 50.0000 | ND | 102  | 33 - 136 |  |  |  |
| Styrene                  | 51.1700 | 5.0 | 50.0000 | ND | 102  | 43 - 128 |  |  |  |
| tert-Butylbenzene        | 49.2500 | 5.0 | 50.0000 | ND | 98.5 | 36 - 133 |  |  |  |
| Tetrachloroethene        | 47.4900 | 5.0 | 50.0000 | ND | 95.0 | 41 - 129 |  |  |  |
| Toluene                  | 100.310 | 5.0 | 100.000 | ND | 100  | 49 - 124 |  |  |  |
| trans-1,2-Dichloroethene | 47.7000 | 5.0 | 50.0000 | ND | 95.4 | 44 - 126 |  |  |  |
| Trichloroethene          | 48.6700 | 5.0 | 50.0000 | ND | 97.3 | 38 - 139 |  |  |  |
| Trichlorofluoromethane   | 44.4100 | 5.0 | 50.0000 | ND | 88.8 | 30 - 157 |  |  |  |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0731 - MSVOA\_S (continued)**

**Matrix Spike (B6B0731-MS1) - Continued**

**Source: 1600683-11**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|   |              |     |                |    |            |                 |  |  |  |
|---|--------------|-----|----------------|----|------------|-----------------|--|--|--|
| Vinyl chloride                          | 56.5900      | 5.0 | 50.0000        | ND | 113        | 19 - 142        |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>63.49</i> |     | <i>50.0000</i> |    | <i>127</i> | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>51.60</i> |     | <i>50.0000</i> |    | <i>103</i> | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>54.06</i> |     | <i>50.0000</i> |    | <i>108</i> | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>55.35</i> |     | <i>50.0000</i> |    | <i>111</i> | <i>31 - 166</i> |  |  |  |

**Matrix Spike Dup (B6B0731-MSD1)**

**Source: 1600683-11**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                             |         |     |         |    |      |          |       |    |  |
|-----------------------------|---------|-----|---------|----|------|----------|-------|----|--|
| 1,1,1,2-Tetrachloroethane   | 44.8400 | 5.0 | 50.0000 | ND | 89.7 | 45 - 122 | 5.17  | 20 |  |
| 1,1,1-Trichloroethane       | 48.5200 | 5.0 | 50.0000 | ND | 97.0 | 46 - 131 | 3.06  | 20 |  |
| 1,1,2,2-Tetrachloroethane   | 44.1200 | 5.0 | 50.0000 | ND | 88.2 | 34 - 133 | 6.09  | 20 |  |
| 1,1,2-Trichloroethane       | 46.1200 | 5.0 | 50.0000 | ND | 92.2 | 40 - 133 | 6.73  | 20 |  |
| 1,1-Dichloroethane          | 48.1500 | 5.0 | 50.0000 | ND | 96.3 | 50 - 120 | 0.662 | 20 |  |
| 1,1-Dichloroethene          | 46.0500 | 5.0 | 50.0000 | ND | 92.1 | 42 - 130 | 7.20  | 20 |  |
| 1,1-Dichloropropene         | 47.3600 | 5.0 | 50.0000 | ND | 94.7 | 49 - 125 | 6.60  | 20 |  |
| 1,2,3-Trichloropropane      | 45.6300 | 5.0 | 50.0000 | ND | 91.3 | 42 - 130 | 6.45  | 20 |  |
| 1,2,3-Trichlorobenzene      | 44.7200 | 5.0 | 50.0000 | ND | 89.4 | 2 - 136  | 1.18  | 20 |  |
| 1,2,4-Trichlorobenzene      | 47.9700 | 5.0 | 50.0000 | ND | 95.9 | 6 - 137  | 4.78  | 20 |  |
| 1,2,4-Trimethylbenzene      | 49.0000 | 5.0 | 50.0000 | ND | 98.0 | 37 - 129 | 2.46  | 20 |  |
| 1,2-Dibromo-3-chloropropane | 53.2000 | 10  | 50.0000 | ND | 106  | 36 - 135 | 4.54  | 20 |  |
| 1,2-Dibromoethane           | 47.6000 | 5.0 | 50.0000 | ND | 95.2 | 43 - 129 | 6.29  | 20 |  |
| 1,2-Dichlorobenzene         | 46.2600 | 5.0 | 50.0000 | ND | 92.5 | 31 - 129 | 1.22  | 20 |  |
| 1,2-Dichloroethane          | 49.9900 | 5.0 | 50.0000 | ND | 100  | 50 - 122 | 6.37  | 20 |  |
| 1,2-Dichloropropane         | 45.6800 | 5.0 | 50.0000 | ND | 91.4 | 51 - 119 | 5.12  | 20 |  |
| 1,3,5-Trimethylbenzene      | 47.7100 | 5.0 | 50.0000 | ND | 95.4 | 38 - 130 | 4.03  | 20 |  |
| 1,3-Dichlorobenzene         | 46.0000 | 5.0 | 50.0000 | ND | 92.0 | 31 - 128 | 2.85  | 20 |  |
| 1,3-Dichloropropane         | 47.0200 | 5.0 | 50.0000 | ND | 94.0 | 52 - 122 | 3.04  | 20 |  |
| 1,4-Dichlorobenzene         | 45.9000 | 5.0 | 50.0000 | ND | 91.8 | 31 - 128 | 2.43  | 20 |  |
| 2,2-Dichloropropane         | 53.0000 | 5.0 | 50.0000 | ND | 106  | 42 - 140 | 3.69  | 20 |  |
| 2-Chlorotoluene             | 47.4100 | 5.0 | 50.0000 | ND | 94.8 | 38 - 129 | 3.91  | 20 |  |
| 4-Chlorotoluene             | 48.5500 | 5.0 | 50.0000 | ND | 97.1 | 38 - 128 | 3.18  | 20 |  |
| 4-Isopropyltoluene          | 49.1100 | 5.0 | 50.0000 | ND | 98.2 | 31 - 137 | 2.87  | 20 |  |
| Benzene                     | 91.4200 | 5.0 | 100.000 | ND | 91.4 | 51 - 117 | 5.13  | 20 |  |
| Bromobenzene                | 43.2300 | 5.0 | 50.0000 | ND | 86.5 | 41 - 125 | 5.53  | 20 |  |
| Bromodichloromethane        | 45.7500 | 5.0 | 50.0000 | ND | 91.5 | 50 - 122 | 4.09  | 20 |  |
| Bromoform                   | 45.6800 | 5.0 | 50.0000 | ND | 91.4 | 39 - 131 | 3.04  | 20 |  |
| Bromomethane                | 60.0400 | 5.0 | 50.0000 | ND | 120  | 10 - 154 | 6.90  | 20 |  |
| Carbon tetrachloride        | 46.4600 | 5.0 | 50.0000 | ND | 92.9 | 44 - 131 | 4.38  | 20 |  |
| Chlorobenzene               | 45.1800 | 5.0 | 50.0000 | ND | 90.4 | 46 - 123 | 4.50  | 20 |  |
| Chloroethane                | 57.2300 | 5.0 | 50.0000 | ND | 114  | 27 - 143 | 5.03  | 20 |  |
| Chloroform                  | 47.4300 | 5.0 | 50.0000 | ND | 94.9 | 50 - 124 | 3.50  | 20 |  |
| Chloromethane               | 63.5700 | 5.0 | 50.0000 | ND | 127  | 8 - 139  | 2.99  | 20 |  |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0731 - MSVOA\_S (continued)**

**Matrix Spike Dup (B6B0731-MSD1) - Continued**

**Source: 1600683-11**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                                  |         |     |         |    |      |          |          |    |  |
|----------------------------------|---------|-----|---------|----|------|----------|----------|----|--|
| cis-1,2-Dichloroethene           | 46.6200 | 5.0 | 50.0000 | ND | 93.2 | 48 - 125 | 4.16     | 20 |  |
| cis-1,3-Dichloropropene          | 45.3200 | 5.0 | 50.0000 | ND | 90.6 | 51 - 123 | 0.528    | 20 |  |
| Dibromochloromethane             | 44.7600 | 5.0 | 50.0000 | ND | 89.5 | 48 - 124 | 4.31     | 20 |  |
| Dibromomethane                   | 44.1500 | 5.0 | 50.0000 | ND | 88.3 | 48 - 124 | 5.46     | 20 |  |
| Dichlorodifluoromethane          | 53.4700 | 5.0 | 50.0000 | ND | 107  | 0 - 150  | 0.485    | 20 |  |
| Ethylbenzene                     | 97.1500 | 5.0 | 100.000 | ND | 97.2 | 46 - 123 | 3.60     | 20 |  |
| Hexachlorobutadiene              | 44.6700 | 5.0 | 50.0000 | ND | 89.3 | 5 - 132  | 0.803    | 20 |  |
| Isopropylbenzene                 | 47.6100 | 5.0 | 50.0000 | ND | 95.2 | 43 - 132 | 5.16     | 20 |  |
| m,p-Xylene                       | 102.480 | 10  | 100.000 | ND | 102  | 45 - 128 | 3.08     | 20 |  |
| Methylene chloride               | 48.1400 | 5.0 | 50.0000 | ND | 96.3 | 37 - 126 | 1.57     | 20 |  |
| MTBE                             | 49.9200 | 5.0 | 50.0000 | ND | 99.8 | 46 - 125 | 2.51     | 20 |  |
| n-Butylbenzene                   | 51.1000 | 5.0 | 50.0000 | ND | 102  | 24 - 138 | 2.36     | 20 |  |
| n-Propylbenzene                  | 49.2900 | 5.0 | 50.0000 | ND | 98.6 | 40 - 133 | 4.95     | 20 |  |
| Naphthalene                      | 47.5600 | 5.0 | 50.0000 | ND | 95.1 | 10 - 149 | 2.40     | 20 |  |
| o-Xylene                         | 101.560 | 5.0 | 100.000 | ND | 102  | 45 - 125 | 2.65     | 20 |  |
| sec-Butylbenzene                 | 49.0500 | 5.0 | 50.0000 | ND | 98.1 | 33 - 136 | 3.86     | 20 |  |
| Styrene                          | 50.2300 | 5.0 | 50.0000 | ND | 100  | 43 - 128 | 1.85     | 20 |  |
| tert-Butylbenzene                | 47.4600 | 5.0 | 50.0000 | ND | 94.9 | 36 - 133 | 3.70     | 20 |  |
| Tetrachloroethene                | 44.8900 | 5.0 | 50.0000 | ND | 89.8 | 41 - 129 | 5.63     | 20 |  |
| Toluene                          | 97.2800 | 5.0 | 100.000 | ND | 97.3 | 49 - 124 | 3.07     | 20 |  |
| trans-1,2-Dichloroethene         | 45.7600 | 5.0 | 50.0000 | ND | 91.5 | 44 - 126 | 4.15     | 20 |  |
| Trichloroethene                  | 45.6600 | 5.0 | 50.0000 | ND | 91.3 | 38 - 139 | 6.38     | 20 |  |
| Trichlorofluoromethane           | 42.9100 | 5.0 | 50.0000 | ND | 85.8 | 30 - 157 | 3.44     | 20 |  |
| Vinyl chloride                   | 54.1600 | 5.0 | 50.0000 | ND | 108  | 19 - 142 | 4.39     | 20 |  |
| <hr/>                            |         |     |         |    |      |          |          |    |  |
| Surrogate: 1,2-Dichloroethane-d4 | 56.80   |     | 50.0000 |    | 114  |          | 20 - 189 |    |  |
| Surrogate: 4-Bromofluorobenzene  | 51.75   |     | 50.0000 |    | 104  |          | 20 - 173 |    |  |
| Surrogate: Dibromofluoromethane  | 55.31   |     | 50.0000 |    | 111  |          | 26 - 178 |    |  |
| Surrogate: Toluene-d8            | 54.86   |     | 50.0000 |    | 110  |          | 31 - 166 |    |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>Limits | RPD<br>RPD | Limit<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|------------------|------------|----------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|------------------|------------|----------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W**

**Blank (B6B0681-BLK1)**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                             |    |      |  |    |
|-----------------------------|----|------|--|----|
| 1,1,1,2-Tetrachloroethane   | ND | 0.50 |  | NR |
| 1,1,1-Trichloroethane       | ND | 0.50 |  | NR |
| 1,1,2,2-Tetrachloroethane   | ND | 0.50 |  | NR |
| 1,1,2-Trichloroethane       | ND | 0.50 |  | NR |
| 1,1-Dichloroethane          | ND | 0.50 |  | NR |
| 1,1-Dichloroethene          | ND | 0.50 |  | NR |
| 1,1-Dichloropropene         | ND | 0.50 |  | NR |
| 1,2,3-Trichloropropane      | ND | 0.50 |  | NR |
| 1,2,3-Trichlorobenzene      | ND | 0.50 |  | NR |
| 1,2,4-Trichlorobenzene      | ND | 0.50 |  | NR |
| 1,2,4-Trimethylbenzene      | ND | 0.50 |  | NR |
| 1,2-Dibromo-3-chloropropane | ND | 0.50 |  | NR |
| 1,2-Dibromoethane           | ND | 0.50 |  | NR |
| 1,2-Dichlorobenzene         | ND | 0.50 |  | NR |
| 1,2-Dichloroethane          | ND | 0.50 |  | NR |
| 1,2-Dichloropropane         | ND | 0.50 |  | NR |
| 1,3,5-Trimethylbenzene      | ND | 0.50 |  | NR |
| 1,3-Dichlorobenzene         | ND | 0.50 |  | NR |
| 1,3-Dichloropropane         | ND | 0.50 |  | NR |
| 1,4-Dichlorobenzene         | ND | 0.50 |  | NR |
| 2,2-Dichloropropane         | ND | 0.50 |  | NR |
| 2-Chlorotoluene             | ND | 0.50 |  | NR |
| 4-Chlorotoluene             | ND | 0.50 |  | NR |
| 4-Isopropyltoluene          | ND | 0.50 |  | NR |
| Benzene                     | ND | 0.50 |  | NR |
| Bromobenzene                | ND | 0.50 |  | NR |
| Bromodichloromethane        | ND | 0.50 |  | NR |
| Bromoform                   | ND | 0.50 |  | NR |
| Bromomethane                | ND | 0.50 |  | NR |
| Carbon tetrachloride        | ND | 0.50 |  | NR |
| Chlorobenzene               | ND | 0.50 |  | NR |
| Chloroethane                | ND | 0.50 |  | NR |
| Chloroform                  | ND | 0.50 |  | NR |
| Chloromethane               | ND | 0.50 |  | NR |
| cis-1,2-Dichloroethene      | ND | 0.50 |  | NR |
| cis-1,3-Dichloropropene     | ND | 0.50 |  | NR |
| Dibromochloromethane        | ND | 0.50 |  | NR |
| Dibromomethane              | ND | 0.50 |  | NR |
| Dichlorodifluoromethane     | ND | 0.50 |  | NR |
| Ethylbenzene                | ND | 0.50 |  | NR |
| Hexachlorobutadiene         | ND | 0.50 |  | NR |



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Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W (continued)**

**Blank (B6B0681-BLK1) - Continued**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|   |       |      |         |  |     |          |  |  |  |
|---|-------|------|---------|--|-----|----------|--|--|--|
| Isopropylbenzene                        | ND    | 0.50 |         |  | NR  |          |  |  |  |
| m,p-Xylene                              | ND    | 1.0  |         |  | NR  |          |  |  |  |
| Methylene chloride                      | ND    | 1.0  |         |  | NR  |          |  |  |  |
| n-Butylbenzene                          | ND    | 0.50 |         |  | NR  |          |  |  |  |
| n-Propylbenzene                         | ND    | 0.50 |         |  | NR  |          |  |  |  |
| Naphthalene                             | ND    | 0.50 |         |  | NR  |          |  |  |  |
| o-Xylene                                | ND    | 0.50 |         |  | NR  |          |  |  |  |
| sec-Butylbenzene                        | ND    | 0.50 |         |  | NR  |          |  |  |  |
| Styrene                                 | ND    | 0.50 |         |  | NR  |          |  |  |  |
| tert-Butylbenzene                       | ND    | 0.50 |         |  | NR  |          |  |  |  |
| Tetrachloroethene                       | ND    | 0.50 |         |  | NR  |          |  |  |  |
| Toluene                                 | ND    | 0.50 |         |  | NR  |          |  |  |  |
| trans-1,2-Dichloroethene                | ND    | 0.50 |         |  | NR  |          |  |  |  |
| Trichloroethene                         | ND    | 0.50 |         |  | NR  |          |  |  |  |
| Trichlorofluoromethane                  | ND    | 0.50 |         |  | NR  |          |  |  |  |
| Vinyl chloride                          | ND    | 0.50 |         |  | NR  |          |  |  |  |
| <hr/>                                   |       |      |         |  |     |          |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 32.32 |      | 25.0000 |  | 129 | 49 - 148 |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 27.27 |      | 25.0000 |  | 109 | 65 - 132 |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | 29.79 |      | 25.0000 |  | 119 | 55 - 138 |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | 27.07 |      | 25.0000 |  | 108 | 60 - 120 |  |  |  |

**LCS (B6B0681-BS1)**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                             |         |      |         |  |      |          |  |  |  |
|-----------------------------|---------|------|---------|--|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 17.8500 | 0.50 | 20.0000 |  | 89.2 | 71 - 142 |  |  |  |
| 1,1,1-Trichloroethane       | 22.0500 | 0.50 | 20.0000 |  | 110  | 68 - 141 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 18.5500 | 0.50 | 20.0000 |  | 92.8 | 72 - 123 |  |  |  |
| 1,1,2-Trichloroethane       | 16.7300 | 0.50 | 20.0000 |  | 83.6 | 63 - 129 |  |  |  |
| 1,1-Dichloroethane          | 23.5600 | 0.50 | 20.0000 |  | 118  | 65 - 133 |  |  |  |
| 1,1-Dichloroethene          | 24.7400 | 0.50 | 20.0000 |  | 124  | 61 - 136 |  |  |  |
| 1,1-Dichloropropene         | 19.3000 | 0.50 | 20.0000 |  | 96.5 | 62 - 137 |  |  |  |
| 1,2,3-Trichloropropane      | 17.2100 | 0.50 | 20.0000 |  | 86.0 | 71 - 128 |  |  |  |
| 1,2,3-Trichlorobenzene      | 15.0600 | 0.50 | 20.0000 |  | 75.3 | 47 - 187 |  |  |  |
| 1,2,4-Trichlorobenzene      | 15.4100 | 0.50 | 20.0000 |  | 77.0 | 53 - 154 |  |  |  |
| 1,2,4-Trimethylbenzene      | 18.9600 | 0.50 | 20.0000 |  | 94.8 | 80 - 139 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 15.5500 | 0.50 | 20.0000 |  | 77.8 | 53 - 166 |  |  |  |
| 1,2-Dibromoethane           | 16.3500 | 0.50 | 20.0000 |  | 81.8 | 58 - 134 |  |  |  |
| 1,2-Dichlorobenzene         | 16.4100 | 0.50 | 20.0000 |  | 82.0 | 75 - 130 |  |  |  |
| 1,2-Dichloroethane          | 19.3400 | 0.50 | 20.0000 |  | 96.7 | 71 - 131 |  |  |  |
| 1,2-Dichloropropane         | 18.2600 | 0.50 | 20.0000 |  | 91.3 | 69 - 130 |  |  |  |
| 1,3,5-Trimethylbenzene      | 20.0800 | 0.50 | 20.0000 |  | 100  | 80 - 139 |  |  |  |
| 1,3-Dichlorobenzene         | 17.0500 | 0.50 | 20.0000 |  | 85.2 | 76 - 129 |  |  |  |
| 1,3-Dichloropropane         | 17.4200 | 0.50 | 20.0000 |  | 87.1 | 75 - 124 |  |  |  |



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Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W (continued)**

**LCS (B6B0681-BS1) - Continued**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                                  |         |      |         |  |      |          |  |  |    |
|----------------------------------|---------|------|---------|--|------|----------|--|--|----|
| 1,4-Dichlorobenzene              | 16.7900 | 0.50 | 20.0000 |  | 84.0 | 76 - 123 |  |  |    |
| 2,2-Dichloropropane              | 22.8000 | 0.50 | 20.0000 |  | 114  | 60 - 149 |  |  |    |
| 2-Chlorotoluene                  | 19.3400 | 0.50 | 20.0000 |  | 96.7 | 78 - 137 |  |  |    |
| 4-Chlorotoluene                  | 19.3400 | 0.50 | 20.0000 |  | 96.7 | 78 - 136 |  |  |    |
| 4-Isopropyltoluene               | 20.1900 | 0.50 | 20.0000 |  | 101  | 75 - 146 |  |  |    |
| Benzene                          | 35.9800 | 0.50 | 40.0000 |  | 90.0 | 72 - 127 |  |  |    |
| Bromobenzene                     | 16.5800 | 0.50 | 20.0000 |  | 82.9 | 74 - 123 |  |  |    |
| Bromodichloromethane             | 19.2500 | 0.50 | 20.0000 |  | 96.2 | 74 - 130 |  |  |    |
| Bromoform                        | 15.6700 | 0.50 | 20.0000 |  | 78.4 | 74 - 135 |  |  |    |
| Bromomethane                     | 32.6800 | 0.50 | 20.0000 |  | 163  | 14 - 166 |  |  |    |
| Carbon tetrachloride             | 20.6400 | 0.50 | 20.0000 |  | 103  | 57 - 162 |  |  |    |
| Chlorobenzene                    | 17.6600 | 0.50 | 20.0000 |  | 88.3 | 78 - 125 |  |  |    |
| Chloroethane                     | 29.4500 | 0.50 | 20.0000 |  | 147  | 54 - 144 |  |  | L5 |
| Chloroform                       | 20.3100 | 0.50 | 20.0000 |  | 102  | 66 - 132 |  |  |    |
| Chloromethane                    | 26.1500 | 0.50 | 20.0000 |  | 131  | 31 - 128 |  |  | L5 |
| cis-1,2-Dichloroethene           | 21.3100 | 0.50 | 20.0000 |  | 107  | 68 - 124 |  |  |    |
| cis-1,3-Dichloropropene          | 18.2200 | 0.50 | 20.0000 |  | 91.1 | 63 - 139 |  |  |    |
| Dibromochloromethane             | 18.3600 | 0.50 | 20.0000 |  | 91.8 | 78 - 132 |  |  |    |
| Dibromomethane                   | 16.7300 | 0.50 | 20.0000 |  | 83.6 | 76 - 122 |  |  |    |
| Dichlorodifluoromethane          | 26.2000 | 0.50 | 20.0000 |  | 131  | 17 - 171 |  |  |    |
| Ethylbenzene                     | 38.3400 | 0.50 | 40.0000 |  | 95.8 | 71 - 142 |  |  |    |
| Hexachlorobutadiene              | 20.3700 | 0.50 | 20.0000 |  | 102  | 54 - 169 |  |  |    |
| Isopropylbenzene                 | 20.5200 | 0.50 | 20.0000 |  | 103  | 76 - 146 |  |  |    |
| m,p-Xylene                       | 40.4700 | 1.0  | 40.0000 |  | 101  | 75 - 150 |  |  |    |
| Methylene chloride               | 20.6300 | 1.0  | 20.0000 |  | 103  | 66 - 130 |  |  |    |
| MTBE                             | 19.1400 | 0.50 | 20.0000 |  | 95.7 | 60 - 132 |  |  |    |
| n-Butylbenzene                   | 21.4600 | 0.50 | 20.0000 |  | 107  | 76 - 151 |  |  |    |
| n-Propylbenzene                  | 20.4700 | 0.50 | 20.0000 |  | 102  | 76 - 147 |  |  |    |
| Naphthalene                      | 14.6400 | 0.50 | 20.0000 |  | 73.2 | 36 - 180 |  |  |    |
| o-Xylene                         | 38.8700 | 0.50 | 40.0000 |  | 97.2 | 75 - 143 |  |  |    |
| sec-Butylbenzene                 | 21.0200 | 0.50 | 20.0000 |  | 105  | 77 - 147 |  |  |    |
| Styrene                          | 17.1900 | 0.50 | 20.0000 |  | 86.0 | 75 - 133 |  |  |    |
| tert-Butylbenzene                | 19.7500 | 0.50 | 20.0000 |  | 98.8 | 75 - 143 |  |  |    |
| Tetrachloroethene                | 18.4900 | 0.50 | 20.0000 |  | 92.4 | 58 - 139 |  |  |    |
| Toluene                          | 36.7100 | 0.50 | 40.0000 |  | 91.8 | 59 - 140 |  |  |    |
| trans-1,2-Dichloroethene         | 22.7800 | 0.50 | 20.0000 |  | 114  | 63 - 128 |  |  |    |
| Trichloroethene                  | 16.4100 | 0.50 | 20.0000 |  | 82.0 | 67 - 130 |  |  |    |
| Trichlorofluoromethane           | 29.1300 | 0.50 | 20.0000 |  | 146  | 56 - 168 |  |  |    |
| Vinyl chloride                   | 25.8600 | 0.50 | 20.0000 |  | 129  | 49 - 146 |  |  |    |
| Surrogate: 1,2-Dichloroethane-d4 | 30.76   |      | 25.0000 |  | 123  | 49 - 148 |  |  |    |
| Surrogate: 4-Bromofluorobenzene  | 27.62   |      | 25.0000 |  | 110  | 65 - 132 |  |  |    |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W (continued)**

**LCS (B6B0681-BS1) - Continued**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                                 |       |  |         |  |     |          |
|---------------------------------|-------|--|---------|--|-----|----------|
| Surrogate: Dibromofluoromethane | 28.51 |  | 25.0000 |  | 114 | 55 - 138 |
| Surrogate: Toluene-d8           | 26.83 |  | 25.0000 |  | 107 | 60 - 120 |

**LCS Dup (B6B0681-BS1)**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                             |         |      |         |      |          |       |    |
|-----------------------------|---------|------|---------|------|----------|-------|----|
| 1,1,1,2-Tetrachloroethane   | 17.0800 | 0.50 | 20.0000 | 85.4 | 71 - 142 | 4.41  | 20 |
| 1,1,1-Trichloroethane       | 20.5400 | 0.50 | 20.0000 | 103  | 68 - 141 | 7.09  | 20 |
| 1,1,2,2-Tetrachloroethane   | 18.2700 | 0.50 | 20.0000 | 91.4 | 72 - 123 | 1.52  | 20 |
| 1,1,2-Trichloroethane       | 16.6100 | 0.50 | 20.0000 | 83.0 | 63 - 129 | 0.720 | 20 |
| 1,1-Dichloroethane          | 22.1100 | 0.50 | 20.0000 | 111  | 65 - 133 | 6.35  | 20 |
| 1,1-Dichloroethene          | 23.2700 | 0.50 | 20.0000 | 116  | 61 - 136 | 6.12  | 20 |
| 1,1-Dichloropropene         | 17.5200 | 0.50 | 20.0000 | 87.6 | 62 - 137 | 9.67  | 20 |
| 1,2,3-Trichloropropane      | 16.8800 | 0.50 | 20.0000 | 84.4 | 71 - 128 | 1.94  | 20 |
| 1,2,3-Trichlorobenzene      | 15.3100 | 0.50 | 20.0000 | 76.6 | 47 - 187 | 1.65  | 20 |
| 1,2,4-Trichlorobenzene      | 15.3000 | 0.50 | 20.0000 | 76.5 | 53 - 154 | 0.716 | 20 |
| 1,2,4-Trimethylbenzene      | 17.9900 | 0.50 | 20.0000 | 90.0 | 80 - 139 | 5.25  | 20 |
| 1,2-Dibromo-3-chloropropane | 15.8200 | 0.50 | 20.0000 | 79.1 | 53 - 166 | 1.72  | 20 |
| 1,2-Dibromoethane           | 15.9400 | 0.50 | 20.0000 | 79.7 | 58 - 134 | 2.54  | 20 |
| 1,2-Dichlorobenzene         | 15.6500 | 0.50 | 20.0000 | 78.2 | 75 - 130 | 4.74  | 20 |
| 1,2-Dichloroethane          | 18.4600 | 0.50 | 20.0000 | 92.3 | 71 - 131 | 4.66  | 20 |
| 1,2-Dichloropropane         | 17.5400 | 0.50 | 20.0000 | 87.7 | 69 - 130 | 4.02  | 20 |
| 1,3,5-Trimethylbenzene      | 18.5000 | 0.50 | 20.0000 | 92.5 | 80 - 139 | 8.19  | 20 |
| 1,3-Dichlorobenzene         | 16.1800 | 0.50 | 20.0000 | 80.9 | 76 - 129 | 5.24  | 20 |
| 1,3-Dichloropropane         | 16.6000 | 0.50 | 20.0000 | 83.0 | 75 - 124 | 4.82  | 20 |
| 1,4-Dichlorobenzene         | 16.2300 | 0.50 | 20.0000 | 81.2 | 76 - 123 | 3.39  | 20 |
| 2,2-Dichloropropane         | 20.4400 | 0.50 | 20.0000 | 102  | 60 - 149 | 10.9  | 20 |
| 2-Chlorotoluene             | 18.2500 | 0.50 | 20.0000 | 91.2 | 78 - 137 | 5.80  | 20 |
| 4-Chlorotoluene             | 18.3600 | 0.50 | 20.0000 | 91.8 | 78 - 136 | 5.20  | 20 |
| 4-Isopropyltoluene          | 19.0700 | 0.50 | 20.0000 | 95.4 | 75 - 146 | 5.71  | 20 |
| Benzene                     | 33.4800 | 0.50 | 40.0000 | 83.7 | 72 - 127 | 7.20  | 20 |
| Bromobenzene                | 15.4800 | 0.50 | 20.0000 | 77.4 | 74 - 123 | 6.86  | 20 |
| Bromodichloromethane        | 18.3200 | 0.50 | 20.0000 | 91.6 | 74 - 130 | 4.95  | 20 |
| Bromoform                   | 15.2800 | 0.50 | 20.0000 | 76.4 | 74 - 135 | 2.52  | 20 |
| Bromomethane                | 31.0000 | 0.50 | 20.0000 | 155  | 14 - 166 | 5.28  | 20 |
| Carbon tetrachloride        | 19.3100 | 0.50 | 20.0000 | 96.6 | 57 - 162 | 6.66  | 20 |
| Chlorobenzene               | 16.4200 | 0.50 | 20.0000 | 82.1 | 78 - 125 | 7.28  | 20 |
| Chloroethane                | 27.8900 | 0.50 | 20.0000 | 139  | 54 - 144 | 5.44  | 20 |
| Chloroform                  | 18.8800 | 0.50 | 20.0000 | 94.4 | 66 - 132 | 7.30  | 20 |
| Chloromethane               | 28.5900 | 0.50 | 20.0000 | 143  | 31 - 128 | 8.91  | 20 |
| cis-1,2-Dichloroethene      | 19.6800 | 0.50 | 20.0000 | 98.4 | 68 - 124 | 7.95  | 20 |
| cis-1,3-Dichloropropene     | 17.3300 | 0.50 | 20.0000 | 86.6 | 63 - 139 | 5.01  | 20 |
| Dibromochloromethane        | 17.7300 | 0.50 | 20.0000 | 88.6 | 78 - 132 | 3.49  | 20 |
| Dibromomethane              | 16.5800 | 0.50 | 20.0000 | 82.9 | 76 - 122 | 0.901 | 20 |

L5



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W (continued)**

**LCS Dup (B6B0681-BSD1) - Continued**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                                  |         |      |         |  |      |          |       |    |  |
|----------------------------------|---------|------|---------|--|------|----------|-------|----|--|
| Dichlorodifluoromethane          | 25.1300 | 0.50 | 20.0000 |  | 126  | 17 - 171 | 4.17  | 20 |  |
| Ethylbenzene                     | 35.5300 | 0.50 | 40.0000 |  | 88.8 | 71 - 142 | 7.61  | 20 |  |
| Hexachlorobutadiene              | 19.4700 | 0.50 | 20.0000 |  | 97.4 | 54 - 169 | 4.52  | 20 |  |
| Isopropylbenzene                 | 19.2100 | 0.50 | 20.0000 |  | 96.0 | 76 - 146 | 6.59  | 20 |  |
| m,p-Xylene                       | 37.5500 | 1.0  | 40.0000 |  | 93.9 | 75 - 150 | 7.49  | 20 |  |
| Methylene chloride               | 19.5200 | 1.0  | 20.0000 |  | 97.6 | 66 - 130 | 5.53  | 20 |  |
| MTBE                             | 19.2900 | 0.50 | 20.0000 |  | 96.4 | 60 - 132 | 0.781 | 20 |  |
| n-Butylbenzene                   | 20.1900 | 0.50 | 20.0000 |  | 101  | 76 - 151 | 6.10  | 20 |  |
| n-Propylbenzene                  | 19.3200 | 0.50 | 20.0000 |  | 96.6 | 76 - 147 | 5.78  | 20 |  |
| Naphthalene                      | 14.9800 | 0.50 | 20.0000 |  | 74.9 | 36 - 180 | 2.30  | 20 |  |
| o-Xylene                         | 36.3400 | 0.50 | 40.0000 |  | 90.8 | 75 - 143 | 6.73  | 20 |  |
| sec-Butylbenzene                 | 19.6300 | 0.50 | 20.0000 |  | 98.2 | 77 - 147 | 6.84  | 20 |  |
| Styrene                          | 16.0500 | 0.50 | 20.0000 |  | 80.2 | 75 - 133 | 6.86  | 20 |  |
| tert-Butylbenzene                | 18.3600 | 0.50 | 20.0000 |  | 91.8 | 75 - 143 | 7.29  | 20 |  |
| Tetrachloroethene                | 17.3300 | 0.50 | 20.0000 |  | 86.6 | 58 - 139 | 6.48  | 20 |  |
| Toluene                          | 34.6400 | 0.50 | 40.0000 |  | 86.6 | 59 - 140 | 5.80  | 20 |  |
| trans-1,2-Dichloroethene         | 21.7700 | 0.50 | 20.0000 |  | 109  | 63 - 128 | 4.53  | 20 |  |
| Trichloroethene                  | 15.3500 | 0.50 | 20.0000 |  | 76.8 | 67 - 130 | 6.68  | 20 |  |
| Trichlorofluoromethane           | 28.0200 | 0.50 | 20.0000 |  | 140  | 56 - 168 | 3.88  | 20 |  |
| Vinyl chloride                   | 25.5100 | 0.50 | 20.0000 |  | 128  | 49 - 146 | 1.36  | 20 |  |
| <hr/>                            |         |      |         |  |      |          |       |    |  |
| Surrogate: 1,2-Dichloroethane-d4 | 31.51   |      | 25.0000 |  | 126  | 49 - 148 |       |    |  |
| Surrogate: 4-Bromofluorobenzene  | 27.47   |      | 25.0000 |  | 110  | 65 - 132 |       |    |  |
| Surrogate: Dibromofluoromethane  | 28.72   |      | 25.0000 |  | 115  | 55 - 138 |       |    |  |
| Surrogate: Toluene-d8            | 26.93   |      | 25.0000 |  | 108  | 60 - 120 |       |    |  |

**Duplicate (B6B0681-DUP1)**

Source: 1600683-18

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                             |    |      |  |    |    |  |  |    |  |
|-----------------------------|----|------|--|----|----|--|--|----|--|
| 1,1,1,2-Tetrachloroethane   | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1,1-Trichloroethane       | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1,2,2-Tetrachloroethane   | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1,2-Trichloroethane       | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloroethane          | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloroethene          | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloropropene         | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,3-Trichloropropane      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,3-Trichlorobenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,4-Trichlorobenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,4-Trimethylbenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dibromo-3-chloropropane | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dibromoethane           | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichlorobenzene         | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichloroethane          | ND | 0.50 |  | ND | NR |  |  | 20 |  |



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Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|---------------|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|---------------|--------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W (continued)**

**Duplicate (B6B0681-DUP1) - Continued**

**Source: 1600683-18**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                          |    |      |  |         |    |  |  |    |
|--------------------------|----|------|--|---------|----|--|--|----|
| 1,2-Dichloropropane      | ND | 0.50 |  | ND      | NR |  |  | 20 |
| 1,3,5-Trimethylbenzene   | ND | 0.50 |  | ND      | NR |  |  | 20 |
| 1,3-Dichlorobenzene      | ND | 0.50 |  | ND      | NR |  |  | 20 |
| 1,3-Dichloropropane      | ND | 0.50 |  | ND      | NR |  |  | 20 |
| 1,4-Dichlorobenzene      | ND | 0.50 |  | ND      | NR |  |  | 20 |
| 2,2-Dichloropropane      | ND | 0.50 |  | ND      | NR |  |  | 20 |
| 2-Chlorotoluene          | ND | 0.50 |  | ND      | NR |  |  | 20 |
| 4-Chlorotoluene          | ND | 0.50 |  | ND      | NR |  |  | 20 |
| 4-Isopropyltoluene       | ND | 0.50 |  | 1.52000 | NR |  |  | 20 |
| Benzene                  | ND | 0.50 |  | 17.2400 | NR |  |  | 20 |
| Bromobenzene             | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Bromodichloromethane     | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Bromoform                | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Bromomethane             | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Carbon tetrachloride     | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Chlorobenzene            | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Chloroethane             | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Chloroform               | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Chloromethane            | ND | 0.50 |  | ND      | NR |  |  | 20 |
| cis-1,2-Dichloroethene   | ND | 0.50 |  | ND      | NR |  |  | 20 |
| cis-1,3-Dichloropropene  | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Dibromochloromethane     | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Dibromomethane           | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Dichlorodifluoromethane  | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Ethylbenzene             | ND | 0.50 |  | 82.1600 | NR |  |  | 20 |
| Hexachlorobutadiene      | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Isopropylbenzene         | ND | 0.50 |  | 448.080 | NR |  |  | 20 |
| m,p-Xylene               | ND | 1.0  |  | ND      | NR |  |  | 20 |
| Methylene chloride       | ND | 1.0  |  | ND      | NR |  |  | 20 |
| MTBE                     | ND | 0.50 |  | ND      | NR |  |  | 20 |
| n-Butylbenzene           | ND | 0.50 |  | 11.4400 | NR |  |  | 20 |
| n-Propylbenzene          | ND | 0.50 |  | 108.720 | NR |  |  | 20 |
| Naphthalene              | ND | 0.50 |  | 7.84000 | NR |  |  | 20 |
| o-Xylene                 | ND | 0.50 |  | ND      | NR |  |  | 20 |
| sec-Butylbenzene         | ND | 0.50 |  | 10.4000 | NR |  |  | 20 |
| Styrene                  | ND | 0.50 |  | ND      | NR |  |  | 20 |
| tert-Butylbenzene        | ND | 0.50 |  | 2.36000 | NR |  |  | 20 |
| Tetrachloroethene        | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Toluene                  | ND | 0.50 |  | ND      | NR |  |  | 20 |
| trans-1,2-Dichloroethene | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Trichloroethene          | ND | 0.50 |  | ND      | NR |  |  | 20 |
| Trichlorofluoromethane   | ND | 0.50 |  | ND      | NR |  |  | 20 |



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 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W (continued)**

**Duplicate (B6B0681-DUP1) - Continued**

**Source: 1600683-18**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|   |       |      |         |    |     |          |  |    |  |
|---|-------|------|---------|----|-----|----------|--|----|--|
| Vinyl chloride                          | ND    | 0.50 |         | ND | NR  |          |  | 20 |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 32.72 |      | 25.0000 |    | 131 | 49 - 148 |  |    |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 27.27 |      | 25.0000 |    | 109 | 65 - 132 |  |    |  |
| <i>Surrogate: Dibromofluoromethane</i>  | 29.26 |      | 25.0000 |    | 117 | 55 - 138 |  |    |  |
| <i>Surrogate: Toluene-d8</i>            | 26.57 |      | 25.0000 |    | 106 | 60 - 120 |  |    |  |



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Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Notes and Definitions

|     |   |
|-----|---|
| S7  | Surrogate recovery was outside of laboratory acceptance limit. Chromatogram shows high concentration of heavy hydrocarbons.   |
| S10 | Surrogate recovery was outside of laboratory acceptance limit due to possible matrix interference.  |
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| L5  | Laboratory Control Sample high biased. Sample result/s was non-detect (ND) for the target analyte; therefore reanalysis was not necessary.  |
| D6  | Sample required dilution due to high concentration of target analyte.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

# CHAIN OF CUSTODY RECORD



**Advanced Technology  
Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755  
Tel: (562) 989-4045 • Fax: (562) 989-4040

### FOR LABORATORY USE ONLY

P.O. #: \_\_\_\_\_

Logged By: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Transport:  
 Client   
 ATL   
 CA OverN   
 FedEx   
 Other: \_\_\_\_\_

Sample Condition Upon Receipt:  
 1. CHILLED  Y  N  4. SEALED  Y  N   
 2. HEADSPACE (VOA)  Y  N  5. # OF SPLS MATCH COC  Y  N   
 3. CONTAINER INTACT  Y  N  6. PRESERVED  Y  N

Client: Geocoin  
 Attention: Rick Day *Luanh Beadle*  
 Address: 6671 Brisa Street  
 City: Livermore State: CA Zip Code: 94550  
 Tel: 916-852-9118 Fax: 916-852-9132

Project Name: US 101/Holly Street - 82/92 Interchange Project #: E6770-02-02 - E8721-02-36 Sampler: Cord-Dennig - Luanh Beadle (Signature) *Luanh Beadle*  
 Relinquished by: (Signature and Printed Name) Cord-Dennig Luanh Beadle Date: 2-18-16 Time: 6:50  
 Received by: (Signature and Printed Name) W O Spill Date: 2/19/16 Time: 9:00

I hereby authorize ATL to perform the work indicated below:  
 Project Mgr/Submitter: Luanh Beadle 2-18-16  
 Print Name: Luanh Beadle Date: \_\_\_\_\_  
 Signature: *Luanh Beadle*

Send Report To:  
 Attn: beadle@geocoin.com  
 Co: day@geocoin.com  
 Addr: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Bill To:  
 Attn: same  
 Co: \_\_\_\_\_  
 Addr: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Special Instructions/Comments: \_\_\_\_\_

**Sample/Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 ■ Sample: \$2.00 / sample /mo (after 45 days)  
 ■ Records: \$1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

|                                     |                          |                          |                          |                          |                          |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Total Lead                          | TPH/TPHmo                | SOIL                     | WATER                    | GROUND WATER             | WASTEWATER               |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Container(s) \_\_\_\_\_

QAI/QC  
 RTNE   
 CT   
 SWRCB Logcode   
 OTHER \_\_\_\_\_

| ITEM | LAB USE ONLY |                      | Sample Description |      | Total Lead | CAM 17 Metals | TPH/TPHmo | Pesticides | SOIL | WATER | GROUND WATER | WASTEWATER | TAT # | Type | REMARKS |
|------|--------------|----------------------|--------------------|------|------------|---------------|-----------|------------|------|-------|--------------|------------|-------|------|---------|
|      | Lab No.      | Sample ID / Location | Date               | Time |            |               |           |            |      |       |              |            |       |      |         |
|      | 100083-1     | B67-0                | 2-18-16            | 0730 | X          |               |           |            |      |       |              |            | E1    | B    | C       |
|      | -2           | -1                   |                    |      |            |               |           |            |      |       |              |            |       |      |         |
|      | -3           | -2                   |                    |      |            |               |           |            |      |       |              |            |       |      |         |
|      | -4           | -10                  |                    | 750  | X          |               |           |            |      |       |              |            |       |      |         |
|      | -5           | -25                  |                    | 850  | X          |               |           |            |      |       |              |            |       |      |         |
|      | -6           | -30                  |                    | 930  |            |               |           |            |      |       |              |            |       |      |         |
|      | -7           | B4-0                 |                    | 1015 | X          |               |           |            |      |       |              |            |       |      |         |
|      | -8           | -1                   |                    |      |            |               |           |            |      |       |              |            |       |      |         |
|      | -9           | -2                   |                    |      |            |               |           |            |      |       |              |            |       |      |         |
|      | -10          | -10                  |                    | 1070 | X          |               |           |            |      |       |              |            |       |      |         |
|      | -11          | -20                  |                    | 1100 | X          |               |           |            |      |       |              |            |       |      |         |
|      | -12          | B10-0                |                    | 1125 | X          |               |           |            |      |       |              |            |       |      |         |
|      | -13          | -1                   |                    |      |            |               |           |            |      |       |              |            |       |      |         |
|      | -14          | -2                   |                    |      |            |               |           |            |      |       |              |            |       |      |         |
|      | -15          | -10                  |                    | 1135 | X          |               |           |            |      |       |              |            |       |      |         |
|      | -16          | -10                  |                    |      |            |               |           |            |      |       |              |            |       |      |         |
|      | -17          | -25                  |                    | 1235 | X          |               |           |            |      |       |              |            |       |      |         |
|      | -18          | B10-GW               |                    | 1330 | X          |               |           |            |      |       |              |            |       |      |         |
|      | -19          | B67-GW               |                    | 1400 | X          |               |           |            |      |       |              |            |       |      |         |
|      | -20          |                      |                    |      |            |               |           |            |      |       |              |            |       |      |         |

■ TAT starts 8AM the following day if samples received after 3 PM

TAT:  A = Overnight ≤ 24 hrs  B = Emergency Next Workday  C = Critical 2 Workdays  D = Urgent 3 Workdays  E = Routine 7 Workdays

Preservatives: H=HCl N=HNO<sub>3</sub> S=H<sub>2</sub>SO<sub>4</sub> C=4°C  
 Z=Zn(AC)<sub>2</sub> O=NaOH T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Bedlar G=Glass P=Plastic M=Metal

March 14, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

RE: ATL Work Order Number : 1600683  
Client Reference : 82/92 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on February, 19 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



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Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B10-25    | 1600683-17    | Soil   | 2/18/16 12:35 | 2/19/16 9:30  |



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Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 03/14/2016

**Client Sample ID B10-25**

**Lab ID: 1600683-17**

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Benzene                     | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Bromobenzene                | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Bromoform                   | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Bromomethane                | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Chlorobenzene               | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Chloroethane                | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Chloroform                  | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Chloromethane               | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 03/14/2016

**Client Sample ID B10-25**

**Lab ID: 1600683-17**

## Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| m,p-Xylene                              | ND                | 10              | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Methylene chloride                      | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Naphthalene                             | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| o-Xylene                                | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Styrene                                 | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Toluene                                 | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Trichloroethene                         | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>73.8 %</i>     | <i>20 - 189</i> |          | B6C0146 | 03/07/2016 | <i>03/07/16 14:52</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>106 %</i>      | <i>20 - 173</i> |          | B6C0146 | 03/07/2016 | <i>03/07/16 14:52</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>74.5 %</i>     | <i>26 - 178</i> |          | B6C0146 | 03/07/2016 | <i>03/07/16 14:52</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>97.4 %</i>     | <i>31 - 166</i> |          | B6C0146 | 03/07/2016 | <i>03/07/16 14:52</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### QUALITY CONTROL SECTION

#### Volatile Organic Compounds by EPA 8260B - Quality Control

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0146 - MSVOA\_S**

**Blank (B6C0146-BLK1)**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                             |    |     |  |  |    |  |  |  |  |
|-----------------------------|----|-----|--|--|----|--|--|--|--|
| 1,1,1,2-Tetrachloroethane   | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,1,1-Trichloroethane       | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,1,2,2-Tetrachloroethane   | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,1,2-Trichloroethane       | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,1-Dichloroethane          | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,1-Dichloroethene          | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,1-Dichloropropene         | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2,3-Trichloropropane      | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2,3-Trichlorobenzene      | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2,4-Trichlorobenzene      | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2,4-Trimethylbenzene      | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2-Dibromo-3-chloropropane | ND | 10  |  |  | NR |  |  |  |  |
| 1,2-Dibromoethane           | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2-Dichlorobenzene         | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2-Dichloroethane          | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2-Dichloropropane         | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,3,5-Trimethylbenzene      | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,3-Dichlorobenzene         | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,3-Dichloropropane         | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,4-Dichlorobenzene         | ND | 5.0 |  |  | NR |  |  |  |  |
| 2,2-Dichloropropane         | ND | 5.0 |  |  | NR |  |  |  |  |
| 2-Chlorotoluene             | ND | 5.0 |  |  | NR |  |  |  |  |
| 4-Chlorotoluene             | ND | 5.0 |  |  | NR |  |  |  |  |
| 4-Isopropyltoluene          | ND | 5.0 |  |  | NR |  |  |  |  |
| Benzene                     | ND | 5.0 |  |  | NR |  |  |  |  |
| Bromobenzene                | ND | 5.0 |  |  | NR |  |  |  |  |
| Bromodichloromethane        | ND | 5.0 |  |  | NR |  |  |  |  |
| Bromoform                   | ND | 5.0 |  |  | NR |  |  |  |  |
| Bromomethane                | ND | 5.0 |  |  | NR |  |  |  |  |
| Carbon tetrachloride        | ND | 5.0 |  |  | NR |  |  |  |  |
| Chlorobenzene               | ND | 5.0 |  |  | NR |  |  |  |  |
| Chloroethane                | ND | 5.0 |  |  | NR |  |  |  |  |
| Chloroform                  | ND | 5.0 |  |  | NR |  |  |  |  |
| Chloromethane               | ND | 5.0 |  |  | NR |  |  |  |  |
| cis-1,2-Dichloroethene      | ND | 5.0 |  |  | NR |  |  |  |  |
| cis-1,3-Dichloropropene     | ND | 5.0 |  |  | NR |  |  |  |  |
| Dibromochloromethane        | ND | 5.0 |  |  | NR |  |  |  |  |
| Dibromomethane              | ND | 5.0 |  |  | NR |  |  |  |  |
| Dichlorodifluoromethane     | ND | 5.0 |  |  | NR |  |  |  |  |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|------------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|------------------|------------|--------------|-------|

**Batch B6C0146 - MSVOA\_S (continued)**

**Blank (B6C0146-BLK1) - Continued**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|   |              |     |                |  |             |                 |  |  |  |
|---|--------------|-----|----------------|--|-------------|-----------------|--|--|--|
| Ethylbenzene                            | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Hexachlorobutadiene                     | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Isopropylbenzene                        | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| m,p-Xylene                              | ND           | 10  |                |  | NR          |                 |  |  |  |
| Methylene chloride                      | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| n-Butylbenzene                          | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| n-Propylbenzene                         | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Naphthalene                             | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| o-Xylene                                | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| sec-Butylbenzene                        | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Styrene                                 | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| tert-Butylbenzene                       | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Tetrachloroethene                       | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Toluene                                 | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| trans-1,2-Dichloroethene                | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Trichloroethene                         | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Trichlorofluoromethane                  | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Vinyl chloride                          | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>41.17</i> |     | <i>50.0000</i> |  | <i>82.3</i> | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>50.97</i> |     | <i>50.0000</i> |  | <i>102</i>  | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>39.77</i> |     | <i>50.0000</i> |  | <i>79.5</i> | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>47.89</i> |     | <i>50.0000</i> |  | <i>95.8</i> | <i>31 - 166</i> |  |  |  |

**LCS (B6C0146-BS1)**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                             |         |     |         |  |      |          |  |  |  |
|-----------------------------|---------|-----|---------|--|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 50.6500 | 5.0 | 50.0000 |  | 101  | 74 - 117 |  |  |  |
| 1,1,1-Trichloroethane       | 42.9400 | 5.0 | 50.0000 |  | 85.9 | 65 - 130 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 46.7300 | 5.0 | 50.0000 |  | 93.5 | 63 - 123 |  |  |  |
| 1,1,2-Trichloroethane       | 48.4400 | 5.0 | 50.0000 |  | 96.9 | 66 - 122 |  |  |  |
| 1,1-Dichloroethane          | 41.6100 | 5.0 | 50.0000 |  | 83.2 | 65 - 124 |  |  |  |
| 1,1-Dichloroethene          | 44.9600 | 5.0 | 50.0000 |  | 89.9 | 60 - 130 |  |  |  |
| 1,1-Dichloropropene         | 51.8400 | 5.0 | 50.0000 |  | 104  | 75 - 121 |  |  |  |
| 1,2,3-Trichloropropane      | 47.4800 | 5.0 | 50.0000 |  | 95.0 | 62 - 126 |  |  |  |
| 1,2,3-Trichlorobenzene      | 47.7400 | 5.0 | 50.0000 |  | 95.5 | 72 - 120 |  |  |  |
| 1,2,4-Trichlorobenzene      | 49.7100 | 5.0 | 50.0000 |  | 99.4 | 75 - 121 |  |  |  |
| 1,2,4-Trimethylbenzene      | 53.5500 | 5.0 | 50.0000 |  | 107  | 82 - 118 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 49.1800 | 10  | 50.0000 |  | 98.4 | 67 - 121 |  |  |  |
| 1,2-Dibromoethane           | 48.5000 | 5.0 | 50.0000 |  | 97.0 | 69 - 123 |  |  |  |
| 1,2-Dichlorobenzene         | 49.6900 | 5.0 | 50.0000 |  | 99.4 | 81 - 114 |  |  |  |
| 1,2-Dichloroethane          | 50.2600 | 5.0 | 50.0000 |  | 101  | 71 - 119 |  |  |  |
| 1,2-Dichloropropane         | 49.9400 | 5.0 | 50.0000 |  | 99.9 | 71 - 118 |  |  |  |
| 1,3,5-Trimethylbenzene      | 53.5500 | 5.0 | 50.0000 |  | 107  | 81 - 120 |  |  |  |



## Certificate of Analysis

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Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte                                    | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec                        | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|------------------|---------------------------------------|-----------------|------------|--------------|-------|
| <b>Batch B6C0146 - MSVOA_S (continued)</b> |                   |                |                |                  |                                       |                 |            |              |       |
| <b>LCS (B6C0146-BS1) - Continued</b>       |                   |                |                |                  | Prepared: 3/7/2016 Analyzed: 3/7/2016 |                 |            |              |       |
| 1,3-Dichlorobenzene                        | 51.4800           | 5.0            | 50.0000        |                  | 103                                   | 80 - 115        |            |              |       |
| 1,3-Dichloropropane                        | 49.9300           | 5.0            | 50.0000        |                  | 99.9                                  | 77 - 117        |            |              |       |
| 1,4-Dichlorobenzene                        | 50.4600           | 5.0            | 50.0000        |                  | 101                                   | 80 - 115        |            |              |       |
| 2,2-Dichloropropane                        | 45.2100           | 5.0            | 50.0000        |                  | 90.4                                  | 58 - 141        |            |              |       |
| 2-Chlorotoluene                            | 53.1100           | 5.0            | 50.0000        |                  | 106                                   | 78 - 120        |            |              |       |
| 4-Chlorotoluene                            | 54.4900           | 5.0            | 50.0000        |                  | 109                                   | 79 - 119        |            |              |       |
| 4-Isopropyltoluene                         | 55.4100           | 5.0            | 50.0000        |                  | 111                                   | 81 - 125        |            |              |       |
| Benzene                                    | 99.9900           | 5.0            | 100.000        |                  | 100                                   | 73 - 116        |            |              |       |
| Bromobenzene                               | 50.0400           | 5.0            | 50.0000        |                  | 100                                   | 78 - 115        |            |              |       |
| Bromodichloromethane                       | 48.9600           | 5.0            | 50.0000        |                  | 97.9                                  | 73 - 120        |            |              |       |
| Bromoform                                  | 47.4900           | 5.0            | 50.0000        |                  | 95.0                                  | 68 - 124        |            |              |       |
| Bromomethane                               | 44.6300           | 5.0            | 50.0000        |                  | 89.3                                  | 26 - 163        |            |              |       |
| Carbon tetrachloride                       | 49.3200           | 5.0            | 50.0000        |                  | 98.6                                  | 67 - 130        |            |              |       |
| Chlorobenzene                              | 50.4400           | 5.0            | 50.0000        |                  | 101                                   | 82 - 114        |            |              |       |
| Chloroethane                               | 46.5800           | 5.0            | 50.0000        |                  | 93.2                                  | 40 - 151        |            |              |       |
| Chloroform                                 | 42.4400           | 5.0            | 50.0000        |                  | 84.9                                  | 68 - 124        |            |              |       |
| Chloromethane                              | 42.6800           | 5.0            | 50.0000        |                  | 85.4                                  | 18 - 144        |            |              |       |
| cis-1,2-Dichloroethene                     | 40.3000           | 5.0            | 50.0000        |                  | 80.6                                  | 66 - 125        |            |              |       |
| cis-1,3-Dichloropropene                    | 51.4700           | 5.0            | 50.0000        |                  | 103                                   | 77 - 120        |            |              |       |
| Dibromochloromethane                       | 49.1400           | 5.0            | 50.0000        |                  | 98.3                                  | 76 - 118        |            |              |       |
| Dibromomethane                             | 48.8800           | 5.0            | 50.0000        |                  | 97.8                                  | 69 - 122        |            |              |       |
| Dichlorodifluoromethane                    | 42.1300           | 5.0            | 50.0000        |                  | 84.3                                  | 0 - 155         |            |              |       |
| Ethylbenzene                               | 106.610           | 5.0            | 100.000        |                  | 107                                   | 79 - 115        |            |              |       |
| Hexachlorobutadiene                        | 50.4700           | 5.0            | 50.0000        |                  | 101                                   | 71 - 121        |            |              |       |
| Isopropylbenzene                           | 53.9800           | 5.0            | 50.0000        |                  | 108                                   | 78 - 126        |            |              |       |
| m,p-Xylene                                 | 110.480           | 10             | 100.000        |                  | 110                                   | 80 - 119        |            |              |       |
| Methylene chloride                         | 39.7500           | 5.0            | 50.0000        |                  | 79.5                                  | 56 - 129        |            |              |       |
| MTBE                                       | 41.5100           | 5.0            | 50.0000        |                  | 83.0                                  | 61 - 124        |            |              |       |
| n-Butylbenzene                             | 55.8300           | 5.0            | 50.0000        |                  | 112                                   | 78 - 127        |            |              |       |
| n-Propylbenzene                            | 55.1100           | 5.0            | 50.0000        |                  | 110                                   | 77 - 128        |            |              |       |
| Naphthalene                                | 45.9900           | 5.0            | 50.0000        |                  | 92.0                                  | 61 - 141        |            |              |       |
| o-Xylene                                   | 110.190           | 5.0            | 100.000        |                  | 110                                   | 81 - 116        |            |              |       |
| sec-Butylbenzene                           | 54.5800           | 5.0            | 50.0000        |                  | 109                                   | 81 - 125        |            |              |       |
| Styrene                                    | 54.7000           | 5.0            | 50.0000        |                  | 109                                   | 82 - 120        |            |              |       |
| tert-Butylbenzene                          | 53.9400           | 5.0            | 50.0000        |                  | 108                                   | 80 - 123        |            |              |       |
| Tetrachloroethene                          | 49.6000           | 5.0            | 50.0000        |                  | 99.2                                  | 75 - 123        |            |              |       |
| Toluene                                    | 104.900           | 5.0            | 100.000        |                  | 105                                   | 75 - 119        |            |              |       |
| trans-1,2-Dichloroethene                   | 41.4900           | 5.0            | 50.0000        |                  | 83.0                                  | 62 - 127        |            |              |       |
| Trichloroethene                            | 50.2200           | 5.0            | 50.0000        |                  | 100                                   | 73 - 119        |            |              |       |
| Trichlorofluoromethane                     | 41.8100           | 5.0            | 50.0000        |                  | 83.6                                  | 47 - 157        |            |              |       |
| Vinyl chloride                             | 44.9200           | 5.0            | 50.0000        |                  | 89.8                                  | 27 - 147        |            |              |       |



## Certificate of Analysis

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Report To : Luann Beadle  
Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|------------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|------------------|------------|--------------|-------|

**Batch B6C0146 - MSVOA\_S (continued)**

**LCS (B6C0146-BS1) - Continued**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                                  |       |         |      |          |
|----------------------------------|-------|---------|------|----------|
| Surrogate: 1,2-Dichloroethane-d4 | 47.18 | 50.0000 | 94.4 | 20 - 189 |
| Surrogate: 4-Bromofluorobenzene  | 53.54 | 50.0000 | 107  | 20 - 173 |
| Surrogate: Dibromofluoromethane  | 42.16 | 50.0000 | 84.3 | 26 - 178 |
| Surrogate: Toluene-d8            | 53.12 | 50.0000 | 106  | 31 - 166 |

**Duplicate (B6C0146-DUP1)**

**Source: 1600683-17**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                             |    |     |    |    |    |
|-----------------------------|----|-----|----|----|----|
| 1,1,1,2-Tetrachloroethane   | ND | 5.0 | ND | NR | 20 |
| 1,1,1-Trichloroethane       | ND | 5.0 | ND | NR | 20 |
| 1,1,2,2-Tetrachloroethane   | ND | 5.0 | ND | NR | 20 |
| 1,1,2-Trichloroethane       | ND | 5.0 | ND | NR | 20 |
| 1,1-Dichloroethane          | ND | 5.0 | ND | NR | 20 |
| 1,1-Dichloroethene          | ND | 5.0 | ND | NR | 20 |
| 1,1-Dichloropropene         | ND | 5.0 | ND | NR | 20 |
| 1,2,3-Trichloropropane      | ND | 5.0 | ND | NR | 20 |
| 1,2,3-Trichlorobenzene      | ND | 5.0 | ND | NR | 20 |
| 1,2,4-Trichlorobenzene      | ND | 5.0 | ND | NR | 20 |
| 1,2,4-Trimethylbenzene      | ND | 5.0 | ND | NR | 20 |
| 1,2-Dibromo-3-chloropropane | ND | 10  | ND | NR | 20 |
| 1,2-Dibromoethane           | ND | 5.0 | ND | NR | 20 |
| 1,2-Dichlorobenzene         | ND | 5.0 | ND | NR | 20 |
| 1,2-Dichloroethane          | ND | 5.0 | ND | NR | 20 |
| 1,2-Dichloropropane         | ND | 5.0 | ND | NR | 20 |
| 1,3,5-Trimethylbenzene      | ND | 5.0 | ND | NR | 20 |
| 1,3-Dichlorobenzene         | ND | 5.0 | ND | NR | 20 |
| 1,3-Dichloropropane         | ND | 5.0 | ND | NR | 20 |
| 1,4-Dichlorobenzene         | ND | 5.0 | ND | NR | 20 |
| 2,2-Dichloropropane         | ND | 5.0 | ND | NR | 20 |
| 2-Chlorotoluene             | ND | 5.0 | ND | NR | 20 |
| 4-Chlorotoluene             | ND | 5.0 | ND | NR | 20 |
| 4-Isopropyltoluene          | ND | 5.0 | ND | NR | 20 |
| Benzene                     | ND | 5.0 | ND | NR | 20 |
| Bromobenzene                | ND | 5.0 | ND | NR | 20 |
| Bromodichloromethane        | ND | 5.0 | ND | NR | 20 |
| Bromoform                   | ND | 5.0 | ND | NR | 20 |
| Bromomethane                | ND | 5.0 | ND | NR | 20 |
| Carbon tetrachloride        | ND | 5.0 | ND | NR | 20 |
| Chlorobenzene               | ND | 5.0 | ND | NR | 20 |
| Chloroethane                | ND | 5.0 | ND | NR | 20 |
| Chloroform                  | ND | 5.0 | ND | NR | 20 |
| Chloromethane               | ND | 5.0 | ND | NR | 20 |
| cis-1,2-Dichloroethene      | ND | 5.0 | ND | NR | 20 |
| cis-1,3-Dichloropropene     | ND | 5.0 | ND | NR | 20 |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0146 - MSVOA\_S (continued)**

**Duplicate (B6C0146-DUP1) - Continued**

**Source: 1600683-17**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                          |    |     |  |    |    |  |  |    |  |
|--------------------------|----|-----|--|----|----|--|--|----|--|
| Dibromochloromethane     | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Dibromomethane           | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Dichlorodifluoromethane  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Ethylbenzene             | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Hexachlorobutadiene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Isopropylbenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| m,p-Xylene               | ND | 10  |  | ND | NR |  |  | 20 |  |
| Methylene chloride       | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| MTBE                     | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| n-Butylbenzene           | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| n-Propylbenzene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Naphthalene              | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| o-Xylene                 | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| sec-Butylbenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Styrene                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| tert-Butylbenzene        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Tetrachloroethene        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Toluene                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| trans-1,2-Dichloroethene | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Trichloroethene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Trichlorofluoromethane   | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Vinyl chloride           | ND | 5.0 |  | ND | NR |  |  | 20 |  |

|   |              |  |                |  |             |                 |  |  |  |
|---|--------------|--|----------------|--|-------------|-----------------|--|--|--|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>40.92</i> |  | <i>50.0000</i> |  | <i>81.8</i> | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>53.69</i> |  | <i>50.0000</i> |  | <i>107</i>  | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>39.55</i> |  | <i>50.0000</i> |  | <i>79.1</i> | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>49.89</i> |  | <i>50.0000</i> |  | <i>99.8</i> | <i>31 - 166</i> |  |  |  |

**Matrix Spike (B6C0146-MS1)**

**Source: 1600750-34**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                             |         |     |         |    |      |          |  |  |  |
|-----------------------------|---------|-----|---------|----|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 43.9400 | 5.0 | 50.0000 | ND | 87.9 | 45 - 122 |  |  |  |
| 1,1,1-Trichloroethane       | 40.3600 | 5.0 | 50.0000 | ND | 80.7 | 46 - 131 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 43.0700 | 5.0 | 50.0000 | ND | 86.1 | 34 - 133 |  |  |  |
| 1,1,2-Trichloroethane       | 40.7000 | 5.0 | 50.0000 | ND | 81.4 | 40 - 133 |  |  |  |
| 1,1-Dichloroethane          | 38.9100 | 5.0 | 50.0000 | ND | 77.8 | 50 - 120 |  |  |  |
| 1,1-Dichloroethene          | 43.1900 | 5.0 | 50.0000 | ND | 86.4 | 42 - 130 |  |  |  |
| 1,1-Dichloropropene         | 46.6000 | 5.0 | 50.0000 | ND | 93.2 | 49 - 125 |  |  |  |
| 1,2,3-Trichloropropane      | 44.0800 | 5.0 | 50.0000 | ND | 88.2 | 42 - 130 |  |  |  |
| 1,2,3-Trichlorobenzene      | 36.6600 | 5.0 | 50.0000 | ND | 73.3 | 2 - 136  |  |  |  |
| 1,2,4-Trichlorobenzene      | 38.0700 | 5.0 | 50.0000 | ND | 76.1 | 6 - 137  |  |  |  |
| 1,2,4-Trimethylbenzene      | 43.6300 | 5.0 | 50.0000 | ND | 87.3 | 37 - 129 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 43.8300 | 10  | 50.0000 | ND | 87.7 | 36 - 135 |  |  |  |
| 1,2-Dibromoethane           | 40.8800 | 5.0 | 50.0000 | ND | 81.8 | 43 - 129 |  |  |  |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0146 - MSVOA\_S (continued)**

**Matrix Spike (B6C0146-MS1) - Continued**

**Source: 1600750-34**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                          |         |     |         |    |      |          |
|--------------------------|---------|-----|---------|----|------|----------|
| 1,2-Dichlorobenzene      | 38.2100 | 5.0 | 50.0000 | ND | 76.4 | 31 - 129 |
| 1,2-Dichloroethane       | 43.0700 | 5.0 | 50.0000 | ND | 86.1 | 50 - 122 |
| 1,2-Dichloropropane      | 42.2800 | 5.0 | 50.0000 | ND | 84.6 | 51 - 119 |
| 1,3,5-Trimethylbenzene   | 44.0200 | 5.0 | 50.0000 | ND | 88.0 | 38 - 130 |
| 1,3-Dichlorobenzene      | 39.6100 | 5.0 | 50.0000 | ND | 79.2 | 31 - 128 |
| 1,3-Dichloropropane      | 43.8200 | 5.0 | 50.0000 | ND | 87.6 | 52 - 122 |
| 1,4-Dichlorobenzene      | 39.0700 | 5.0 | 50.0000 | ND | 78.1 | 31 - 128 |
| 2,2-Dichloropropane      | 41.9600 | 5.0 | 50.0000 | ND | 83.9 | 42 - 140 |
| 2-Chlorotoluene          | 44.0200 | 5.0 | 50.0000 | ND | 88.0 | 38 - 129 |
| 4-Chlorotoluene          | 43.9400 | 5.0 | 50.0000 | ND | 87.9 | 38 - 128 |
| 4-Isopropyltoluene       | 43.9800 | 5.0 | 50.0000 | ND | 88.0 | 31 - 137 |
| Benzene                  | 86.8400 | 5.0 | 100.000 | ND | 86.8 | 51 - 117 |
| Bromobenzene             | 41.5100 | 5.0 | 50.0000 | ND | 83.0 | 41 - 125 |
| Bromodichloromethane     | 42.1700 | 5.0 | 50.0000 | ND | 84.3 | 50 - 122 |
| Bromoform                | 40.9000 | 5.0 | 50.0000 | ND | 81.8 | 39 - 131 |
| Bromomethane             | 39.3200 | 5.0 | 50.0000 | ND | 78.6 | 10 - 154 |
| Carbon tetrachloride     | 45.3400 | 5.0 | 50.0000 | ND | 90.7 | 44 - 131 |
| Chlorobenzene            | 41.9700 | 5.0 | 50.0000 | ND | 83.9 | 46 - 123 |
| Chloroethane             | 41.9400 | 5.0 | 50.0000 | ND | 83.9 | 27 - 143 |
| Chloroform               | 37.8500 | 5.0 | 50.0000 | ND | 75.7 | 50 - 124 |
| Chloromethane            | 35.8400 | 5.0 | 50.0000 | ND | 71.7 | 8 - 139  |
| cis-1,2-Dichloroethene   | 38.3100 | 5.0 | 50.0000 | ND | 76.6 | 48 - 125 |
| cis-1,3-Dichloropropene  | 40.9300 | 5.0 | 50.0000 | ND | 81.9 | 51 - 123 |
| Dibromochloromethane     | 43.2500 | 5.0 | 50.0000 | ND | 86.5 | 48 - 124 |
| Dibromomethane           | 43.6200 | 5.0 | 50.0000 | ND | 87.2 | 48 - 124 |
| Dichlorodifluoromethane  | 37.2400 | 5.0 | 50.0000 | ND | 74.5 | 0 - 150  |
| Ethylbenzene             | 91.0400 | 5.0 | 100.000 | ND | 91.0 | 46 - 123 |
| Hexachlorobutadiene      | 33.3400 | 5.0 | 50.0000 | ND | 66.7 | 5 - 132  |
| Isopropylbenzene         | 47.7100 | 5.0 | 50.0000 | ND | 95.4 | 43 - 132 |
| m,p-Xylene               | 91.0700 | 10  | 100.000 | ND | 91.1 | 45 - 128 |
| Methylene chloride       | 36.7000 | 5.0 | 50.0000 | ND | 73.4 | 37 - 126 |
| MTBE                     | 38.0600 | 5.0 | 50.0000 | ND | 76.1 | 46 - 125 |
| n-Butylbenzene           | 42.9400 | 5.0 | 50.0000 | ND | 85.9 | 24 - 138 |
| n-Propylbenzene          | 46.7900 | 5.0 | 50.0000 | ND | 93.6 | 40 - 133 |
| Naphthalene              | 43.2000 | 5.0 | 50.0000 | ND | 86.4 | 10 - 149 |
| o-Xylene                 | 91.7200 | 5.0 | 100.000 | ND | 91.7 | 45 - 125 |
| sec-Butylbenzene         | 44.2700 | 5.0 | 50.0000 | ND | 88.5 | 33 - 136 |
| Styrene                  | 42.8500 | 5.0 | 50.0000 | ND | 85.7 | 43 - 128 |
| tert-Butylbenzene        | 44.7300 | 5.0 | 50.0000 | ND | 89.5 | 36 - 133 |
| Tetrachloroethene        | 44.2800 | 5.0 | 50.0000 | ND | 88.6 | 41 - 129 |
| Toluene                  | 88.4500 | 5.0 | 100.000 | ND | 88.4 | 49 - 124 |
| trans-1,2-Dichloroethene | 38.8100 | 5.0 | 50.0000 | ND | 77.6 | 44 - 126 |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0146 - MSVOA\_S (continued)**

**Matrix Spike (B6C0146-MS1) - Continued**

**Source: 1600750-34**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|   |              |     |                |    |             |                 |  |  |  |
|---|--------------|-----|----------------|----|-------------|-----------------|--|--|--|
| Trichloroethene                         | 45.3400      | 5.0 | 50.0000        | ND | 90.7        | 38 - 139        |  |  |  |
| Trichlorofluoromethane                  | 39.6900      | 5.0 | 50.0000        | ND | 79.4        | 30 - 157        |  |  |  |
| Vinyl chloride                          | 40.8400      | 5.0 | 50.0000        | ND | 81.7        | 19 - 142        |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>49.51</i> |     | <i>50.0000</i> |    | <i>99.0</i> | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>52.25</i> |     | <i>50.0000</i> |    | <i>104</i>  | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>43.94</i> |     | <i>50.0000</i> |    | <i>87.9</i> | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>51.89</i> |     | <i>50.0000</i> |    | <i>104</i>  | <i>31 - 166</i> |  |  |  |

**Matrix Spike Dup (B6C0146-MSD1)**

**Source: 1600750-34**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                             |         |     |         |    |      |          |       |    |  |
|-----------------------------|---------|-----|---------|----|------|----------|-------|----|--|
| 1,1,1,2-Tetrachloroethane   | 44.9100 | 5.0 | 50.0000 | ND | 89.8 | 45 - 122 | 2.18  | 20 |  |
| 1,1,1-Trichloroethane       | 39.8000 | 5.0 | 50.0000 | ND | 79.6 | 46 - 131 | 1.40  | 20 |  |
| 1,1,2,2-Tetrachloroethane   | 44.7200 | 5.0 | 50.0000 | ND | 89.4 | 34 - 133 | 3.76  | 20 |  |
| 1,1,2-Trichloroethane       | 41.8400 | 5.0 | 50.0000 | ND | 83.7 | 40 - 133 | 2.76  | 20 |  |
| 1,1-Dichloroethane          | 38.8100 | 5.0 | 50.0000 | ND | 77.6 | 50 - 120 | 0.257 | 20 |  |
| 1,1-Dichloroethene          | 41.9300 | 5.0 | 50.0000 | ND | 83.9 | 42 - 130 | 2.96  | 20 |  |
| 1,1-Dichloropropene         | 44.8400 | 5.0 | 50.0000 | ND | 89.7 | 49 - 125 | 3.85  | 20 |  |
| 1,2,3-Trichloropropane      | 45.5800 | 5.0 | 50.0000 | ND | 91.2 | 42 - 130 | 3.35  | 20 |  |
| 1,2,3-Trichlorobenzene      | 36.3700 | 5.0 | 50.0000 | ND | 72.7 | 2 - 136  | 0.794 | 20 |  |
| 1,2,4-Trichlorobenzene      | 38.9400 | 5.0 | 50.0000 | ND | 77.9 | 6 - 137  | 2.26  | 20 |  |
| 1,2,4-Trimethylbenzene      | 44.1200 | 5.0 | 50.0000 | ND | 88.2 | 37 - 129 | 1.12  | 20 |  |
| 1,2-Dibromo-3-chloropropane | 47.0200 | 10  | 50.0000 | ND | 94.0 | 36 - 135 | 7.02  | 20 |  |
| 1,2-Dibromoethane           | 41.0400 | 5.0 | 50.0000 | ND | 82.1 | 43 - 129 | 0.391 | 20 |  |
| 1,2-Dichlorobenzene         | 39.9100 | 5.0 | 50.0000 | ND | 79.8 | 31 - 129 | 4.35  | 20 |  |
| 1,2-Dichloroethane          | 42.6400 | 5.0 | 50.0000 | ND | 85.3 | 50 - 122 | 1.00  | 20 |  |
| 1,2-Dichloropropane         | 42.0000 | 5.0 | 50.0000 | ND | 84.0 | 51 - 119 | 0.664 | 20 |  |
| 1,3,5-Trimethylbenzene      | 44.4300 | 5.0 | 50.0000 | ND | 88.9 | 38 - 130 | 0.927 | 20 |  |
| 1,3-Dichlorobenzene         | 40.7300 | 5.0 | 50.0000 | ND | 81.5 | 31 - 128 | 2.79  | 20 |  |
| 1,3-Dichloropropane         | 46.2700 | 5.0 | 50.0000 | ND | 92.5 | 52 - 122 | 5.44  | 20 |  |
| 1,4-Dichlorobenzene         | 39.3100 | 5.0 | 50.0000 | ND | 78.6 | 31 - 128 | 0.612 | 20 |  |
| 2,2-Dichloropropane         | 41.8700 | 5.0 | 50.0000 | ND | 83.7 | 42 - 140 | 0.215 | 20 |  |
| 2-Chlorotoluene             | 44.3000 | 5.0 | 50.0000 | ND | 88.6 | 38 - 129 | 0.634 | 20 |  |
| 4-Chlorotoluene             | 44.3100 | 5.0 | 50.0000 | ND | 88.6 | 38 - 128 | 0.839 | 20 |  |
| 4-Isopropyltoluene          | 44.3500 | 5.0 | 50.0000 | ND | 88.7 | 31 - 137 | 0.838 | 20 |  |
| Benzene                     | 85.8700 | 5.0 | 100.000 | ND | 85.9 | 51 - 117 | 1.12  | 20 |  |
| Bromobenzene                | 42.8500 | 5.0 | 50.0000 | ND | 85.7 | 41 - 125 | 3.18  | 20 |  |
| Bromodichloromethane        | 41.8200 | 5.0 | 50.0000 | ND | 83.6 | 50 - 122 | 0.833 | 20 |  |
| Bromoform                   | 42.0900 | 5.0 | 50.0000 | ND | 84.2 | 39 - 131 | 2.87  | 20 |  |
| Bromomethane                | 35.6700 | 5.0 | 50.0000 | ND | 71.3 | 10 - 154 | 9.73  | 20 |  |
| Carbon tetrachloride        | 43.4100 | 5.0 | 50.0000 | ND | 86.8 | 44 - 131 | 4.35  | 20 |  |
| Chlorobenzene               | 43.1000 | 5.0 | 50.0000 | ND | 86.2 | 46 - 123 | 2.66  | 20 |  |
| Chloroethane                | 40.1300 | 5.0 | 50.0000 | ND | 80.3 | 27 - 143 | 4.41  | 20 |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0146 - MSVOA\_S (continued)**

**Matrix Spike Dup (B6C0146-MSD1) - Continued**

**Source: 1600750-34**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|   |              |     |                |    |             |                 |        |    |  |
|---|--------------|-----|----------------|----|-------------|-----------------|--------|----|--|
| Chloroform                              | 38.4500      | 5.0 | 50.0000        | ND | 76.9        | 50 - 124        | 1.57   | 20 |  |
| Chloromethane                           | 35.4700      | 5.0 | 50.0000        | ND | 70.9        | 8 - 139         | 1.04   | 20 |  |
| cis-1,2-Dichloroethene                  | 36.8900      | 5.0 | 50.0000        | ND | 73.8        | 48 - 125        | 3.78   | 20 |  |
| cis-1,3-Dichloropropene                 | 43.1400      | 5.0 | 50.0000        | ND | 86.3        | 51 - 123        | 5.26   | 20 |  |
| Dibromochloromethane                    | 44.7500      | 5.0 | 50.0000        | ND | 89.5        | 48 - 124        | 3.41   | 20 |  |
| Dibromomethane                          | 44.4400      | 5.0 | 50.0000        | ND | 88.9        | 48 - 124        | 1.86   | 20 |  |
| Dichlorodifluoromethane                 | 36.1300      | 5.0 | 50.0000        | ND | 72.3        | 0 - 150         | 3.03   | 20 |  |
| Ethylbenzene                            | 91.0300      | 5.0 | 100.000        | ND | 91.0        | 46 - 123        | 0.0110 | 20 |  |
| Hexachlorobutadiene                     | 34.9400      | 5.0 | 50.0000        | ND | 69.9        | 5 - 132         | 4.69   | 20 |  |
| Isopropylbenzene                        | 47.5800      | 5.0 | 50.0000        | ND | 95.2        | 43 - 132        | 0.273  | 20 |  |
| m,p-Xylene                              | 91.4000      | 10  | 100.000        | ND | 91.4        | 45 - 128        | 0.362  | 20 |  |
| Methylene chloride                      | 36.2800      | 5.0 | 50.0000        | ND | 72.6        | 37 - 126        | 1.15   | 20 |  |
| MTBE                                    | 39.9900      | 5.0 | 50.0000        | ND | 80.0        | 46 - 125        | 4.95   | 20 |  |
| n-Butylbenzene                          | 43.4100      | 5.0 | 50.0000        | ND | 86.8        | 24 - 138        | 1.09   | 20 |  |
| n-Propylbenzene                         | 46.6800      | 5.0 | 50.0000        | ND | 93.4        | 40 - 133        | 0.235  | 20 |  |
| Naphthalene                             | 44.7600      | 5.0 | 50.0000        | ND | 89.5        | 10 - 149        | 3.55   | 20 |  |
| o-Xylene                                | 93.6000      | 5.0 | 100.000        | ND | 93.6        | 45 - 125        | 2.03   | 20 |  |
| sec-Butylbenzene                        | 44.3200      | 5.0 | 50.0000        | ND | 88.6        | 33 - 136        | 0.113  | 20 |  |
| Styrene                                 | 43.6700      | 5.0 | 50.0000        | ND | 87.3        | 43 - 128        | 1.90   | 20 |  |
| tert-Butylbenzene                       | 45.0700      | 5.0 | 50.0000        | ND | 90.1        | 36 - 133        | 0.757  | 20 |  |
| Tetrachloroethene                       | 44.2500      | 5.0 | 50.0000        | ND | 88.5        | 41 - 129        | 0.0678 | 20 |  |
| Toluene                                 | 88.0100      | 5.0 | 100.000        | ND | 88.0        | 49 - 124        | 0.499  | 20 |  |
| trans-1,2-Dichloroethene                | 38.8400      | 5.0 | 50.0000        | ND | 77.7        | 44 - 126        | 0.0773 | 20 |  |
| Trichloroethene                         | 43.8900      | 5.0 | 50.0000        | ND | 87.8        | 38 - 139        | 3.25   | 20 |  |
| Trichlorofluoromethane                  | 38.0500      | 5.0 | 50.0000        | ND | 76.1        | 30 - 157        | 4.22   | 20 |  |
| Vinyl chloride                          | 39.2900      | 5.0 | 50.0000        | ND | 78.6        | 19 - 142        | 3.87   | 20 |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>50.78</i> |     | <i>50.0000</i> |    | <i>102</i>  | <i>20 - 189</i> |        |    |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>51.88</i> |     | <i>50.0000</i> |    | <i>104</i>  | <i>20 - 173</i> |        |    |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>44.81</i> |     | <i>50.0000</i> |    | <i>89.6</i> | <i>26 - 178</i> |        |    |  |
| <i>Surrogate: Toluene-d8</i>            | <i>51.22</i> |     | <i>50.0000</i> |    | <i>102</i>  | <i>31 - 166</i> |        |    |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### Notes and Definitions

|     |   |
|-----|---|
| H4  | Change order analysis requested past the sample holding time.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

## Diane Galvan

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Monday, March 07, 2016 11:02 AM  
**To:** Diane Galvan  
**Subject:** Lab Order 1600683 (82/92 Interchange)

Hi Diane,  
Could you analyze B10-25 for VOCs by 8260 on a regular TAT? I realize the hold time is a few days past.  
Thanks,  
Luann



**Luann Beadle** | *Project Scientist*

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P | 925.371.5900 ext. 403 M | 925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [LinkedIn](#)

*Bay Area - Sacramento - Fairfield - Los Angeles - Orange County - Riverside County - Palm Desert - San Diego*

Geotechnical Engineering

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Infrastructure

Institutional

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Brownfields/Redevelopment

Construction Inspection

Natural Resources

March 18, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600683  
Client Reference : 82/92 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on February 19, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/18/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B67-0     | 1600683-01    | Soil   | 2/18/16 7:30  | 2/19/16 9:30  |
| B10-0     | 1600683-12    | Soil   | 2/18/16 11:25 | 2/19/16 9:30  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/18/2016

### STLC Metals by ICP-AES by EPA 6010B

**Analyte: Lead**

**Analyst: SB**

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600683-01    | B67-0            | 3.6    | mg/L  | 1.0 | 20       | B6C0416 | 03/16/2016 | 03/16/16 11:28     |       |
| 1600683-12    | B10-0            | 3.4    | mg/L  | 1.0 | 20       | B6C0416 | 03/16/2016 | 03/16/16 11:34     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 03/18/2016

### QUALITY CONTROL SECTION

#### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---|-----------------|------|--------------|-------|
| <b>Batch B6C0416 - STLC_S Extraction</b> |                  |               |                |                  |   |                 |      |              |       |
| <b>Blank (B6C0416-BLK1)</b>              |                  |               |                |                  | Prepared: 3/16/2016 Analyzed: 3/16/2016 |                 |      |              |       |
| Lead                                     | ND               | 1.0           |                |                  |   |                 | NR   |              |       |
| <b>LCS (B6C0416-BS1)</b>                 |                  |               |                |                  | Prepared: 3/16/2016 Analyzed: 3/16/2016 |                 |      |              |       |
| Lead                                     | 1.94221          |               | 2.00000        |                  | 97.1                                    | 80 - 120        |      |              |       |
| <b>Duplicate (B6C0416-DUP1)</b>          |                  |               |                |                  | Prepared: 3/16/2016 Analyzed: 3/16/2016 |                 |      |              |       |
| Lead                                     | 9.36290          | 1.0           |                | 10.0499          | NR                                      |                 | 7.08 | 20           |       |
| <b>Matrix Spike (B6C0416-MS1)</b>        |                  |               |                |                  | Prepared: 3/16/2016 Analyzed: 3/16/2016 |                 |      |              |       |
| Lead                                     | 11.7195          |               | 2.50000        | 10.0499          | 66.8                                    | 44 - 130        |      |              |       |
| <b>Matrix Spike Dup (B6C0416-MSD1)</b>   |                  |               |                |                  | Prepared: 3/16/2016 Analyzed: 3/16/2016 |                 |      |              |       |
| Lead                                     | 11.5657          |               | 2.50000        | 10.0499          | 60.6                                    | 44 - 130        | 1.32 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/18/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

- Notes:
- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
  - (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
  - (3) Results are wet unless otherwise specified.

**Diane Galvan**

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Friday, March 11, 2016 12:26 PM  
**To:** Diane Galvan  
**Subject:** Lab Order 1600683 (82/92)

Hi Diane,

Please run WET lead for the following samples on a regular TAT:

1600683-01 B67-0  
1600683-12 B10-0

Thanks, L



**Luann Beadle** | *Project Scientist*

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P|925.371.5900 ext. 403 M|925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [LinkedIn](#)

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Geotechnical Engineering

Land Development

Environmental Services

Transportation

Infrastructure

Institutional

Engineering Geology

Brownfields/Redevelopment

Construction Inspection

Natural Resources

March 16, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600966  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on March 12, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix      | Date Sampled  | Date Received |
|-----------|---------------|-------------|---------------|---------------|
| TB        | 1600966-01    | Water       | 3/10/16 12:00 | 3/12/16 9:35  |
| B25-0'    | 1600966-02    | Soil        | 3/10/16 22:15 | 3/12/16 9:35  |
| B25-1'    | 1600966-03    | Soil        | 3/10/16 22:16 | 3/12/16 9:35  |
| B25-2'    | 1600966-04    | Soil        | 3/10/16 22:17 | 3/12/16 9:35  |
| B25-10'   | 1600966-05    | Soil        | 3/10/16 22:30 | 3/12/16 9:35  |
| B25-25'   | 1600966-06    | Soil        | 3/10/16 23:20 | 3/12/16 9:35  |
| B42-0'    | 1600966-07    | Soil        | 3/11/16 0:18  | 3/12/16 9:35  |
| B42-1'    | 1600966-08    | Soil        | 3/11/16 0:19  | 3/12/16 9:35  |
| B42-2'    | 1600966-09    | Soil        | 3/11/16 0:20  | 3/12/16 9:35  |
| B42-10'   | 1600966-10    | Soil        | 3/11/16 0:45  | 3/12/16 9:35  |
| B42-25'   | 1600966-11    | Soil        | 3/11/16 1:45  | 3/12/16 9:35  |
| B42       | 1600966-12    | Groundwater | 3/11/16 2:15  | 3/12/16 9:35  |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID TB**  
**Lab ID: 1600966-01**

## Gasoline Range Organics by EPA 8015B (Modified)

Analyst: QP

| Analyte                         | Result (mg/L) | PQL (mg/L) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------------------------|---------------|------------|----------|---------|------------|--------------------|-------|
| Gasoline Range Organics         | ND            | 0.05       | 1        | B6C0403 | 03/15/2016 | 03/15/16 15:37     |       |
| Surrogate: 4-Bromofluorobenzene | 87.3 %        | 70 - 130   |          | B6C0403 | 03/15/2016 | 03/15/16 15:37     |       |

## Volatile Organic Compounds by EPA 8260B

Analyst: SL

| Analyte                     | Result (ug/L) | PQL (ug/L) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|-----------------------------|---------------|------------|----------|---------|------------|--------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,1,1-Trichloroethane       | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,1,2,2-Tetrachloroethane   | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,1,2-Trichloroethane       | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,1-Dichloroethane          | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,1-Dichloroethene          | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,1-Dichloropropene         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2,3-Trichloropropane      | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2,3-Trichlorobenzene      | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2,4-Trichlorobenzene      | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2,4-Trimethylbenzene      | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2-Dibromo-3-chloropropane | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2-Dibromoethane           | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2-Dichlorobenzene         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2-Dichloroethane          | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2-Dichloropropane         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,3,5-Trimethylbenzene      | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,3-Dichlorobenzene         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,3-Dichloropropane         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,4-Dichlorobenzene         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 2,2-Dichloropropane         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 2-Chlorotoluene             | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 4-Chlorotoluene             | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 4-Isopropyltoluene          | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| Benzene                     | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| Bromobenzene                | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| Bromodichloromethane        | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| Bromoform                   | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| Bromomethane                | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| Carbon tetrachloride        | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID TB**  
**Lab ID: 1600966-01**

## Volatile Organic Compounds by EPA 8260B

Analyst: SL

| Analyte                                 | Result<br>(ug/L) | PQL<br>(ug/L)   | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Chlorobenzene                           | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Chloroethane                            | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Chloroform                              | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Chloromethane                           | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| cis-1,2-Dichloroethene                  | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| cis-1,3-Dichloropropene                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Dibromochloromethane                    | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Dibromomethane                          | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Dichlorodifluoromethane                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Ethylbenzene                            | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Hexachlorobutadiene                     | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Isopropylbenzene                        | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| m,p-Xylene                              | ND               | 1.0             | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Methylene chloride                      | ND               | 1.0             | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| n-Butylbenzene                          | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| n-Propylbenzene                         | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Naphthalene                             | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| o-Xylene                                | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| sec-Butylbenzene                        | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Styrene                                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| tert-Butylbenzene                       | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Tetrachloroethene                       | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Toluene                                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| trans-1,2-Dichloroethene                | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Trichloroethene                         | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Trichlorofluoromethane                  | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Vinyl chloride                          | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>115 %</i>     | <i>49 - 148</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:34</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>96.8 %</i>    | <i>65 - 132</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:34</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>111 %</i>     | <i>55 - 138</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:34</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>104 %</i>     | <i>60 - 120</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:34</i> |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B25-0'**

**Lab ID: 1600966-02**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: RR**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Arsenic</b>  | <b>4.9</b>        | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Barium</b>   | <b>130</b>        | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| Beryllium       | ND                | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:21        |       |
| Cadmium         | ND                | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Chromium</b> | <b>42</b>         | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Cobalt</b>   | <b>11</b>         | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Copper</b>   | <b>21</b>         | 2.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Lead</b>     | <b>12</b>         | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Nickel</b>   | <b>63</b>         | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| Selenium        | ND                | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| Silver          | ND                | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| Thallium        | ND                | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Vanadium</b> | <b>36</b>         | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Zinc</b>     | <b>41</b>         | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6C0338 | 03/14/2016 | 03/15/16 08:13        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B25-1'**

**Lab ID: 1600966-03**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.8               | 1.0            | 1        | B6C0340 | 03/14/2016 | 03/14/16 12:05        |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B25-2'**

**Lab ID: 1600966-04**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 10                | 1.0            | 1        | B6C0340 | 03/14/2016 | 03/14/16 12:06        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B25-10'**

**Lab ID: 1600966-05**

### Gasoline Range Organics by EPA 8015B (Modified)

**Analyst: QP**

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Gasoline Range Organics                | ND                | 1.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>107 %</i>      | <i>37 - 153</i> |          | B6C0344 | 03/14/2016 | <i>03/14/16 13:41</i> |       |

### BTEX/MTBE by EPA 8021

**Analyst: QP**

| Analyte                                | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| MTBE                                   | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| Benzene                                | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| Toluene                                | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| Ethylbenzene                           | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| m,p-Xylene                             | ND                | 10              | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| o-Xylene                               | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>99.4 %</i>     | <i>62 - 128</i> |          | B6C0344 | 03/14/2016 | <i>03/14/16 13:41</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

**Client Sample ID B25-25'**

**Lab ID: 1600966-06**

### Gasoline Range Organics by EPA 8015B (Modified)

**Analyst: QP**

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Gasoline Range Organics                | ND                | 1.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>106 %</i>      | <i>37 - 153</i> |          | B6C0344 | 03/14/2016 | <i>03/14/16 14:13</i> |       |

### BTEX/MTBE by EPA 8021

**Analyst: QP**

| Analyte                                | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| MTBE                                   | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| Benzene                                | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| Toluene                                | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| Ethylbenzene                           | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| m,p-Xylene                             | ND                | 10              | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| o-Xylene                               | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>97.4 %</i>     | <i>62 - 128</i> |          | B6C0344 | 03/14/2016 | <i>03/14/16 14:13</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B42-0'**

**Lab ID: 1600966-07**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 58                | 1.0            | 1        | B6C0340 | 03/14/2016 | 03/14/16 12:08        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B42-1'**

**Lab ID: 1600966-08**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 21                | 1.0            | 1        | B6C0340 | 03/14/2016 | 03/14/16 12:10        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B42-2'**

**Lab ID: 1600966-09**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 400               | 1.0            | 1        | B6C0340 | 03/14/2016 | 03/14/16 12:11        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

**Client Sample ID B42-10'**

**Lab ID: 1600966-10**

### Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Benzene                     | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Bromobenzene                | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Bromoform                   | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Bromomethane                | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Chlorobenzene               | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Chloroethane                | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Chloroform                  | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Chloromethane               | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/16/2016

**Client Sample ID B42-10'**

**Lab ID: 1600966-10**

## Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| m,p-Xylene                              | ND                | 10              | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Methylene chloride                      | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Naphthalene                             | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| o-Xylene                                | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Styrene                                 | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Toluene                                 | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Trichloroethene                         | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>93.8 %</i>     | <i>20 - 189</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 20:57</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>93.9 %</i>     | <i>20 - 173</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 20:57</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>98.2 %</i>     | <i>26 - 178</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 20:57</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>97.6 %</i>     | <i>31 - 166</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 20:57</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

**Client Sample ID B42-25'**

**Lab ID: 1600966-11**

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Benzene                     | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Bromobenzene                | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Bromoform                   | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Bromomethane                | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Chlorobenzene               | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Chloroethane                | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Chloroform                  | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Chloromethane               | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B42-25'**

**Lab ID: 1600966-11**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| m,p-Xylene                              | ND                | 10              | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Methylene chloride                      | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Naphthalene                             | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| o-Xylene                                | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Styrene                                 | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Toluene                                 | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Trichloroethene                         | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>92.8 %</i>     | <i>20 - 189</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 21:34</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>93.7 %</i>     | <i>20 - 173</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 21:34</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>101 %</i>      | <i>26 - 178</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 21:34</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>98.9 %</i>     | <i>31 - 166</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 21:34</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

**Client Sample ID B42**

**Lab ID: 1600966-12**

### Volatile Organic Compounds by EPA 8260B

Analyst: SL

| Analyte                     | Result<br>(ug/L) | PQL<br>(ug/L) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|------------------|---------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,1,1-Trichloroethane       | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,1,2,2-Tetrachloroethane   | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,1,2-Trichloroethane       | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,1-Dichloroethane          | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,1-Dichloroethene          | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,1-Dichloropropene         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2,3-Trichloropropane      | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2,3-Trichlorobenzene      | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2,4-Trichlorobenzene      | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2,4-Trimethylbenzene      | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2-Dibromo-3-chloropropane | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2-Dibromoethane           | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2-Dichlorobenzene         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2-Dichloroethane          | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2-Dichloropropane         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,3,5-Trimethylbenzene      | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,3-Dichlorobenzene         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,3-Dichloropropane         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,4-Dichlorobenzene         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 2,2-Dichloropropane         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 2-Chlorotoluene             | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 4-Chlorotoluene             | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 4-Isopropyltoluene          | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Benzene                     | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Bromobenzene                | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Bromodichloromethane        | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Bromoform                   | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Bromomethane                | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Carbon tetrachloride        | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Chlorobenzene               | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Chloroethane                | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Chloroform                  | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Chloromethane               | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| cis-1,2-Dichloroethene      | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| cis-1,3-Dichloropropene     | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Dibromochloromethane        | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B42**

**Lab ID: 1600966-12**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: SL**

| Analyte                                 | Result<br>(ug/L) | PQL<br>(ug/L)   | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Dichlorodifluoromethane                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Ethylbenzene                            | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Hexachlorobutadiene                     | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Isopropylbenzene                        | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| m,p-Xylene                              | ND               | 1.0             | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Methylene chloride                      | ND               | 1.0             | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| n-Butylbenzene                          | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| n-Propylbenzene                         | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Naphthalene                             | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| o-Xylene                                | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| sec-Butylbenzene                        | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Styrene                                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| tert-Butylbenzene                       | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Tetrachloroethene                       | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Toluene                                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| trans-1,2-Dichloroethene                | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Trichloroethene                         | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Trichlorofluoromethane                  | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Vinyl chloride                          | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>106 %</i>     | <i>49 - 148</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:55</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>86.0 %</i>    | <i>65 - 132</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:55</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>101 %</i>     | <i>55 - 138</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:55</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>90.6 %</i>    | <i>60 - 120</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:55</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### QUALITY CONTROL SECTION

#### Title 22 Metals by ICP-AES EPA 6010B - Quality Control

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0336 - EPA 3050B\_S**

**Blank (B6C0336-BLK1)**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|            |    |     |  |    |
|------------|----|-----|--|----|
| Antimony   | ND | 2.0 |  | NR |
| Arsenic    | ND | 1.0 |  | NR |
| Barium     | ND | 1.0 |  | NR |
| Beryllium  | ND | 1.0 |  | NR |
| Cadmium    | ND | 1.0 |  | NR |
| Chromium   | ND | 1.0 |  | NR |
| Cobalt     | ND | 1.0 |  | NR |
| Copper     | ND | 2.0 |  | NR |
| Lead       | ND | 1.0 |  | NR |
| Molybdenum | ND | 1.0 |  | NR |
| Nickel     | ND | 1.0 |  | NR |
| Selenium   | ND | 1.0 |  | NR |
| Silver     | ND | 1.0 |  | NR |
| Thallium   | ND | 1.0 |  | NR |
| Vanadium   | ND | 1.0 |  | NR |
| Zinc       | ND | 1.0 |  | NR |

**LCS (B6C0336-BS1)**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|            |         |     |         |      |          |
|------------|---------|-----|---------|------|----------|
| Antimony   | 46.2560 | 2.0 | 50.0000 | 92.5 | 80 - 120 |
| Arsenic    | 47.7499 | 1.0 | 50.0000 | 95.5 | 80 - 120 |
| Barium     | 50.6388 | 1.0 | 50.0000 | 101  | 80 - 120 |
| Beryllium  | 49.5219 | 1.0 | 50.0000 | 99.0 | 80 - 120 |
| Cadmium    | 48.2974 | 1.0 | 50.0000 | 96.6 | 80 - 120 |
| Chromium   | 47.1480 | 1.0 | 50.0000 | 94.3 | 80 - 120 |
| Cobalt     | 49.1289 | 1.0 | 50.0000 | 98.3 | 80 - 120 |
| Copper     | 49.6513 | 2.0 | 50.0000 | 99.3 | 80 - 120 |
| Lead       | 49.7353 | 1.0 | 50.0000 | 99.5 | 80 - 120 |
| Molybdenum | 48.6967 | 1.0 | 50.0000 | 97.4 | 80 - 120 |
| Nickel     | 48.4174 | 1.0 | 50.0000 | 96.8 | 80 - 120 |
| Selenium   | 46.1071 | 1.0 | 50.0000 | 92.2 | 80 - 120 |
| Silver     | 48.0367 | 1.0 | 50.0000 | 96.1 | 80 - 120 |
| Thallium   | 49.1002 | 1.0 | 50.0000 | 98.2 | 80 - 120 |
| Vanadium   | 51.8464 | 1.0 | 50.0000 | 104  | 80 - 120 |
| Zinc       | 47.2801 | 1.0 | 50.0000 | 94.6 | 80 - 120 |

**Duplicate (B6C0336-DUP1)**

Source: 1600911-01

Prepared: 3/14/2016 Analyzed: 3/14/2016

|           |          |     |          |    |         |
|-----------|----------|-----|----------|----|---------|
| Antimony  | ND       | 2.0 | ND       | NR | 20      |
| Arsenic   | 3.97855  | 1.0 | 4.06981  | NR | 2.27 20 |
| Barium    | 112.636  | 1.0 | 114.207  | NR | 1.39 20 |
| Beryllium | 0.196817 | 1.0 | 0.209471 | NR | 6.23 20 |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0336 - EPA 3050B\_S (continued)**

**Duplicate (B6C0336-DUP1) - Continued**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|            |          |     |  |          |    |  |      |    |   |
|------------|----------|-----|--|----------|----|--|------|----|---|
| Cadmium    | 0.223509 | 1.0 |  | 0.250332 | NR |  | 11.3 | 20 |   |
| Chromium   | 14.7933  | 1.0 |  | 15.0589  | NR |  | 1.78 | 20 |   |
| Cobalt     | 7.63974  | 1.0 |  | 7.31582  | NR |  | 4.33 | 20 |   |
| Copper     | 20.4844  | 2.0 |  | 21.6074  | NR |  | 5.34 | 20 |   |
| Lead       | 10.3120  | 1.0 |  | 12.7026  | NR |  | 20.8 | 20 | R |
| Molybdenum | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Nickel     | 12.1941  | 1.0 |  | 12.3394  | NR |  | 1.18 | 20 |   |
| Selenium   | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Silver     | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Thallium   | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Vanadium   | 32.3888  | 1.0 |  | 33.1247  | NR |  | 2.25 | 20 |   |
| Zinc       | 55.9828  | 1.0 |  | 60.9591  | NR |  | 8.51 | 20 |   |

**Matrix Spike (B6C0336-MS1)**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|            |         |     |         |          |      |          |  |  |  |
|------------|---------|-----|---------|----------|------|----------|--|--|--|
| Antimony   | 77.3172 | 2.0 | 125.000 | ND       | 61.9 | 28 - 106 |  |  |  |
| Arsenic    | 101.951 | 1.0 | 125.000 | 4.06981  | 78.3 | 57 - 109 |  |  |  |
| Barium     | 216.156 | 1.0 | 125.000 | 114.207  | 81.6 | 18 - 159 |  |  |  |
| Beryllium  | 97.3236 | 1.0 | 125.000 | 0.209471 | 77.7 | 61 - 107 |  |  |  |
| Cadmium    | 93.4282 | 1.0 | 125.000 | 0.250332 | 74.5 | 53 - 104 |  |  |  |
| Chromium   | 107.823 | 1.0 | 125.000 | 15.0589  | 74.2 | 53 - 121 |  |  |  |
| Cobalt     | 101.474 | 1.0 | 125.000 | 7.31582  | 75.3 | 55 - 109 |  |  |  |
| Copper     | 128.363 | 2.0 | 125.000 | 21.6074  | 85.4 | 58 - 124 |  |  |  |
| Lead       | 106.823 | 1.0 | 125.000 | 12.7026  | 75.3 | 35 - 129 |  |  |  |
| Molybdenum | 91.9534 | 1.0 | 125.000 | ND       | 73.6 | 57 - 108 |  |  |  |
| Nickel     | 105.388 | 1.0 | 125.000 | 12.3394  | 74.4 | 44 - 122 |  |  |  |
| Selenium   | 91.8084 | 1.0 | 125.000 | ND       | 73.4 | 54 - 104 |  |  |  |
| Silver     | 100.128 | 1.0 | 125.000 | ND       | 80.1 | 60 - 112 |  |  |  |
| Thallium   | 89.8308 | 1.0 | 125.000 | ND       | 71.9 | 50 - 103 |  |  |  |
| Vanadium   | 138.792 | 1.0 | 125.000 | 33.1247  | 84.5 | 54 - 123 |  |  |  |
| Zinc       | 149.994 | 1.0 | 125.000 | 60.9591  | 71.2 | 29 - 132 |  |  |  |

**Matrix Spike Dup (B6C0336-MSD1)**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|            |         |     |         |          |      |          |      |    |  |
|------------|---------|-----|---------|----------|------|----------|------|----|--|
| Antimony   | 86.5283 | 2.0 | 125.000 | ND       | 69.2 | 28 - 106 | 11.2 | 20 |  |
| Arsenic    | 110.988 | 1.0 | 125.000 | 4.06981  | 85.5 | 57 - 109 | 8.49 | 20 |  |
| Barium     | 236.924 | 1.0 | 125.000 | 114.207  | 98.2 | 18 - 159 | 9.17 | 20 |  |
| Beryllium  | 107.997 | 1.0 | 125.000 | 0.209471 | 86.2 | 61 - 107 | 10.4 | 20 |  |
| Cadmium    | 100.861 | 1.0 | 125.000 | 0.250332 | 80.5 | 53 - 104 | 7.65 | 20 |  |
| Chromium   | 120.111 | 1.0 | 125.000 | 15.0589  | 84.0 | 53 - 121 | 10.8 | 20 |  |
| Cobalt     | 112.150 | 1.0 | 125.000 | 7.31582  | 83.9 | 55 - 109 | 10.0 | 20 |  |
| Copper     | 139.955 | 2.0 | 125.000 | 21.6074  | 94.7 | 58 - 124 | 8.64 | 20 |  |
| Lead       | 114.283 | 1.0 | 125.000 | 12.7026  | 81.3 | 35 - 129 | 6.75 | 20 |  |
| Molybdenum | 100.370 | 1.0 | 125.000 | ND       | 80.3 | 57 - 108 | 8.75 | 20 |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/16/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0336 - EPA 3050B\_S (continued)**

**Matrix Spike Dup (B6C0336-MSD1) - Continued**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|          |         |     |         |         |      |          |      |    |  |
|----------|---------|-----|---------|---------|------|----------|------|----|--|
| Nickel   | 116.317 | 1.0 | 125.000 | 12.3394 | 83.2 | 44 - 122 | 9.86 | 20 |  |
| Selenium | 99.9862 | 1.0 | 125.000 | ND      | 80.0 | 54 - 104 | 8.53 | 20 |  |
| Silver   | 109.156 | 1.0 | 125.000 | ND      | 87.3 | 60 - 112 | 8.63 | 20 |  |
| Thallium | 98.2094 | 1.0 | 125.000 | ND      | 78.6 | 50 - 103 | 8.91 | 20 |  |
| Vanadium | 151.468 | 1.0 | 125.000 | 33.1247 | 94.7 | 54 - 123 | 8.73 | 20 |  |
| Zinc     | 162.299 | 1.0 | 125.000 | 60.9591 | 81.1 | 29 - 132 | 7.88 | 20 |  |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
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 Reported : 03/16/2016

### Lead by ICP-AES EPA 6010B - Quality Control

| Analyte                                    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6C0340 - EPA 3050 Modified_S</b> |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6C0340-BLK1)</b>                |                   |                |                | Prepared: 3/14/2016 Analyzed: 3/14/2016                           |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6C0340-BS1)</b>                   |                   |                |                | Prepared: 3/14/2016 Analyzed: 3/14/2016                           |       |                 |      |              |       |
| Lead                                       | 47.5700           | 1.0            | 50.0000        |   | 95.1  | 80 - 120        |      |              |       |
| <b>Duplicate (B6C0340-DUP1)</b>            |                   |                |                | <b>Source: 1600966-09</b> Prepared: 3/14/2016 Analyzed: 3/14/2016 |       |                 |      |              |       |
| Lead                                       | 466.883           | 1.0            |                | 397.411   | NR    |                 | 16.1 | 20           |       |
| <b>Matrix Spike (B6C0340-MS1)</b>          |                   |                |                | <b>Source: 1600966-09</b> Prepared: 3/14/2016 Analyzed: 3/14/2016 |       |                 |      |              |       |
| Lead                                       | 1052.96           | 1.0            | 250.000        | 397.411   | 262   | 35 - 129        |      |              | M1    |
| <b>Matrix Spike Dup (B6C0340-MSD1)</b>     |                   |                |                | <b>Source: 1600966-09</b> Prepared: 3/14/2016 Analyzed: 3/14/2016 |       |                 |      |              |       |
| Lead                                       | 998.734           | 1.0            | 250.000        | 397.411   | 241   | 35 - 129        | 5.29 | 20           | M1    |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/16/2016

### Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6C0338 - EPA 7471_S</b>      |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6C0338-BLK1)</b>            |                   |                |                | Prepared: 3/14/2016 Analyzed: 3/15/2016                    |       |                 |      |              |       |
| Mercury                                | ND                | 0.10           |                |  | NR    |                 |      |              |       |
| <b>LCS (B6C0338-BS1)</b>               |                   |                |                | Prepared: 3/14/2016 Analyzed: 3/15/2016                    |       |                 |      |              |       |
| Mercury                                | 0.776183          | 0.10           | 0.833333       |  | 93.1  | 80 - 120        |      |              |       |
| <b>Duplicate (B6C0338-DUP1)</b>        |                   |                |                | Source: 1600911-01 Prepared: 3/14/2016 Analyzed: 3/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.049406          | 0.10           |                | 0.040485   | NR    |                 | 19.8 | 20           |       |
| <b>Matrix Spike (B6C0338-MS1)</b>      |                   |                |                | Source: 1600911-01 Prepared: 3/14/2016 Analyzed: 3/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.828802          | 0.10           | 0.833333       | 0.040485   | 94.6  | 70 - 130        |      |              |       |
| <b>Matrix Spike Dup (B6C0338-MSD1)</b> |                   |                |                | Source: 1600911-01 Prepared: 3/14/2016 Analyzed: 3/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.867708          | 0.10           | 0.833333       | 0.040485   | 99.3  | 70 - 130        | 4.59 | 20           |       |
| <b>Post Spike (B6C0338-PS1)</b>        |                   |                |                | Source: 1600911-01 Prepared: 3/14/2016 Analyzed: 3/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.005760          |                | 5.00000E-3     | ND   | 105   | 85 - 115        |      |              |       |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/16/2016

### Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result                        | % Rec | % Rec<br>Limits                         | RPD | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|---|-----|--------------|-------|
| <b>Batch B6C0344 - GCVOA_S</b>         |                   |                |                |   |       |   |     |              |       |
| <b>Blank (B6C0344-BLK1)</b>            |                   |                |                | Prepared: 3/14/2016 Analyzed: 3/14/2016 |       |   |     |              |       |
| Gasoline Range Organics                | ND                | 1.0            |                |   |       | NR                                      |     |              |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2057            |                | 0.199892       |   |       | 103                                     |     | 37 - 153     |       |
| <b>LCS (B6C0344-BS1)</b>               |                   |                |                | Prepared: 3/14/2016 Analyzed: 3/14/2016 |       |   |     |              |       |
| Gasoline Range Organics                | 4.44900           | 1.0            | 5.00000        |   |       | 89.0                                    |     | 70 - 130     |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2058            |                | 0.199892       |   |       | 103                                     |     | 37 - 153     |       |
| <b>Duplicate (B6C0344-DUP1)</b>        |                   |                |                | <b>Source: 1600966-05</b>               |       | Prepared: 3/14/2016 Analyzed: 3/14/2016 |     |              |       |
| Gasoline Range Organics                | ND                | 1.0            |                | ND                                      |       | NR                                      |     |              | 20    |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2143            |                | 0.199892       |   |       | 107                                     |     | 37 - 153     |       |
| <b>Matrix Spike (B6C0344-MS1)</b>      |                   |                |                | <b>Source: 1600949-01</b>               |       | Prepared: 3/14/2016 Analyzed: 3/14/2016 |     |              |       |
| Gasoline Range Organics                | 2.42800           | 1.0            | 5.00000        | ND                                      |       | 48.6                                    |     | 20 - 130     |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.1984            |                | 0.199892       |   |       | 99.2                                    |     | 37 - 153     |       |
| <b>Matrix Spike Dup (B6C0344-MSD1)</b> |                   |                |                | <b>Source: 1600949-01</b>               |       | Prepared: 3/14/2016 Analyzed: 3/14/2016 |     |              |       |
| Gasoline Range Organics                | 2.35400           | 1.0            | 5.00000        | ND                                      |       | 47.1                                    |     | 20 - 130     | 3.09  |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.1986            |                | 0.199892       |   |       | 99.4                                    |     | 37 - 153     |       |



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 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/16/2016

### Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

| Analyte | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0403 - GCVOA\_W**

**Blank (B6C0403-BLK1)**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                         |    |      |  |  |  |    |  |  |  |
|-------------------------|----|------|--|--|--|----|--|--|--|
| Gasoline Range Organics | ND | 0.05 |  |  |  | NR |  |  |  |
|-------------------------|----|------|--|--|--|----|--|--|--|

|  |         |  |            |  |  |      |          |  |  |
|--|---------|--|------------|--|--|------|----------|--|--|
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.08685 |  | 9.99460E-2 |  |  | 86.9 | 70 - 130 |  |  |
|--|---------|--|------------|--|--|------|----------|--|--|

**LCS (B6C0403-BS1)**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                         |          |      |         |  |  |      |          |  |  |
|-------------------------|----------|------|---------|--|--|------|----------|--|--|
| Gasoline Range Organics | 0.929000 | 0.05 | 1.00000 |  |  | 92.9 | 70 - 130 |  |  |
|-------------------------|----------|------|---------|--|--|------|----------|--|--|

|  |         |  |            |  |  |      |          |  |  |
|--|---------|--|------------|--|--|------|----------|--|--|
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.09531 |  | 9.99460E-2 |  |  | 95.4 | 70 - 130 |  |  |
|--|---------|--|------------|--|--|------|----------|--|--|

**LCS Dup (B6C0403-BSD1)**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                         |          |      |         |  |  |      |          |      |    |
|-------------------------|----------|------|---------|--|--|------|----------|------|----|
| Gasoline Range Organics | 0.955000 | 0.05 | 1.00000 |  |  | 95.5 | 70 - 130 | 2.76 | 20 |
|-------------------------|----------|------|---------|--|--|------|----------|------|----|

|  |         |  |            |  |  |      |          |  |  |
|--|---------|--|------------|--|--|------|----------|--|--|
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.08473 |  | 9.99460E-2 |  |  | 84.8 | 70 - 130 |  |  |
|--|---------|--|------------|--|--|------|----------|--|--|



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### BTEX/MTBE by EPA 8021 - Quality Control

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0344 - GCVOA\_S**

**Blank (B6C0344-BLK1)**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|              |    |     |  |  |    |  |  |  |  |
|--------------|----|-----|--|--|----|--|--|--|--|
| MTBE         | ND | 5.0 |  |  | NR |  |  |  |  |
| Benzene      | ND | 5.0 |  |  | NR |  |  |  |  |
| Toluene      | ND | 5.0 |  |  | NR |  |  |  |  |
| Ethylbenzene | ND | 5.0 |  |  | NR |  |  |  |  |
| m,p-Xylene   | ND | 10  |  |  | NR |  |  |  |  |
| o-Xylene     | ND | 5.0 |  |  | NR |  |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      191.5      199.892      95.8      62 - 128

**LCS (B6C0344-BS2)**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|              |         |     |         |  |     |          |  |  |  |
|--------------|---------|-----|---------|--|-----|----------|--|--|--|
| MTBE         | 103.172 | 5.0 | 100.000 |  | 103 | 70 - 130 |  |  |  |
| Benzene      | 108.485 | 5.0 | 100.000 |  | 108 | 70 - 130 |  |  |  |
| Toluene      | 106.244 | 5.0 | 100.000 |  | 106 | 70 - 130 |  |  |  |
| Ethylbenzene | 108.433 | 5.0 | 100.000 |  | 108 | 70 - 130 |  |  |  |
| m,p-Xylene   | 220.844 | 10  | 200.000 |  | 110 | 70 - 130 |  |  |  |
| o-Xylene     | 104.235 | 5.0 | 100.000 |  | 104 | 70 - 130 |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      196.3      199.892      98.2      62 - 128

**Duplicate (B6C0344-DUP1)**

Source: 1600966-05

Prepared: 3/14/2016 Analyzed: 3/14/2016

|              |          |     |  |          |    |  |      |    |   |
|--------------|----------|-----|--|----------|----|--|------|----|---|
| MTBE         | 1.73500  | 5.0 |  | 3.16300  | NR |  | 58.3 | 20 | R |
| Benzene      | ND       | 5.0 |  | 0.545000 | NR |  |      | 20 |   |
| Toluene      | 0.598000 | 5.0 |  | 1.47800  | NR |  | 84.8 | 20 | R |
| Ethylbenzene | ND       | 5.0 |  | ND       | NR |  |      | 20 |   |
| m,p-Xylene   | 0.482000 | 10  |  | 1.17500  | NR |  | 83.6 | 20 | R |
| o-Xylene     | ND       | 5.0 |  | ND       | NR |  |      | 20 |   |

*Surrogate: 4-Bromofluorobenzene*      198.5      199.892      99.3      62 - 128

**Matrix Spike (B6C0344-MS1)**

Source: 1600949-01

Prepared: 3/14/2016 Analyzed: 3/14/2016

|              |         |     |         |          |      |          |  |  |  |
|--------------|---------|-----|---------|----------|------|----------|--|--|--|
| MTBE         | 419.724 | 5.0 | 430.000 | 1.73800  | 97.2 | 37 - 135 |  |  |  |
| Benzene      | 31.8210 | 5.0 | 40.7500 | 0.281000 | 77.4 | 29 - 143 |  |  |  |
| Toluene      | 118.998 | 5.0 | 202.250 | ND       | 58.8 | 24 - 125 |  |  |  |
| Ethylbenzene | 31.8190 | 5.0 | 76.0000 | ND       | 41.9 | 13 - 99  |  |  |  |
| m,p-Xylene   | 113.698 | 10  | 206.500 | 0.656000 | 54.7 | 15 - 141 |  |  |  |
| o-Xylene     | 41.8270 | 5.0 | 73.5000 | ND       | 56.9 | 16 - 144 |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      186.0      199.892      93.0      62 - 128

**Matrix Spike Dup (B6C0344-MSD1)**

Source: 1600949-01

Prepared: 3/14/2016 Analyzed: 3/14/2016

|              |         |     |         |          |      |          |       |    |  |
|--------------|---------|-----|---------|----------|------|----------|-------|----|--|
| MTBE         | 430.372 | 5.0 | 430.000 | 1.73800  | 99.7 | 37 - 135 | 2.51  | 20 |  |
| Benzene      | 29.0930 | 5.0 | 40.7500 | 0.281000 | 70.7 | 29 - 143 | 8.96  | 20 |  |
| Toluene      | 119.983 | 5.0 | 202.250 | ND       | 59.3 | 24 - 125 | 0.824 | 20 |  |
| Ethylbenzene | 31.0770 | 5.0 | 76.0000 | ND       | 40.9 | 13 - 99  | 2.36  | 20 |  |
| m,p-Xylene   | 110.602 | 10  | 206.500 | 0.656000 | 53.2 | 15 - 141 | 2.76  | 20 |  |



# Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
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Reported : 03/16/2016

## BTEX/MTBE by EPA 8021 - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

### Batch B6C0344 - GCVOA\_S (continued)

#### Matrix Spike Dup (B6C0344-MSD1) - Continued

Source: 1600949-01

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                                 |         |     |         |    |      |          |      |    |  |
|---------------------------------|---------|-----|---------|----|------|----------|------|----|--|
| o-Xylene                        | 40.5180 | 5.0 | 73.5000 | ND | 55.1 | 16 - 144 | 3.18 | 20 |  |
| Surrogate: 4-Bromofluorobenzene | 187.1   |     | 199.892 |    | 93.6 | 62 - 128 |      |    |  |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|---------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|---------------|--------------|-------|

**Batch B6C0331 - MSVOA\_S**

**Blank (B6C0331-BLK1)**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                             |    |     |  |    |
|-----------------------------|----|-----|--|----|
| 1,1,1,2-Tetrachloroethane   | ND | 5.0 |  | NR |
| 1,1,1-Trichloroethane       | ND | 5.0 |  | NR |
| 1,1,2,2-Tetrachloroethane   | ND | 5.0 |  | NR |
| 1,1,2-Trichloroethane       | ND | 5.0 |  | NR |
| 1,1-Dichloroethane          | ND | 5.0 |  | NR |
| 1,1-Dichloroethene          | ND | 5.0 |  | NR |
| 1,1-Dichloropropene         | ND | 5.0 |  | NR |
| 1,2,3-Trichloropropane      | ND | 5.0 |  | NR |
| 1,2,3-Trichlorobenzene      | ND | 5.0 |  | NR |
| 1,2,4-Trichlorobenzene      | ND | 5.0 |  | NR |
| 1,2,4-Trimethylbenzene      | ND | 5.0 |  | NR |
| 1,2-Dibromo-3-chloropropane | ND | 10  |  | NR |
| 1,2-Dibromoethane           | ND | 5.0 |  | NR |
| 1,2-Dichlorobenzene         | ND | 5.0 |  | NR |
| 1,2-Dichloroethane          | ND | 5.0 |  | NR |
| 1,2-Dichloropropane         | ND | 5.0 |  | NR |
| 1,3,5-Trimethylbenzene      | ND | 5.0 |  | NR |
| 1,3-Dichlorobenzene         | ND | 5.0 |  | NR |
| 1,3-Dichloropropane         | ND | 5.0 |  | NR |
| 1,4-Dichlorobenzene         | ND | 5.0 |  | NR |
| 2,2-Dichloropropane         | ND | 5.0 |  | NR |
| 2-Chlorotoluene             | ND | 5.0 |  | NR |
| 4-Chlorotoluene             | ND | 5.0 |  | NR |
| 4-Isopropyltoluene          | ND | 5.0 |  | NR |
| Benzene                     | ND | 5.0 |  | NR |
| Bromobenzene                | ND | 5.0 |  | NR |
| Bromodichloromethane        | ND | 5.0 |  | NR |
| Bromoform                   | ND | 5.0 |  | NR |
| Bromomethane                | ND | 5.0 |  | NR |
| Carbon tetrachloride        | ND | 5.0 |  | NR |
| Chlorobenzene               | ND | 5.0 |  | NR |
| Chloroethane                | ND | 5.0 |  | NR |
| Chloroform                  | ND | 5.0 |  | NR |
| Chloromethane               | ND | 5.0 |  | NR |
| cis-1,2-Dichloroethene      | ND | 5.0 |  | NR |
| cis-1,3-Dichloropropene     | ND | 5.0 |  | NR |
| Dibromochloromethane        | ND | 5.0 |  | NR |
| Dibromomethane              | ND | 5.0 |  | NR |
| Dichlorodifluoromethane     | ND | 5.0 |  | NR |
| Ethylbenzene                | ND | 5.0 |  | NR |
| Hexachlorobutadiene         | ND | 5.0 |  | NR |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0331 - MSVOA\_S (continued)**

**Blank (B6C0331-BLK1) - Continued**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|   |              |     |                |  |             |                 |  |  |  |
|---|--------------|-----|----------------|--|-------------|-----------------|--|--|--|
| Isopropylbenzene                        | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| m,p-Xylene                              | ND           | 10  |                |  | NR          |                 |  |  |  |
| Methylene chloride                      | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| n-Butylbenzene                          | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| n-Propylbenzene                         | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Naphthalene                             | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| o-Xylene                                | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| sec-Butylbenzene                        | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Styrene                                 | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| tert-Butylbenzene                       | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Tetrachloroethene                       | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Toluene                                 | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| trans-1,2-Dichloroethene                | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Trichloroethene                         | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Trichlorofluoromethane                  | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Vinyl chloride                          | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| <hr/>                                   |              |     |                |  |             |                 |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>40.53</i> |     | <i>50.0000</i> |  | <i>81.1</i> | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>49.65</i> |     | <i>50.0000</i> |  | <i>99.3</i> | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>44.01</i> |     | <i>50.0000</i> |  | <i>88.0</i> | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>49.18</i> |     | <i>50.0000</i> |  | <i>98.4</i> | <i>31 - 166</i> |  |  |  |

**LCS (B6C0331-BS1)**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                             |         |     |         |  |      |          |  |  |  |
|-----------------------------|---------|-----|---------|--|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 53.2700 | 5.0 | 50.0000 |  | 107  | 74 - 117 |  |  |  |
| 1,1,1-Trichloroethane       | 53.5700 | 5.0 | 50.0000 |  | 107  | 65 - 130 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 45.5200 | 5.0 | 50.0000 |  | 91.0 | 63 - 123 |  |  |  |
| 1,1,2-Trichloroethane       | 47.8400 | 5.0 | 50.0000 |  | 95.7 | 66 - 122 |  |  |  |
| 1,1-Dichloroethane          | 52.3900 | 5.0 | 50.0000 |  | 105  | 65 - 124 |  |  |  |
| 1,1-Dichloroethene          | 50.0600 | 5.0 | 50.0000 |  | 100  | 60 - 130 |  |  |  |
| 1,1-Dichloropropene         | 56.5100 | 5.0 | 50.0000 |  | 113  | 75 - 121 |  |  |  |
| 1,2,3-Trichloropropane      | 46.6800 | 5.0 | 50.0000 |  | 93.4 | 62 - 126 |  |  |  |
| 1,2,3-Trichlorobenzene      | 51.9000 | 5.0 | 50.0000 |  | 104  | 72 - 120 |  |  |  |
| 1,2,4-Trichlorobenzene      | 55.2400 | 5.0 | 50.0000 |  | 110  | 75 - 121 |  |  |  |
| 1,2,4-Trimethylbenzene      | 55.5700 | 5.0 | 50.0000 |  | 111  | 82 - 118 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 49.9800 | 10  | 50.0000 |  | 100  | 67 - 121 |  |  |  |
| 1,2-Dibromoethane           | 49.0900 | 5.0 | 50.0000 |  | 98.2 | 69 - 123 |  |  |  |
| 1,2-Dichlorobenzene         | 52.0700 | 5.0 | 50.0000 |  | 104  | 81 - 114 |  |  |  |
| 1,2-Dichloroethane          | 50.6200 | 5.0 | 50.0000 |  | 101  | 71 - 119 |  |  |  |
| 1,2-Dichloropropane         | 48.6700 | 5.0 | 50.0000 |  | 97.3 | 71 - 118 |  |  |  |
| 1,3,5-Trimethylbenzene      | 55.8200 | 5.0 | 50.0000 |  | 112  | 81 - 120 |  |  |  |
| 1,3-Dichlorobenzene         | 54.6700 | 5.0 | 50.0000 |  | 109  | 80 - 115 |  |  |  |
| 1,3-Dichloropropane         | 50.8900 | 5.0 | 50.0000 |  | 102  | 77 - 117 |  |  |  |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0331 - MSVOA\_S (continued)**

**LCS (B6C0331-BS1) - Continued**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|   |              |     |                |  |             |                 |  |  |    |
|---|--------------|-----|----------------|--|-------------|-----------------|--|--|----|
| 1,4-Dichlorobenzene                     | 52.9100      | 5.0 | 50.0000        |  | 106         | 80 - 115        |  |  |    |
| 2,2-Dichloropropane                     | 54.6400      | 5.0 | 50.0000        |  | 109         | 58 - 141        |  |  |    |
| 2-Chlorotoluene                         | 54.0800      | 5.0 | 50.0000        |  | 108         | 78 - 120        |  |  |    |
| 4-Chlorotoluene                         | 54.6200      | 5.0 | 50.0000        |  | 109         | 79 - 119        |  |  |    |
| 4-Isopropyltoluene                      | 57.8800      | 5.0 | 50.0000        |  | 116         | 81 - 125        |  |  |    |
| Benzene                                 | 102.190      | 5.0 | 100.000        |  | 102         | 73 - 116        |  |  |    |
| Bromobenzene                            | 53.3200      | 5.0 | 50.0000        |  | 107         | 78 - 115        |  |  |    |
| Bromodichloromethane                    | 48.4500      | 5.0 | 50.0000        |  | 96.9        | 73 - 120        |  |  |    |
| Bromoform                               | 51.4800      | 5.0 | 50.0000        |  | 103         | 68 - 124        |  |  |    |
| Bromomethane                            | 101.210      | 5.0 | 50.0000        |  | 202         | 26 - 163        |  |  | L5 |
| Carbon tetrachloride                    | 54.1600      | 5.0 | 50.0000        |  | 108         | 67 - 130        |  |  |    |
| Chlorobenzene                           | 54.4100      | 5.0 | 50.0000        |  | 109         | 82 - 114        |  |  |    |
| Chloroethane                            | 69.5700      | 5.0 | 50.0000        |  | 139         | 40 - 151        |  |  |    |
| Chloroform                              | 50.8300      | 5.0 | 50.0000        |  | 102         | 68 - 124        |  |  |    |
| Chloromethane                           | 67.6400      | 5.0 | 50.0000        |  | 135         | 18 - 144        |  |  |    |
| cis-1,2-Dichloroethene                  | 52.6500      | 5.0 | 50.0000        |  | 105         | 66 - 125        |  |  |    |
| cis-1,3-Dichloropropene                 | 55.1900      | 5.0 | 50.0000        |  | 110         | 77 - 120        |  |  |    |
| Dibromochloromethane                    | 50.5900      | 5.0 | 50.0000        |  | 101         | 76 - 118        |  |  |    |
| Dibromomethane                          | 47.9300      | 5.0 | 50.0000        |  | 95.9        | 69 - 122        |  |  |    |
| Dichlorodifluoromethane                 | 55.7000      | 5.0 | 50.0000        |  | 111         | 0 - 155         |  |  |    |
| Ethylbenzene                            | 107.450      | 5.0 | 100.000        |  | 107         | 79 - 115        |  |  |    |
| Hexachlorobutadiene                     | 56.1100      | 5.0 | 50.0000        |  | 112         | 71 - 121        |  |  |    |
| Isopropylbenzene                        | 59.3800      | 5.0 | 50.0000        |  | 119         | 78 - 126        |  |  |    |
| m,p-Xylene                              | 110.140      | 10  | 100.000        |  | 110         | 80 - 119        |  |  |    |
| Methylene chloride                      | 44.1300      | 5.0 | 50.0000        |  | 88.3        | 56 - 129        |  |  |    |
| MTBE                                    | 48.7500      | 5.0 | 50.0000        |  | 97.5        | 61 - 124        |  |  |    |
| n-Butylbenzene                          | 58.5800      | 5.0 | 50.0000        |  | 117         | 78 - 127        |  |  |    |
| n-Propylbenzene                         | 55.5000      | 5.0 | 50.0000        |  | 111         | 77 - 128        |  |  |    |
| Naphthalene                             | 47.7700      | 5.0 | 50.0000        |  | 95.5        | 61 - 141        |  |  |    |
| o-Xylene                                | 110.840      | 5.0 | 100.000        |  | 111         | 81 - 116        |  |  |    |
| sec-Butylbenzene                        | 56.5800      | 5.0 | 50.0000        |  | 113         | 81 - 125        |  |  |    |
| Styrene                                 | 58.4200      | 5.0 | 50.0000        |  | 117         | 82 - 120        |  |  |    |
| tert-Butylbenzene                       | 56.5500      | 5.0 | 50.0000        |  | 113         | 80 - 123        |  |  |    |
| Tetrachloroethene                       | 57.0200      | 5.0 | 50.0000        |  | 114         | 75 - 123        |  |  |    |
| Toluene                                 | 105.960      | 5.0 | 100.000        |  | 106         | 75 - 119        |  |  |    |
| trans-1,2-Dichloroethene                | 51.3700      | 5.0 | 50.0000        |  | 103         | 62 - 127        |  |  |    |
| Trichloroethene                         | 54.8400      | 5.0 | 50.0000        |  | 110         | 73 - 119        |  |  |    |
| Trichlorofluoromethane                  | 51.6000      | 5.0 | 50.0000        |  | 103         | 47 - 157        |  |  |    |
| Vinyl chloride                          | 59.3300      | 5.0 | 50.0000        |  | 119         | 27 - 147        |  |  |    |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>41.72</i> |     | <i>50.0000</i> |  | <i>83.4</i> | <i>20 - 189</i> |  |  |    |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>50.38</i> |     | <i>50.0000</i> |  | <i>101</i>  | <i>20 - 173</i> |  |  |    |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|------------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|------------------|------------|--------------|-------|

**Batch B6C0331 - MSVOA\_S (continued)**

**LCS (B6C0331-BS1) - Continued**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                                 |       |         |         |      |          |
|---------------------------------|-------|---------|---------|------|----------|
| Surrogate: Dibromofluoromethane | 46.72 | 50.0000 | 50.0000 | 93.4 | 26 - 178 |
| Surrogate: Toluene-d8           | 48.95 | 50.0000 | 50.0000 | 97.9 | 31 - 166 |

**Duplicate (B6C0331-DUP1)**

**Source: 1600966-10**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                             |    |     |    |    |    |
|-----------------------------|----|-----|----|----|----|
| 1,1,1,2-Tetrachloroethane   | ND | 5.0 | ND | NR | 20 |
| 1,1,1-Trichloroethane       | ND | 5.0 | ND | NR | 20 |
| 1,1,2,2-Tetrachloroethane   | ND | 5.0 | ND | NR | 20 |
| 1,1,2-Trichloroethane       | ND | 5.0 | ND | NR | 20 |
| 1,1-Dichloroethane          | ND | 5.0 | ND | NR | 20 |
| 1,1-Dichloroethene          | ND | 5.0 | ND | NR | 20 |
| 1,1-Dichloropropene         | ND | 5.0 | ND | NR | 20 |
| 1,2,3-Trichloropropane      | ND | 5.0 | ND | NR | 20 |
| 1,2,3-Trichlorobenzene      | ND | 5.0 | ND | NR | 20 |
| 1,2,4-Trichlorobenzene      | ND | 5.0 | ND | NR | 20 |
| 1,2,4-Trimethylbenzene      | ND | 5.0 | ND | NR | 20 |
| 1,2-Dibromo-3-chloropropane | ND | 10  | ND | NR | 20 |
| 1,2-Dibromoethane           | ND | 5.0 | ND | NR | 20 |
| 1,2-Dichlorobenzene         | ND | 5.0 | ND | NR | 20 |
| 1,2-Dichloroethane          | ND | 5.0 | ND | NR | 20 |
| 1,2-Dichloropropane         | ND | 5.0 | ND | NR | 20 |
| 1,3,5-Trimethylbenzene      | ND | 5.0 | ND | NR | 20 |
| 1,3-Dichlorobenzene         | ND | 5.0 | ND | NR | 20 |
| 1,3-Dichloropropane         | ND | 5.0 | ND | NR | 20 |
| 1,4-Dichlorobenzene         | ND | 5.0 | ND | NR | 20 |
| 2,2-Dichloropropane         | ND | 5.0 | ND | NR | 20 |
| 2-Chlorotoluene             | ND | 5.0 | ND | NR | 20 |
| 4-Chlorotoluene             | ND | 5.0 | ND | NR | 20 |
| 4-Isopropyltoluene          | ND | 5.0 | ND | NR | 20 |
| Benzene                     | ND | 5.0 | ND | NR | 20 |
| Bromobenzene                | ND | 5.0 | ND | NR | 20 |
| Bromodichloromethane        | ND | 5.0 | ND | NR | 20 |
| Bromoform                   | ND | 5.0 | ND | NR | 20 |
| Bromomethane                | ND | 5.0 | ND | NR | 20 |
| Carbon tetrachloride        | ND | 5.0 | ND | NR | 20 |
| Chlorobenzene               | ND | 5.0 | ND | NR | 20 |
| Chloroethane                | ND | 5.0 | ND | NR | 20 |
| Chloroform                  | ND | 5.0 | ND | NR | 20 |
| Chloromethane               | ND | 5.0 | ND | NR | 20 |
| cis-1,2-Dichloroethene      | ND | 5.0 | ND | NR | 20 |
| cis-1,3-Dichloropropene     | ND | 5.0 | ND | NR | 20 |
| Dibromochloromethane        | ND | 5.0 | ND | NR | 20 |
| Dibromomethane              | ND | 5.0 | ND | NR | 20 |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0331 - MSVOA\_S (continued)**

**Duplicate (B6C0331-DUP1) - Continued**

**Source: 1600966-10**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                          |    |     |  |    |    |  |  |    |  |
|--------------------------|----|-----|--|----|----|--|--|----|--|
| Dichlorodifluoromethane  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Ethylbenzene             | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Hexachlorobutadiene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Isopropylbenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| m,p-Xylene               | ND | 10  |  | ND | NR |  |  | 20 |  |
| Methylene chloride       | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| MTBE                     | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| n-Butylbenzene           | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| n-Propylbenzene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Naphthalene              | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| o-Xylene                 | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| sec-Butylbenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Styrene                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| tert-Butylbenzene        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Tetrachloroethene        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Toluene                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| trans-1,2-Dichloroethene | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Trichloroethene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Trichlorofluoromethane   | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Vinyl chloride           | ND | 5.0 |  | ND | NR |  |  | 20 |  |

|   |              |  |                |  |             |                 |  |  |  |
|---|--------------|--|----------------|--|-------------|-----------------|--|--|--|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>47.94</i> |  | <i>50.0000</i> |  | <i>95.9</i> | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>45.89</i> |  | <i>50.0000</i> |  | <i>91.8</i> | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>49.66</i> |  | <i>50.0000</i> |  | <i>99.3</i> | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>50.14</i> |  | <i>50.0000</i> |  | <i>100</i>  | <i>31 - 166</i> |  |  |  |

**Matrix Spike (B6C0331-MS1)**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                             |         |     |         |    |      |          |  |  |  |
|-----------------------------|---------|-----|---------|----|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 41.5800 | 5.0 | 50.0000 | ND | 83.2 | 45 - 122 |  |  |  |
| 1,1,1-Trichloroethane       | 43.1500 | 5.0 | 50.0000 | ND | 86.3 | 46 - 131 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 36.3400 | 5.0 | 50.0000 | ND | 72.7 | 34 - 133 |  |  |  |
| 1,1,2-Trichloroethane       | 40.1800 | 5.0 | 50.0000 | ND | 80.4 | 40 - 133 |  |  |  |
| 1,1-Dichloroethane          | 42.8100 | 5.0 | 50.0000 | ND | 85.6 | 50 - 120 |  |  |  |
| 1,1-Dichloroethene          | 37.2600 | 5.0 | 50.0000 | ND | 74.5 | 42 - 130 |  |  |  |
| 1,1-Dichloropropene         | 45.5000 | 5.0 | 50.0000 | ND | 91.0 | 49 - 125 |  |  |  |
| 1,2,3-Trichloropropane      | 38.8400 | 5.0 | 50.0000 | ND | 77.7 | 42 - 130 |  |  |  |
| 1,2,3-Trichlorobenzene      | 26.0000 | 5.0 | 50.0000 | ND | 52.0 | 2 - 136  |  |  |  |
| 1,2,4-Trichlorobenzene      | 29.3600 | 5.0 | 50.0000 | ND | 58.7 | 6 - 137  |  |  |  |
| 1,2,4-Trimethylbenzene      | 38.7300 | 5.0 | 50.0000 | ND | 77.5 | 37 - 129 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 38.1100 | 10  | 50.0000 | ND | 76.2 | 36 - 135 |  |  |  |
| 1,2-Dibromoethane           | 42.0500 | 5.0 | 50.0000 | ND | 84.1 | 43 - 129 |  |  |  |
| 1,2-Dichlorobenzene         | 33.9900 | 5.0 | 50.0000 | ND | 68.0 | 31 - 129 |  |  |  |
| 1,2-Dichloroethane          | 41.0000 | 5.0 | 50.0000 | ND | 82.0 | 50 - 122 |  |  |  |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0331 - MSVOA\_S (continued)**

**Matrix Spike (B6C0331-MS1) - Continued**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                          |         |     |         |    |      |          |  |  |  |
|--------------------------|---------|-----|---------|----|------|----------|--|--|--|
| 1,2-Dichloropropane      | 40.7900 | 5.0 | 50.0000 | ND | 81.6 | 51 - 119 |  |  |  |
| 1,3,5-Trimethylbenzene   | 38.5900 | 5.0 | 50.0000 | ND | 77.2 | 38 - 130 |  |  |  |
| 1,3-Dichlorobenzene      | 35.8500 | 5.0 | 50.0000 | ND | 71.7 | 31 - 128 |  |  |  |
| 1,3-Dichloropropane      | 42.6800 | 5.0 | 50.0000 | ND | 85.4 | 52 - 122 |  |  |  |
| 1,4-Dichlorobenzene      | 34.9600 | 5.0 | 50.0000 | ND | 69.9 | 31 - 128 |  |  |  |
| 2,2-Dichloropropane      | 44.3700 | 5.0 | 50.0000 | ND | 88.7 | 42 - 140 |  |  |  |
| 2-Chlorotoluene          | 37.5700 | 5.0 | 50.0000 | ND | 75.1 | 38 - 129 |  |  |  |
| 4-Chlorotoluene          | 37.2100 | 5.0 | 50.0000 | ND | 74.4 | 38 - 128 |  |  |  |
| 4-Isopropyltoluene       | 37.3000 | 5.0 | 50.0000 | ND | 74.6 | 31 - 137 |  |  |  |
| Benzene                  | 83.8300 | 5.0 | 100.000 | ND | 83.8 | 51 - 117 |  |  |  |
| Bromobenzene             | 38.4200 | 5.0 | 50.0000 | ND | 76.8 | 41 - 125 |  |  |  |
| Bromodichloromethane     | 39.9000 | 5.0 | 50.0000 | ND | 79.8 | 50 - 122 |  |  |  |
| Bromoform                | 41.0900 | 5.0 | 50.0000 | ND | 82.2 | 39 - 131 |  |  |  |
| Bromomethane             | 61.3600 | 5.0 | 50.0000 | ND | 123  | 10 - 154 |  |  |  |
| Carbon tetrachloride     | 43.9800 | 5.0 | 50.0000 | ND | 88.0 | 44 - 131 |  |  |  |
| Chlorobenzene            | 40.4900 | 5.0 | 50.0000 | ND | 81.0 | 46 - 123 |  |  |  |
| Chloroethane             | 51.1400 | 5.0 | 50.0000 | ND | 102  | 27 - 143 |  |  |  |
| Chloroform               | 41.4600 | 5.0 | 50.0000 | ND | 82.9 | 50 - 124 |  |  |  |
| Chloromethane            | 48.7700 | 5.0 | 50.0000 | ND | 97.5 | 8 - 139  |  |  |  |
| cis-1,2-Dichloroethene   | 42.5400 | 5.0 | 50.0000 | ND | 85.1 | 48 - 125 |  |  |  |
| cis-1,3-Dichloropropene  | 45.0500 | 5.0 | 50.0000 | ND | 90.1 | 51 - 123 |  |  |  |
| Dibromochloromethane     | 41.2600 | 5.0 | 50.0000 | ND | 82.5 | 48 - 124 |  |  |  |
| Dibromomethane           | 41.6200 | 5.0 | 50.0000 | ND | 83.2 | 48 - 124 |  |  |  |
| Dichlorodifluoromethane  | 44.2100 | 5.0 | 50.0000 | ND | 88.4 | 0 - 150  |  |  |  |
| Ethylbenzene             | 80.9500 | 5.0 | 100.000 | ND | 81.0 | 46 - 123 |  |  |  |
| Hexachlorobutadiene      | 28.3400 | 5.0 | 50.0000 | ND | 56.7 | 5 - 132  |  |  |  |
| Isopropylbenzene         | 42.3400 | 5.0 | 50.0000 | ND | 84.7 | 43 - 132 |  |  |  |
| m,p-Xylene               | 81.3300 | 10  | 100.000 | ND | 81.3 | 45 - 128 |  |  |  |
| Methylene chloride       | 35.2100 | 5.0 | 50.0000 | ND | 70.4 | 37 - 126 |  |  |  |
| MTBE                     | 42.4300 | 5.0 | 50.0000 | ND | 84.9 | 46 - 125 |  |  |  |
| n-Butylbenzene           | 35.9200 | 5.0 | 50.0000 | ND | 71.8 | 24 - 138 |  |  |  |
| n-Propylbenzene          | 38.2200 | 5.0 | 50.0000 | ND | 76.4 | 40 - 133 |  |  |  |
| Naphthalene              | 30.9400 | 5.0 | 50.0000 | ND | 61.9 | 10 - 149 |  |  |  |
| o-Xylene                 | 82.4800 | 5.0 | 100.000 | ND | 82.5 | 45 - 125 |  |  |  |
| sec-Butylbenzene         | 36.7600 | 5.0 | 50.0000 | ND | 73.5 | 33 - 136 |  |  |  |
| Styrene                  | 43.0300 | 5.0 | 50.0000 | ND | 86.1 | 43 - 128 |  |  |  |
| tert-Butylbenzene        | 38.2100 | 5.0 | 50.0000 | ND | 76.4 | 36 - 133 |  |  |  |
| Tetrachloroethene        | 42.6200 | 5.0 | 50.0000 | ND | 85.2 | 41 - 129 |  |  |  |
| Toluene                  | 84.2900 | 5.0 | 100.000 | ND | 84.3 | 49 - 124 |  |  |  |
| trans-1,2-Dichloroethene | 41.6200 | 5.0 | 50.0000 | ND | 83.2 | 44 - 126 |  |  |  |
| Trichloroethene          | 43.5000 | 5.0 | 50.0000 | ND | 87.0 | 38 - 139 |  |  |  |
| Trichlorofluoromethane   | 40.9400 | 5.0 | 50.0000 | ND | 81.9 | 30 - 157 |  |  |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6C0331 - MSVOA\_S (continued)**

**Matrix Spike (B6C0331-MS1) - Continued**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|   |              |     |                |    |             |                 |  |  |  |
|---|--------------|-----|----------------|----|-------------|-----------------|--|--|--|
| Vinyl chloride                          | 46.3200      | 5.0 | 50.0000        | ND | 92.6        | 19 - 142        |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>42.55</i> |     | <i>50.0000</i> |    | <i>85.1</i> | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>48.65</i> |     | <i>50.0000</i> |    | <i>97.3</i> | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>46.80</i> |     | <i>50.0000</i> |    | <i>93.6</i> | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>48.61</i> |     | <i>50.0000</i> |    | <i>97.2</i> | <i>31 - 166</i> |  |  |  |

**Matrix Spike Dup (B6C0331-MSD1)**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                             |         |     |         |    |      |          |        |    |  |
|-----------------------------|---------|-----|---------|----|------|----------|--------|----|--|
| 1,1,1,2-Tetrachloroethane   | 41.3100 | 5.0 | 50.0000 | ND | 82.6 | 45 - 122 | 0.651  | 20 |  |
| 1,1,1-Trichloroethane       | 43.9300 | 5.0 | 50.0000 | ND | 87.9 | 46 - 131 | 1.79   | 20 |  |
| 1,1,2,2-Tetrachloroethane   | 36.3500 | 5.0 | 50.0000 | ND | 72.7 | 34 - 133 | 0.0275 | 20 |  |
| 1,1,2-Trichloroethane       | 40.0400 | 5.0 | 50.0000 | ND | 80.1 | 40 - 133 | 0.349  | 20 |  |
| 1,1-Dichloroethane          | 44.0000 | 5.0 | 50.0000 | ND | 88.0 | 50 - 120 | 2.74   | 20 |  |
| 1,1-Dichloroethene          | 40.7200 | 5.0 | 50.0000 | ND | 81.4 | 42 - 130 | 8.87   | 20 |  |
| 1,1-Dichloropropene         | 45.7400 | 5.0 | 50.0000 | ND | 91.5 | 49 - 125 | 0.526  | 20 |  |
| 1,2,3-Trichloropropane      | 38.4100 | 5.0 | 50.0000 | ND | 76.8 | 42 - 130 | 1.11   | 20 |  |
| 1,2,3-Trichlorobenzene      | 22.8100 | 5.0 | 50.0000 | ND | 45.6 | 2 - 136  | 13.1   | 20 |  |
| 1,2,4-Trichlorobenzene      | 26.2900 | 5.0 | 50.0000 | ND | 52.6 | 6 - 137  | 11.0   | 20 |  |
| 1,2,4-Trimethylbenzene      | 38.0600 | 5.0 | 50.0000 | ND | 76.1 | 37 - 129 | 1.75   | 20 |  |
| 1,2-Dibromo-3-chloropropane | 38.9200 | 10  | 50.0000 | ND | 77.8 | 36 - 135 | 2.10   | 20 |  |
| 1,2-Dibromoethane           | 40.4600 | 5.0 | 50.0000 | ND | 80.9 | 43 - 129 | 3.85   | 20 |  |
| 1,2-Dichlorobenzene         | 33.1200 | 5.0 | 50.0000 | ND | 66.2 | 31 - 129 | 2.59   | 20 |  |
| 1,2-Dichloroethane          | 42.6800 | 5.0 | 50.0000 | ND | 85.4 | 50 - 122 | 4.02   | 20 |  |
| 1,2-Dichloropropane         | 40.6800 | 5.0 | 50.0000 | ND | 81.4 | 51 - 119 | 0.270  | 20 |  |
| 1,3,5-Trimethylbenzene      | 37.4200 | 5.0 | 50.0000 | ND | 74.8 | 38 - 130 | 3.08   | 20 |  |
| 1,3-Dichlorobenzene         | 34.3400 | 5.0 | 50.0000 | ND | 68.7 | 31 - 128 | 4.30   | 20 |  |
| 1,3-Dichloropropane         | 42.2100 | 5.0 | 50.0000 | ND | 84.4 | 52 - 122 | 1.11   | 20 |  |
| 1,4-Dichlorobenzene         | 33.5800 | 5.0 | 50.0000 | ND | 67.2 | 31 - 128 | 4.03   | 20 |  |
| 2,2-Dichloropropane         | 45.4700 | 5.0 | 50.0000 | ND | 90.9 | 42 - 140 | 2.45   | 20 |  |
| 2-Chlorotoluene             | 36.4100 | 5.0 | 50.0000 | ND | 72.8 | 38 - 129 | 3.14   | 20 |  |
| 4-Chlorotoluene             | 36.3100 | 5.0 | 50.0000 | ND | 72.6 | 38 - 128 | 2.45   | 20 |  |
| 4-Isopropyltoluene          | 35.6800 | 5.0 | 50.0000 | ND | 71.4 | 31 - 137 | 4.44   | 20 |  |
| Benzene                     | 83.5000 | 5.0 | 100.000 | ND | 83.5 | 51 - 117 | 0.394  | 20 |  |
| Bromobenzene                | 37.9600 | 5.0 | 50.0000 | ND | 75.9 | 41 - 125 | 1.20   | 20 |  |
| Bromodichloromethane        | 39.6700 | 5.0 | 50.0000 | ND | 79.3 | 50 - 122 | 0.578  | 20 |  |
| Bromoform                   | 41.4200 | 5.0 | 50.0000 | ND | 82.8 | 39 - 131 | 0.800  | 20 |  |
| Bromomethane                | 55.0700 | 5.0 | 50.0000 | ND | 110  | 10 - 154 | 10.8   | 20 |  |
| Carbon tetrachloride        | 44.3300 | 5.0 | 50.0000 | ND | 88.7 | 44 - 131 | 0.793  | 20 |  |
| Chlorobenzene               | 40.2500 | 5.0 | 50.0000 | ND | 80.5 | 46 - 123 | 0.595  | 20 |  |
| Chloroethane                | 48.7500 | 5.0 | 50.0000 | ND | 97.5 | 27 - 143 | 4.79   | 20 |  |
| Chloroform                  | 42.7400 | 5.0 | 50.0000 | ND | 85.5 | 50 - 124 | 3.04   | 20 |  |
| Chloromethane               | 47.8200 | 5.0 | 50.0000 | ND | 95.6 | 8 - 139  | 1.97   | 20 |  |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0331 - MSVOA\_S (continued)**

**Matrix Spike Dup (B6C0331-MSD1) - Continued**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                                  |         |     |         |    |      |          |       |    |  |
|----------------------------------|---------|-----|---------|----|------|----------|-------|----|--|
| cis-1,2-Dichloroethene           | 43.2300 | 5.0 | 50.0000 | ND | 86.5 | 48 - 125 | 1.61  | 20 |  |
| cis-1,3-Dichloropropene          | 44.5500 | 5.0 | 50.0000 | ND | 89.1 | 51 - 123 | 1.12  | 20 |  |
| Dibromochloromethane             | 40.8200 | 5.0 | 50.0000 | ND | 81.6 | 48 - 124 | 1.07  | 20 |  |
| Dibromomethane                   | 41.1700 | 5.0 | 50.0000 | ND | 82.3 | 48 - 124 | 1.09  | 20 |  |
| Dichlorodifluoromethane          | 45.6400 | 5.0 | 50.0000 | ND | 91.3 | 0 - 150  | 3.18  | 20 |  |
| Ethylbenzene                     | 80.1300 | 5.0 | 100.000 | ND | 80.1 | 46 - 123 | 1.02  | 20 |  |
| Hexachlorobutadiene              | 25.4200 | 5.0 | 50.0000 | ND | 50.8 | 5 - 132  | 10.9  | 20 |  |
| Isopropylbenzene                 | 41.5700 | 5.0 | 50.0000 | ND | 83.1 | 43 - 132 | 1.84  | 20 |  |
| m,p-Xylene                       | 80.0000 | 10  | 100.000 | ND | 80.0 | 45 - 128 | 1.65  | 20 |  |
| Methylene chloride               | 35.9500 | 5.0 | 50.0000 | ND | 71.9 | 37 - 126 | 2.08  | 20 |  |
| MTBE                             | 43.4000 | 5.0 | 50.0000 | ND | 86.8 | 46 - 125 | 2.26  | 20 |  |
| n-Butylbenzene                   | 33.4200 | 5.0 | 50.0000 | ND | 66.8 | 24 - 138 | 7.21  | 20 |  |
| n-Propylbenzene                  | 36.9000 | 5.0 | 50.0000 | ND | 73.8 | 40 - 133 | 3.51  | 20 |  |
| Naphthalene                      | 29.3300 | 5.0 | 50.0000 | ND | 58.7 | 10 - 149 | 5.34  | 20 |  |
| o-Xylene                         | 80.9100 | 5.0 | 100.000 | ND | 80.9 | 45 - 125 | 1.92  | 20 |  |
| sec-Butylbenzene                 | 35.2000 | 5.0 | 50.0000 | ND | 70.4 | 33 - 136 | 4.34  | 20 |  |
| Styrene                          | 41.8500 | 5.0 | 50.0000 | ND | 83.7 | 43 - 128 | 2.78  | 20 |  |
| tert-Butylbenzene                | 37.2500 | 5.0 | 50.0000 | ND | 74.5 | 36 - 133 | 2.54  | 20 |  |
| Tetrachloroethene                | 41.6700 | 5.0 | 50.0000 | ND | 83.3 | 41 - 129 | 2.25  | 20 |  |
| Toluene                          | 84.6300 | 5.0 | 100.000 | ND | 84.6 | 49 - 124 | 0.403 | 20 |  |
| trans-1,2-Dichloroethene         | 43.1400 | 5.0 | 50.0000 | ND | 86.3 | 44 - 126 | 3.59  | 20 |  |
| Trichloroethene                  | 43.9600 | 5.0 | 50.0000 | ND | 87.9 | 38 - 139 | 1.05  | 20 |  |
| Trichlorofluoromethane           | 40.5800 | 5.0 | 50.0000 | ND | 81.2 | 30 - 157 | 0.883 | 20 |  |
| Vinyl chloride                   | 44.3200 | 5.0 | 50.0000 | ND | 88.6 | 19 - 142 | 4.41  | 20 |  |
| <hr/>                            |         |     |         |    |      |          |       |    |  |
| Surrogate: 1,2-Dichloroethane-d4 | 47.55   |     | 50.0000 |    | 95.1 | 20 - 189 |       |    |  |
| Surrogate: 4-Bromofluorobenzene  | 50.26   |     | 50.0000 |    | 101  | 20 - 173 |       |    |  |
| Surrogate: Dibromofluoromethane  | 48.11   |     | 50.0000 |    | 96.2 | 26 - 178 |       |    |  |
| Surrogate: Toluene-d8            | 48.93   |     | 50.0000 |    | 97.9 | 31 - 166 |       |    |  |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>Limits | RPD<br>RPD | Limit<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|------------------|------------|----------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|------------------|------------|----------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W**

**Blank (B6C0369-BLK1)**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                             |    |      |  |    |
|-----------------------------|----|------|--|----|
| 1,1,1,2-Tetrachloroethane   | ND | 0.50 |  | NR |
| 1,1,1-Trichloroethane       | ND | 0.50 |  | NR |
| 1,1,2,2-Tetrachloroethane   | ND | 0.50 |  | NR |
| 1,1,2-Trichloroethane       | ND | 0.50 |  | NR |
| 1,1-Dichloroethane          | ND | 0.50 |  | NR |
| 1,1-Dichloroethene          | ND | 0.50 |  | NR |
| 1,1-Dichloropropene         | ND | 0.50 |  | NR |
| 1,2,3-Trichloropropane      | ND | 0.50 |  | NR |
| 1,2,3-Trichlorobenzene      | ND | 0.50 |  | NR |
| 1,2,4-Trichlorobenzene      | ND | 0.50 |  | NR |
| 1,2,4-Trimethylbenzene      | ND | 0.50 |  | NR |
| 1,2-Dibromo-3-chloropropane | ND | 0.50 |  | NR |
| 1,2-Dibromoethane           | ND | 0.50 |  | NR |
| 1,2-Dichlorobenzene         | ND | 0.50 |  | NR |
| 1,2-Dichloroethane          | ND | 0.50 |  | NR |
| 1,2-Dichloropropane         | ND | 0.50 |  | NR |
| 1,3,5-Trimethylbenzene      | ND | 0.50 |  | NR |
| 1,3-Dichlorobenzene         | ND | 0.50 |  | NR |
| 1,3-Dichloropropane         | ND | 0.50 |  | NR |
| 1,4-Dichlorobenzene         | ND | 0.50 |  | NR |
| 2,2-Dichloropropane         | ND | 0.50 |  | NR |
| 2-Chlorotoluene             | ND | 0.50 |  | NR |
| 4-Chlorotoluene             | ND | 0.50 |  | NR |
| 4-Isopropyltoluene          | ND | 0.50 |  | NR |
| Benzene                     | ND | 0.50 |  | NR |
| Bromobenzene                | ND | 0.50 |  | NR |
| Bromodichloromethane        | ND | 0.50 |  | NR |
| Bromoform                   | ND | 0.50 |  | NR |
| Bromomethane                | ND | 0.50 |  | NR |
| Carbon tetrachloride        | ND | 0.50 |  | NR |
| Chlorobenzene               | ND | 0.50 |  | NR |
| Chloroethane                | ND | 0.50 |  | NR |
| Chloroform                  | ND | 0.50 |  | NR |
| Chloromethane               | ND | 0.50 |  | NR |
| cis-1,2-Dichloroethene      | ND | 0.50 |  | NR |
| cis-1,3-Dichloropropene     | ND | 0.50 |  | NR |
| Dibromochloromethane        | ND | 0.50 |  | NR |
| Dibromomethane              | ND | 0.50 |  | NR |
| Dichlorodifluoromethane     | ND | 0.50 |  | NR |
| Ethylbenzene                | ND | 0.50 |  | NR |
| Hexachlorobutadiene         | ND | 0.50 |  | NR |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W (continued)**

**Blank (B6C0369-BLK1) - Continued**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|   |              |      |                |  |            |                 |  |  |  |
|---|--------------|------|----------------|--|------------|-----------------|--|--|--|
| Isopropylbenzene                        | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| m,p-Xylene                              | ND           | 1.0  |                |  | NR         |                 |  |  |  |
| Methylene chloride                      | ND           | 1.0  |                |  | NR         |                 |  |  |  |
| n-Butylbenzene                          | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| n-Propylbenzene                         | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| Naphthalene                             | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| o-Xylene                                | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| sec-Butylbenzene                        | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| Styrene                                 | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| tert-Butylbenzene                       | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| Tetrachloroethene                       | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| Toluene                                 | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| trans-1,2-Dichloroethene                | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| Trichloroethene                         | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| Trichlorofluoromethane                  | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| Vinyl chloride                          | ND           | 0.50 |                |  | NR         |                 |  |  |  |
| <hr/>                                   |              |      |                |  |            |                 |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>30.73</i> |      | <i>25.0000</i> |  | <i>123</i> | <i>49 - 148</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>26.17</i> |      | <i>25.0000</i> |  | <i>105</i> | <i>65 - 132</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>30.15</i> |      | <i>25.0000</i> |  | <i>121</i> | <i>55 - 138</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>27.10</i> |      | <i>25.0000</i> |  | <i>108</i> | <i>60 - 120</i> |  |  |  |

**LCS (B6C0369-BS1)**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                             |         |      |         |  |      |          |  |  |  |
|-----------------------------|---------|------|---------|--|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 21.4500 | 0.50 | 20.0000 |  | 107  | 71 - 142 |  |  |  |
| 1,1,1-Trichloroethane       | 24.3100 | 0.50 | 20.0000 |  | 122  | 68 - 141 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 17.9100 | 0.50 | 20.0000 |  | 89.6 | 72 - 123 |  |  |  |
| 1,1,2-Trichloroethane       | 19.6500 | 0.50 | 20.0000 |  | 98.2 | 63 - 129 |  |  |  |
| 1,1-Dichloroethane          | 20.5100 | 0.50 | 20.0000 |  | 103  | 65 - 133 |  |  |  |
| 1,1-Dichloroethene          | 24.3100 | 0.50 | 20.0000 |  | 122  | 61 - 136 |  |  |  |
| 1,1-Dichloropropene         | 22.6200 | 0.50 | 20.0000 |  | 113  | 62 - 137 |  |  |  |
| 1,2,3-Trichloropropane      | 18.4200 | 0.50 | 20.0000 |  | 92.1 | 71 - 128 |  |  |  |
| 1,2,3-Trichlorobenzene      | 20.3300 | 0.50 | 20.0000 |  | 102  | 47 - 187 |  |  |  |
| 1,2,4-Trichlorobenzene      | 19.5200 | 0.50 | 20.0000 |  | 97.6 | 53 - 154 |  |  |  |
| 1,2,4-Trimethylbenzene      | 21.2300 | 0.50 | 20.0000 |  | 106  | 80 - 139 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 20.0200 | 0.50 | 20.0000 |  | 100  | 53 - 166 |  |  |  |
| 1,2-Dibromoethane           | 19.7500 | 0.50 | 20.0000 |  | 98.8 | 58 - 134 |  |  |  |
| 1,2-Dichlorobenzene         | 19.5200 | 0.50 | 20.0000 |  | 97.6 | 75 - 130 |  |  |  |
| 1,2-Dichloroethane          | 20.1600 | 0.50 | 20.0000 |  | 101  | 71 - 131 |  |  |  |
| 1,2-Dichloropropane         | 18.9500 | 0.50 | 20.0000 |  | 94.8 | 69 - 130 |  |  |  |
| 1,3,5-Trimethylbenzene      | 21.2800 | 0.50 | 20.0000 |  | 106  | 80 - 139 |  |  |  |
| 1,3-Dichlorobenzene         | 19.4700 | 0.50 | 20.0000 |  | 97.4 | 76 - 129 |  |  |  |
| 1,3-Dichloropropane         | 19.1600 | 0.50 | 20.0000 |  | 95.8 | 75 - 124 |  |  |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W (continued)**

**LCS (B6C0369-BS1) - Continued**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                                  |         |      |         |  |      |          |  |  |    |
|----------------------------------|---------|------|---------|--|------|----------|--|--|----|
| 1,4-Dichlorobenzene              | 18.6600 | 0.50 | 20.0000 |  | 93.3 | 76 - 123 |  |  |    |
| 2,2-Dichloropropane              | 27.5000 | 0.50 | 20.0000 |  | 138  | 60 - 149 |  |  |    |
| 2-Chlorotoluene                  | 20.6200 | 0.50 | 20.0000 |  | 103  | 78 - 137 |  |  |    |
| 4-Chlorotoluene                  | 20.0200 | 0.50 | 20.0000 |  | 100  | 78 - 136 |  |  |    |
| 4-Isopropyltoluene               | 22.0500 | 0.50 | 20.0000 |  | 110  | 75 - 146 |  |  |    |
| Benzene                          | 41.0400 | 0.50 | 40.0000 |  | 103  | 72 - 127 |  |  |    |
| Bromobenzene                     | 18.6000 | 0.50 | 20.0000 |  | 93.0 | 74 - 123 |  |  |    |
| Bromodichloromethane             | 20.0400 | 0.50 | 20.0000 |  | 100  | 74 - 130 |  |  |    |
| Bromoform                        | 20.8700 | 0.50 | 20.0000 |  | 104  | 74 - 135 |  |  |    |
| Bromomethane                     | 33.9400 | 0.50 | 20.0000 |  | 170  | 14 - 166 |  |  | L4 |
| Carbon tetrachloride             | 28.4000 | 0.50 | 20.0000 |  | 142  | 57 - 162 |  |  |    |
| Chlorobenzene                    | 19.7000 | 0.50 | 20.0000 |  | 98.5 | 78 - 125 |  |  |    |
| Chloroethane                     | 24.4300 | 0.50 | 20.0000 |  | 122  | 54 - 144 |  |  |    |
| Chloroform                       | 21.7900 | 0.50 | 20.0000 |  | 109  | 66 - 132 |  |  |    |
| Chloromethane                    | 21.5100 | 0.50 | 20.0000 |  | 108  | 31 - 128 |  |  |    |
| cis-1,2-Dichloroethene           | 21.6600 | 0.50 | 20.0000 |  | 108  | 68 - 124 |  |  |    |
| cis-1,3-Dichloropropene          | 22.4100 | 0.50 | 20.0000 |  | 112  | 63 - 139 |  |  |    |
| Dibromochloromethane             | 20.1300 | 0.50 | 20.0000 |  | 101  | 78 - 132 |  |  |    |
| Dibromomethane                   | 19.7300 | 0.50 | 20.0000 |  | 98.6 | 76 - 122 |  |  |    |
| Dichlorodifluoromethane          | 28.6500 | 0.50 | 20.0000 |  | 143  | 17 - 171 |  |  |    |
| Ethylbenzene                     | 42.2400 | 0.50 | 40.0000 |  | 106  | 71 - 142 |  |  |    |
| Hexachlorobutadiene              | 20.6700 | 0.50 | 20.0000 |  | 103  | 54 - 169 |  |  |    |
| Isopropylbenzene                 | 23.1500 | 0.50 | 20.0000 |  | 116  | 76 - 146 |  |  |    |
| m,p-Xylene                       | 44.0200 | 1.0  | 40.0000 |  | 110  | 75 - 150 |  |  |    |
| Methylene chloride               | 18.9100 | 1.0  | 20.0000 |  | 94.6 | 66 - 130 |  |  |    |
| MTBE                             | 20.3300 | 0.50 | 20.0000 |  | 102  | 60 - 132 |  |  |    |
| n-Butylbenzene                   | 22.9100 | 0.50 | 20.0000 |  | 115  | 76 - 151 |  |  |    |
| n-Propylbenzene                  | 22.0100 | 0.50 | 20.0000 |  | 110  | 76 - 147 |  |  |    |
| Naphthalene                      | 19.7500 | 0.50 | 20.0000 |  | 98.8 | 36 - 180 |  |  |    |
| o-Xylene                         | 44.2300 | 0.50 | 40.0000 |  | 111  | 75 - 143 |  |  |    |
| sec-Butylbenzene                 | 22.3700 | 0.50 | 20.0000 |  | 112  | 77 - 147 |  |  |    |
| Styrene                          | 20.5200 | 0.50 | 20.0000 |  | 103  | 75 - 133 |  |  |    |
| tert-Butylbenzene                | 22.0300 | 0.50 | 20.0000 |  | 110  | 75 - 143 |  |  |    |
| Tetrachloroethene                | 21.4000 | 0.50 | 20.0000 |  | 107  | 58 - 139 |  |  |    |
| Toluene                          | 41.1600 | 0.50 | 40.0000 |  | 103  | 59 - 140 |  |  |    |
| trans-1,2-Dichloroethene         | 22.1400 | 0.50 | 20.0000 |  | 111  | 63 - 128 |  |  |    |
| Trichloroethene                  | 21.3800 | 0.50 | 20.0000 |  | 107  | 67 - 130 |  |  |    |
| Trichlorofluoromethane           | 28.6500 | 0.50 | 20.0000 |  | 143  | 56 - 168 |  |  |    |
| Vinyl chloride                   | 24.5300 | 0.50 | 20.0000 |  | 123  | 49 - 146 |  |  |    |
| Surrogate: 1,2-Dichloroethane-d4 | 28.94   |      | 25.0000 |  | 116  | 49 - 148 |  |  |    |
| Surrogate: 4-Bromofluorobenzene  | 26.50   |      | 25.0000 |  | 106  | 65 - 132 |  |  |    |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W (continued)**

**LCS (B6C0369-BS1) - Continued**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                                 |       |         |     |          |
|---------------------------------|-------|---------|-----|----------|
| Surrogate: Dibromofluoromethane | 28.51 | 25.0000 | 114 | 55 - 138 |
| Surrogate: Toluene-d8           | 27.08 | 25.0000 | 108 | 60 - 120 |

**LCS Dup (B6C0369-BS1)**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                             |         |      |         |      |          |        |    |
|-----------------------------|---------|------|---------|------|----------|--------|----|
| 1,1,1,2-Tetrachloroethane   | 21.6500 | 0.50 | 20.0000 | 108  | 71 - 142 | 0.928  | 20 |
| 1,1,1-Trichloroethane       | 24.7500 | 0.50 | 20.0000 | 124  | 68 - 141 | 1.79   | 20 |
| 1,1,2,2-Tetrachloroethane   | 18.1400 | 0.50 | 20.0000 | 90.7 | 72 - 123 | 1.28   | 20 |
| 1,1,2-Trichloroethane       | 19.7800 | 0.50 | 20.0000 | 98.9 | 63 - 129 | 0.659  | 20 |
| 1,1-Dichloroethane          | 20.6500 | 0.50 | 20.0000 | 103  | 65 - 133 | 0.680  | 20 |
| 1,1-Dichloroethene          | 25.5600 | 0.50 | 20.0000 | 128  | 61 - 136 | 5.01   | 20 |
| 1,1-Dichloropropene         | 23.4100 | 0.50 | 20.0000 | 117  | 62 - 137 | 3.43   | 20 |
| 1,2,3-Trichloropropane      | 18.4300 | 0.50 | 20.0000 | 92.2 | 71 - 128 | 0.0543 | 20 |
| 1,2,3-Trichlorobenzene      | 19.5900 | 0.50 | 20.0000 | 98.0 | 47 - 187 | 3.71   | 20 |
| 1,2,4-Trichlorobenzene      | 20.1000 | 0.50 | 20.0000 | 100  | 53 - 154 | 2.93   | 20 |
| 1,2,4-Trimethylbenzene      | 21.6500 | 0.50 | 20.0000 | 108  | 80 - 139 | 1.96   | 20 |
| 1,2-Dibromo-3-chloropropane | 19.4600 | 0.50 | 20.0000 | 97.3 | 53 - 166 | 2.84   | 20 |
| 1,2-Dibromoethane           | 19.6100 | 0.50 | 20.0000 | 98.0 | 58 - 134 | 0.711  | 20 |
| 1,2-Dichlorobenzene         | 19.5600 | 0.50 | 20.0000 | 97.8 | 75 - 130 | 0.205  | 20 |
| 1,2-Dichloroethane          | 19.9300 | 0.50 | 20.0000 | 99.6 | 71 - 131 | 1.15   | 20 |
| 1,2-Dichloropropane         | 19.7700 | 0.50 | 20.0000 | 98.8 | 69 - 130 | 4.24   | 20 |
| 1,3,5-Trimethylbenzene      | 21.8600 | 0.50 | 20.0000 | 109  | 80 - 139 | 2.69   | 20 |
| 1,3-Dichlorobenzene         | 19.5300 | 0.50 | 20.0000 | 97.6 | 76 - 129 | 0.308  | 20 |
| 1,3-Dichloropropane         | 19.0400 | 0.50 | 20.0000 | 95.2 | 75 - 124 | 0.628  | 20 |
| 1,4-Dichlorobenzene         | 19.1900 | 0.50 | 20.0000 | 96.0 | 76 - 123 | 2.80   | 20 |
| 2,2-Dichloropropane         | 25.5400 | 0.50 | 20.0000 | 128  | 60 - 149 | 7.39   | 20 |
| 2-Chlorotoluene             | 21.2200 | 0.50 | 20.0000 | 106  | 78 - 137 | 2.87   | 20 |
| 4-Chlorotoluene             | 20.5300 | 0.50 | 20.0000 | 103  | 78 - 136 | 2.52   | 20 |
| 4-Isopropyltoluene          | 22.8200 | 0.50 | 20.0000 | 114  | 75 - 146 | 3.43   | 20 |
| Benzene                     | 41.9800 | 0.50 | 40.0000 | 105  | 72 - 127 | 2.26   | 20 |
| Bromobenzene                | 19.3500 | 0.50 | 20.0000 | 96.8 | 74 - 123 | 3.95   | 20 |
| Bromodichloromethane        | 20.2900 | 0.50 | 20.0000 | 101  | 74 - 130 | 1.24   | 20 |
| Bromoform                   | 21.0000 | 0.50 | 20.0000 | 105  | 74 - 135 | 0.621  | 20 |
| Bromomethane                | 35.7800 | 0.50 | 20.0000 | 179  | 14 - 166 | 5.28   | 20 |
| Carbon tetrachloride        | 27.8900 | 0.50 | 20.0000 | 139  | 57 - 162 | 1.81   | 20 |
| Chlorobenzene               | 19.7500 | 0.50 | 20.0000 | 98.8 | 78 - 125 | 0.253  | 20 |
| Chloroethane                | 25.3700 | 0.50 | 20.0000 | 127  | 54 - 144 | 3.78   | 20 |
| Chloroform                  | 20.8500 | 0.50 | 20.0000 | 104  | 66 - 132 | 4.41   | 20 |
| Chloromethane               | 22.4200 | 0.50 | 20.0000 | 112  | 31 - 128 | 4.14   | 20 |
| cis-1,2-Dichloroethene      | 21.8700 | 0.50 | 20.0000 | 109  | 68 - 124 | 0.965  | 20 |
| cis-1,3-Dichloropropene     | 22.4700 | 0.50 | 20.0000 | 112  | 63 - 139 | 0.267  | 20 |
| Dibromochloromethane        | 20.3500 | 0.50 | 20.0000 | 102  | 78 - 132 | 1.09   | 20 |
| Dibromomethane              | 19.0900 | 0.50 | 20.0000 | 95.4 | 76 - 122 | 3.30   | 20 |

L4



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W (continued)**

**LCS Dup (B6C0369-BSD1) - Continued**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|   |              |      |                |  |            |                 |       |    |  |
|---|--------------|------|----------------|--|------------|-----------------|-------|----|--|
| Dichlorodifluoromethane                 | 28.5500      | 0.50 | 20.0000        |  | 143        | 17 - 171        | 0.350 | 20 |  |
| Ethylbenzene                            | 42.5900      | 0.50 | 40.0000        |  | 106        | 71 - 142        | 0.825 | 20 |  |
| Hexachlorobutadiene                     | 21.9100      | 0.50 | 20.0000        |  | 110        | 54 - 169        | 5.82  | 20 |  |
| Isopropylbenzene                        | 24.2900      | 0.50 | 20.0000        |  | 121        | 76 - 146        | 4.81  | 20 |  |
| m,p-Xylene                              | 44.1900      | 1.0  | 40.0000        |  | 110        | 75 - 150        | 0.385 | 20 |  |
| Methylene chloride                      | 18.8300      | 1.0  | 20.0000        |  | 94.2       | 66 - 130        | 0.424 | 20 |  |
| MTBE                                    | 20.2600      | 0.50 | 20.0000        |  | 101        | 60 - 132        | 0.345 | 20 |  |
| n-Butylbenzene                          | 23.5600      | 0.50 | 20.0000        |  | 118        | 76 - 151        | 2.80  | 20 |  |
| n-Propylbenzene                         | 22.6300      | 0.50 | 20.0000        |  | 113        | 76 - 147        | 2.78  | 20 |  |
| Naphthalene                             | 19.3600      | 0.50 | 20.0000        |  | 96.8       | 36 - 180        | 1.99  | 20 |  |
| o-Xylene                                | 44.3800      | 0.50 | 40.0000        |  | 111        | 75 - 143        | 0.339 | 20 |  |
| sec-Butylbenzene                        | 23.4500      | 0.50 | 20.0000        |  | 117        | 77 - 147        | 4.71  | 20 |  |
| Styrene                                 | 20.5800      | 0.50 | 20.0000        |  | 103        | 75 - 133        | 0.292 | 20 |  |
| tert-Butylbenzene                       | 22.9100      | 0.50 | 20.0000        |  | 115        | 75 - 143        | 3.92  | 20 |  |
| Tetrachloroethene                       | 22.3700      | 0.50 | 20.0000        |  | 112        | 58 - 139        | 4.43  | 20 |  |
| Toluene                                 | 41.7100      | 0.50 | 40.0000        |  | 104        | 59 - 140        | 1.33  | 20 |  |
| trans-1,2-Dichloroethene                | 22.0500      | 0.50 | 20.0000        |  | 110        | 63 - 128        | 0.407 | 20 |  |
| Trichloroethene                         | 22.6800      | 0.50 | 20.0000        |  | 113        | 67 - 130        | 5.90  | 20 |  |
| Trichlorofluoromethane                  | 29.0200      | 0.50 | 20.0000        |  | 145        | 56 - 168        | 1.28  | 20 |  |
| Vinyl chloride                          | 25.1300      | 0.50 | 20.0000        |  | 126        | 49 - 146        | 2.42  | 20 |  |
| <hr/>                                   |              |      |                |  |            |                 |       |    |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>27.88</i> |      | <i>25.0000</i> |  | <i>112</i> | <i>49 - 148</i> |       |    |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>25.50</i> |      | <i>25.0000</i> |  | <i>102</i> | <i>65 - 132</i> |       |    |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>26.92</i> |      | <i>25.0000</i> |  | <i>108</i> | <i>55 - 138</i> |       |    |  |
| <i>Surrogate: Toluene-d8</i>            | <i>26.08</i> |      | <i>25.0000</i> |  | <i>104</i> | <i>60 - 120</i> |       |    |  |

**Duplicate (B6C0369-DUP1)**

**Source: 1600966-12**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                             |    |      |  |    |    |  |  |    |  |
|-----------------------------|----|------|--|----|----|--|--|----|--|
| 1,1,1,2-Tetrachloroethane   | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1,1-Trichloroethane       | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1,2,2-Tetrachloroethane   | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1,2-Trichloroethane       | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloroethane          | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloroethene          | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloropropene         | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,3-Trichloropropane      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,3-Trichlorobenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,4-Trichlorobenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,4-Trimethylbenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dibromo-3-chloropropane | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dibromoethane           | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichlorobenzene         | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichloroethane          | ND | 0.50 |  | ND | NR |  |  | 20 |  |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|------------------|------------|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|------------------|------------|--------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W (continued)**

**Duplicate (B6C0369-DUP1) - Continued**

**Source: 1600966-12**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                          |    |      |  |    |    |  |  |    |  |
|--------------------------|----|------|--|----|----|--|--|----|--|
| 1,2-Dichloropropane      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,3,5-Trimethylbenzene   | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,3-Dichlorobenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,3-Dichloropropane      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,4-Dichlorobenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 2,2-Dichloropropane      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 2-Chlorotoluene          | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 4-Chlorotoluene          | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 4-Isopropyltoluene       | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Benzene                  | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Bromobenzene             | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Bromodichloromethane     | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Bromoform                | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Bromomethane             | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Carbon tetrachloride     | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Chlorobenzene            | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Chloroethane             | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Chloroform               | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Chloromethane            | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| cis-1,2-Dichloroethene   | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| cis-1,3-Dichloropropene  | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Dibromochloromethane     | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Dibromomethane           | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Dichlorodifluoromethane  | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Ethylbenzene             | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Hexachlorobutadiene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Isopropylbenzene         | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| m,p-Xylene               | ND | 1.0  |  | ND | NR |  |  | 20 |  |
| Methylene chloride       | ND | 1.0  |  | ND | NR |  |  | 20 |  |
| MTBE                     | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| n-Butylbenzene           | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| n-Propylbenzene          | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Naphthalene              | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| o-Xylene                 | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| sec-Butylbenzene         | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Styrene                  | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| tert-Butylbenzene        | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Tetrachloroethene        | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Toluene                  | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| trans-1,2-Dichloroethene | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Trichloroethene          | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| Trichlorofluoromethane   | ND | 0.50 |  | ND | NR |  |  | 20 |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W (continued)**

**Duplicate (B6C0369-DUP1) - Continued**

**Source: 1600966-12**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|   |       |      |         |    |      |          |  |    |  |
|---|-------|------|---------|----|------|----------|--|----|--|
| Vinyl chloride                          | ND    | 0.50 |         | ND | NR   |          |  | 20 |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 29.83 |      | 25.0000 |    | 119  | 49 - 148 |  |    |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 23.91 |      | 25.0000 |    | 95.6 | 65 - 132 |  |    |  |
| <i>Surrogate: Dibromofluoromethane</i>  | 28.17 |      | 25.0000 |    | 113  | 55 - 138 |  |    |  |
| <i>Surrogate: Toluene-d8</i>            | 25.25 |      | 25.0000 |    | 101  | 60 - 120 |  |    |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Notes and Definitions

|     |   |
|-----|---|
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| M1  | Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.   |
| L5  | Laboratory Control Sample high biased. Sample result/s was non-detect (ND) for the target analyte; therefore reanalysis was not necessary.  |
| L4  | Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

# CHAIN OF CUSTODY RECORD



**Advanced Technology  
Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755  
Tel: (562) 989-4045 • Fax: (562) 989-4040

**FOR LABORATORY USE ONLY**

P.O. #: \_\_\_\_\_ Method of Transport: Client  ATL  CA OverN  FedEx  Other: Other

Sample Condition Upon Receipt:  
 1. CHILLED  Y  N  4. SEALED  Y  N   
 2. HEADSPACE (VOA)  Y  N  5. # OF SPLS MATCH COC  Y  N   
 3. CONTAINER INTACT  Y  N  6. PRESERVED  Y  N

Client: Geocon Address: 6671 Brisa Street Tel: 916-852-9118  
 Attention: Rick Day City: Livermore State: CA Zip Code: 94550 Fax: 916-852-9132

Project Name: SR92/SR82 Interchange Project #: E8721-02-36 Sampler: Cord Dennig

Relinquished by: (Signature and Printed Name) Cord Dennig Date: 3/11/16 Time: 1500 Received by: (Signature and Printed Name) OnTrac Date: 3/11/16 Time: 1500  
 Relinquished by: (Signature and Printed Name) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: (Signature and Printed Name) FD Date: 3/12/16 Time: 0935  
 Relinquished by: (Signature and Printed Name) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: (Signature and Printed Name) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

I hereby authorize ATL to perform the work indicated below:  
 Project Mgr /Submitter: \_\_\_\_\_ Send Report To: Attn: \_\_\_\_\_ Co: \_\_\_\_\_ Addr: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Print Name \_\_\_\_\_ Date \_\_\_\_\_ Bill To: Attn: \_\_\_\_\_ Co: \_\_\_\_\_ Addr: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Special Instructions/Comments: \*48-hr TAT  
Callous contract  
04A4336

**Sample/Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.  
**Storage Fees (applies when storage is requested):**  
 ■ Sample: \$2.00 / sample /mo (after 45 days)  
 ■ Records: \$1 /ATL workorder /mo (after 1 year)

| Circle or Add Analysis(es) Requested | SPECIFY APPROPRIATE MATRIX |               |               |            |      |       |      |       |              |            | Container(s) | PRESERVATION | QA/QC                         |  |
|--------------------------------------|----------------------------|---------------|---------------|------------|------|-------|------|-------|--------------|------------|--------------|--------------|-------------------------------|--|
|                                      | Total Lead                 | CAM 17 Metals | TPH/BTEX/MTBE | TPH/TPH/mo | VOCs | APHCs | SOIL | WATER | GROUND WATER | WASTEWATER |              |              |                               |  |
|                                      |                            |               |               |            |      |       |      |       |              |            | TAT #        | Type         | RTNE <input type="checkbox"/> | CT <input checked="" type="checkbox"/> |
|                                      |                            |               |               |            |      |       |      |       |              |            |              |              | SWRCB Logcode _____           | OTHER _____                            |
|                                      |                            |               |               |            |      |       |      |       |              |            |              |              | REMARKS                       |  |

| ITEM | LAB USE ONLY: |                      | Sample Description |  | Date | Time   |
|------|---------------|----------------------|--------------------|--|------|--------|
|      | Lab No.       | Sample ID / Location |                    |  |      |        |
|      | 16009CC -1    | IB                   |                    |  | 3/10 | 1200   |
|      | -2            | B25-0'               |                    |  |      | 112415 |
|      | -3            | -1'                  |                    |  |      | 2216   |
|      | -4            | -2'                  |                    |  |      | 2217   |
|      | -5            | -10'                 |                    |  |      | 2230   |
|      | -6            | -25'                 |                    |  |      | 3320   |
|      | -7            | B42-0'               |                    |  | 3/11 | 00118  |
|      | -8            | -1'                  |                    |  |      | 00119  |
|      | -9            | -2'                  |                    |  |      | 00120  |
|      | -10           | -10'                 |                    |  |      | 00148  |
|      | -11           | -25'                 |                    |  |      | 01148  |
|      | -12           | B42                  |                    |  |      | 02115  |

TAT starts 8AM the following day if samples received after 3 PM  
 TAT:  A = Overnight ≤ 24 hrs  B = Emergency Next Workday  C = Critical 2 Workdays  D = Urgent 3 Workdays  E = Routine 7 Workdays  
 Preservatives: H=HCl N=HNO<sub>3</sub> S=H<sub>2</sub>SO<sub>4</sub> C=4°C  
 Z=Zn(AC)<sub>2</sub> O=NaOH T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  
 Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

March 21, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600966  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on March 12, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/21/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|--------------|---------------|
| B42-0'    | 1600966-07    | Soil   | 3/11/16 0:18 | 3/12/16 9:35  |
| B42-2'    | 1600966-09    | Soil   | 3/11/16 0:20 | 3/12/16 9:35  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/21/2016

### STLC Metals by ICP-AES by EPA 6010B

**Analyte: Lead**

**Analyst: RR**

| Laboratory ID | Client Sample ID | Result     | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|------------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600966-07    | B42-0'           | <b>2.1</b> | mg/L  | 1.0 | 20       | B6C0517 | 03/18/2016 | 03/18/16 14:13     |       |
| 1600966-09    | B42-2'           | <b>15</b>  | mg/L  | 1.0 | 20       | B6C0517 | 03/18/2016 | 03/18/16 14:23     |       |



## Certificate of Analysis

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 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/21/2016

### QUALITY CONTROL SECTION

#### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---|-----------------|------|--------------|-------|
| <b>Batch B6C0517 - STLC_S Extraction</b> |                  |               |                |                  |   |                 |      |              |       |
| <b>Blank (B6C0517-BLK1)</b>              |                  |               |                |                  | Prepared: 3/18/2016 Analyzed: 3/18/2016 |                 |      |              |       |
| Lead                                     | ND               | 1.0           |                |                  |   |                 | NR   |              |       |
| <b>LCS (B6C0517-BS1)</b>                 |                  |               |                |                  | Prepared: 3/18/2016 Analyzed: 3/18/2016 |                 |      |              |       |
| Lead                                     | 1.92059          |               | 2.00000        |                  | 96.0                                    | 80 - 120        |      |              |       |
| <b>Duplicate (B6C0517-DUP1)</b>          |                  |               |                |                  | Prepared: 3/18/2016 Analyzed: 3/18/2016 |                 |      |              |       |
| Lead                                     | 2.91602          |               |                | 2.10918          | NR                                      |                 | 32.1 | 20           | R     |
| <b>Matrix Spike (B6C0517-MS1)</b>        |                  |               |                |                  | Prepared: 3/18/2016 Analyzed: 3/18/2016 |                 |      |              |       |
| Lead                                     | 4.30552          |               | 2.50000        | 2.10918          | 87.9                                    | 44 - 130        |      |              |       |
| <b>Matrix Spike Dup (B6C0517-MSD1)</b>   |                  |               |                |                  | Prepared: 3/18/2016 Analyzed: 3/18/2016 |                 |      |              |       |
| Lead                                     | 4.39410          |               | 2.50000        | 2.10918          | 91.4                                    | 44 - 130        | 2.04 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/21/2016

### Notes and Definitions

|     |   |
|-----|---|
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

## Diane Galvan

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Wednesday, March 16, 2016 11:05 AM  
**To:** Diane Galvan  
**Subject:** RE: Results/EDD/Invoice - SR92/SR82 Interchange (1600966)

Hi Diane,  
Please analyze B42-0 and B42-2 for WET lead on a 48-hr TAT.

Thank you,  
Luann



**Luann Beadle | Project Scientist**

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P | 925.371.5900 ext. 403 M | 925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [Linkedin](#)

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Geotechnical Engineering

Land Development

Environmental Services

Transportation

Infrastructure

Institutional

Engineering Geology

Brownfields/Redevelopment

Construction Inspection

Natural Resources

March 23, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600966  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on March 12, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/23/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|--------------|---------------|
| B42-2'    | 1600966-09    | Soil   | 3/11/16 0:20 | 3/12/16 9:35  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/23/2016

### TCLP Metals by ICP-AES EPA 6010B

**Analyte: Lead**

**Analyst: RR**

| Laboratory ID | Client Sample ID | Result       | Units | PQL   | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------------|-------|-------|----------|---------|------------|--------------------|-------|
| 1600966-09    | B42-2'           | <b>0.085</b> | mg/L  | 0.050 | 1        | B6C0593 | 03/22/2016 | 03/22/16 13:57     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/23/2016

### QUALITY CONTROL SECTION

#### TCLP Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---|-----------------|------|--------------|-------|
| <b>Batch B6C0593 - EPA 3010A_S</b>     |                  |               |                |                  |   |                 |      |              |       |
| <b>Blank (B6C0593-BLK1)</b>            |                  |               |                |                  | Prepared: 3/22/2016 Analyzed: 3/22/2016 |                 |      |              |       |
| Lead                                   | ND               | 0.050         |                |                  |   |                 |      |              | NR    |
| <b>LCS (B6C0593-BS1)</b>               |                  |               |                |                  | Prepared: 3/22/2016 Analyzed: 3/22/2016 |                 |      |              |       |
| Lead                                   | 0.922086         | 0.050         | 1.00000        |                  | 92.2                                    | 80 - 120        |      |              |       |
| <b>Duplicate (B6C0593-DUP1)</b>        |                  |               |                |                  | Prepared: 3/22/2016 Analyzed: 3/22/2016 |                 |      |              |       |
| Lead                                   | 0.096335         | 0.050         |                | 0.084942         | NR                                      |                 | 12.6 | 20           |       |
| <b>Matrix Spike (B6C0593-MS1)</b>      |                  |               |                |                  | Prepared: 3/22/2016 Analyzed: 3/22/2016 |                 |      |              |       |
| Lead                                   | 2.13955          | 0.050         | 2.50000        | 0.084942         | 82.2                                    | 77 - 121        |      |              |       |
| <b>Matrix Spike Dup (B6C0593-MSD1)</b> |                  |               |                |                  | Prepared: 3/22/2016 Analyzed: 3/22/2016 |                 |      |              |       |
| Lead                                   | 2.19106          | 0.050         | 2.50000        | 0.084942         | 84.2                                    | 77 - 121        | 2.38 | 20           |       |



## Certificate of Analysis

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6671 Brisa Street

Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/23/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

## Diane Galvan

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Monday, March 21, 2016 11:28 AM  
**To:** Diane Galvan  
**Subject:** RE: Additional Results/EDD/Invoice - SR92/SR82 Interchange (1600966)

Hi Diane,  
Please run TCLP lead on sample B42-2 on a 48-hr TAT (plus extraction).  
Thank you,  
Luann

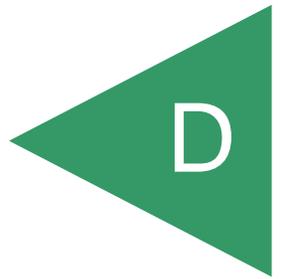


**Luann Beadle** | *Project Scientist*  
**GEOCON CONSULTANTS, INC.**  
6671 Brisa Street, Livermore, California 94550  
P|925.371.5900 ext. 403 M|925.395.1669  
[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [Linkedin](#)

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Geotechnical Engineering   Environmental Services   Engineering Geology   Construction Inspection  
Land Development   Transportation   Infrastructure   Institutional   Brownfields/Redevelopment   Natural Resources

APPENDIX



| DEPTH<br>IN<br>FEET  | SAMPLE<br>NO. | LITHOLOGY | GROUNDWATER | SOIL<br>CLASS<br>(USCS) | <b>BORING B4</b>  |                                 |                     | PENETRATION<br>RESISTANCE<br>(BLOWS/FT.) | DRY DENSITY<br>(P.C.F.) | MOISTURE<br>CONTENT (%) |                       |
|----------------------|---------------|-----------|-------------|-------------------------|---|---------------------------------|---------------------|--|-------------------------|-------------------------|-----------------------|
|                      |               |           |             |                         | ELEV. (MSL.) _____  | DATE COMPLETED <u>2/18/2016</u> | ENG./GEO. <u>LB</u> |  |                         |                         | DRILLER <u>GEOCON</u> |
| MATERIAL DESCRIPTION |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 0                    |               |           |             | SM                      | Approximately 3 inches of Asphalt   |                                 |                     |  |                         |                         |                       |
| 1                    |               |           |             |                         | Dense, dry, light gray-brown, SAND with little silt (LIKELY FILL MATERIALS) |                                 |                     |  |                         |                         |                       |
| 2                    |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 3                    |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 4                    |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 5                    |               |           |             | CL                      | Damp, gray, CLAY with little gravel   |                                 |                     |  |                         |                         |                       |
| 6                    |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 7                    |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 8                    |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 9                    |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 10                   |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 11                   |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 12                   |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 13                   |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 14                   |               |           |             |                         | -reddish-gray   |                                 |                     |  |                         |                         |                       |
| 15                   |               |           |             |                         | -dark gray  |                                 |                     |  |                         |                         |                       |
| 15                   |               |           |             | SM                      | Moist, reddish, Silty SAND with little gravel                               |                                 |                     |  |                         |                         |                       |
| 16                   |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 17                   |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 18                   |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 19                   |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 20                   |               |           |             |                         | Hard, SANDSTONE with some clay, degraded                                    |                                 |                     |  |                         |                         |                       |
|                      |               |           |             |                         | END OF BORING AT APPROXIMATELY 20.5 FEET<br>NO FREE WATER ENCOUNTERED       |                                 |                     |  |                         |                         |                       |

Figure , Log of Boring B4, page 1 of 1



| SAMPLE SYMBOLS                      |                                |                          |
|-------------------------------------|--------------------------------|--------------------------|
| <input type="checkbox"/>            | ... SAMPLING UNSUCCESSFUL      | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | ... DISTURBED OR BAG SAMPLE    | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... STANDARD PENETRATION TEST  | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... CHUNK SAMPLE               | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... DRIVE SAMPLE (UNDISTURBED) | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... WATER TABLE OR SEEPAGE     | <input type="checkbox"/> |

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| DEPTH IN FEET        | SAMPLE NO. | LITHOLOGY | GROUNDWATER | SOIL CLASS (USCS) | BORING B10   |                                 |                     | PENETRATION RESISTANCE (BLOWS/FT.) | DRY DENSITY (P.C.F.) | MOISTURE CONTENT (%) |                       |
|----------------------|------------|-----------|-------------|-------------------|--|---------------------------------|---------------------|------------------------------------|----------------------|----------------------|-----------------------|
|                      |            |           |             |                   | ELEV. (MSL.) _____   | DATE COMPLETED <u>2/18/2016</u> | ENG./GEO. <u>LB</u> |                                    |                      |                      | DRILLER <u>GEOCON</u> |
| MATERIAL DESCRIPTION |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 0                    |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 1                    |            |           |             | CL                | Approximately 2 inches Asphalt   |                                 |                     |                                    |                      |                      |                       |
| 2                    |            |           |             |                   | Moist, medium brown, Silty Sandy CLAY  |                                 |                     |                                    |                      |                      |                       |
| 3                    |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 4                    |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 5                    |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 6                    |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 7                    |            |           |             |                   | -less silt   |                                 |                     |                                    |                      |                      |                       |
| 8                    |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 9                    |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 10                   |            |           |             |                   | -with little gravel  |                                 |                     |                                    |                      |                      |                       |
| 11                   |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 12                   |            |           |             |                   | -dark olive-brown with occasional red, more gravel, less sand                              |                                 |                     |                                    |                      |                      |                       |
| 13                   |            |           |             |                   | -strong hydrocarbon odor   |                                 |                     |                                    |                      |                      |                       |
| 14                   |            |           |             | CL                | Hard, moist, reddish, SANDSTONE, fragmented, slight odor                                   |                                 |                     |                                    |                      |                      |                       |
| 15                   |            |           |             |                   | Red-gray CLAY  |                                 |                     |                                    |                      |                      |                       |
| 16                   |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 17                   |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 18                   |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 19                   |            |           |             |                   | -hard, moist, with silt and sandstone  |                                 |                     |                                    |                      |                      |                       |
| 20                   |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 21                   |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 22                   |            |           |             |                   |  |                                 |                     |                                    |                      |                      |                       |
| 23                   |            |           |             | CL                | Saturated, gray, CLAY with occasional gravel   |                                 |                     |                                    |                      |                      |                       |
| 24                   |            |           |             |                   | - moist, reddish, more gravel  |                                 |                     |                                    |                      |                      |                       |
| 25                   |            |           |             |                   | END OF BORING AT APPROXIMATELY 25 FEET<br>GROUNDWATER ENCOUNTERED AT APPROXIMATELY 23 FEET |                                 |                     |                                    |                      |                      |                       |

Figure , Log of Boring B10, page 1 of 1



| SAMPLE SYMBOLS                      |                                |                          |
|-------------------------------------|--------------------------------|--------------------------|
| <input type="checkbox"/>            | ... SAMPLING UNSUCCESSFUL      | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | ... DISTURBED OR BAG SAMPLE    | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... STANDARD PENETRATION TEST  | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... CHUNK SAMPLE               | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... DRIVE SAMPLE (UNDISTURBED) | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... WATER TABLE OR SEEPAGE     | <input type="checkbox"/> |

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| DEPTH<br>IN<br>FEET  | SAMPLE<br>NO. | LITHOLOGY | GROUNDWATER | SOIL<br>CLASS<br>(USCS) | <b>BORING B25</b>   |                                 |       | PENETRATION<br>RESISTANCE<br>(BLOWS/FT.) | DRY DENSITY<br>(P.C.F.) | MOISTURE<br>CONTENT (%) |
|----------------------|---------------|-----------|-------------|-------------------------|---|---------------------------------|-------|--|-------------------------|-------------------------|
|                      |               |           |             |                         | ELEV. (MSL.) _____  | DATE COMPLETED <u>3/10/2016</u> | _____ |  |                         |                         |
| MATERIAL DESCRIPTION |               |           |             |                         |   |                                 |       |  |                         |                         |
| 0                    |               |           |             | ML                      | Moist, Sandy SILT   |                                 |       |  |                         |                         |
| 1                    |               |           |             |                         |   |                                 |       |  |                         |                         |
| 2                    |               |           |             |                         |   |                                 |       |  |                         |                         |
| 3                    |               |           |             |                         |   |                                 |       |  |                         |                         |
| 4                    |               |           |             |                         | SM  | Silty SAND with gravel          |       |  |                         |                         |
| 5                    |               |           |             |                         |   |                                 |       |  |                         |                         |
| 6                    |               |           |             |                         |   |                                 |       |  |                         |                         |
| 7                    |               |           |             |                         |   |                                 |       |  |                         |                         |
| 8                    |               |           |             |                         | ML  | Light brown mottled, Sandy SILT |       |  |                         |                         |
| 9                    |               |           |             |                         |   |                                 |       |  |                         |                         |
| 10                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 11                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 12                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 13                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 14                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 15                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 16                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 17                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 18                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 19                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 20                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 21                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 22                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 23                   |               |           |             |                         | SM  | Tan (f) SAND                    |       |  |                         |                         |
| 24                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 25                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 26                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 27                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 28                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 29                   |               |           |             |                         |   |                                 |       |  |                         |                         |
| 30                   |               |           |             |                         |   |                                 |       |  |                         |                         |
|                      |               |           |             |                         | END OF BORING AT APPROXIMATELY 30 FEET<br>NO FREE WATER ENCOUNTERED |                                 |       |  |                         |                         |

Figure , Log of Boring B25, page 1 of 1



| SAMPLE SYMBOLS                      |                                |                          |
|-------------------------------------|--------------------------------|--------------------------|
| <input type="checkbox"/>            | ... SAMPLING UNSUCCESSFUL      | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | ... DISTURBED OR BAG SAMPLE    | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... STANDARD PENETRATION TEST  | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... CHUNK SAMPLE               | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... DRIVE SAMPLE (UNDISTURBED) | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... WATER TABLE OR SEEPAGE     | <input type="checkbox"/> |

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| DEPTH<br>IN<br>FEET         | SAMPLE<br>NO. | LITHOLOGY | GROUNDWATER | SOIL<br>CLASS<br>(USCS) | <b>BORING B42</b>  |                                 |                     | PENETRATION<br>RESISTANCE<br>(BLOWS/FT.) | DRY DENSITY<br>(P.C.F.) | MOISTURE<br>CONTENT (%) |                               |
|-----------------------------|---------------|-----------|-------------|-------------------------|--|---------------------------------|---------------------|--|-------------------------|-------------------------|-------------------------------|
|                             |               |           |             |                         | ELEV. (MSL.) _____   | DATE COMPLETED <u>3/11/2016</u> | ENG./GEO. <u>CD</u> |  |                         |                         | DRILLER <u>Gregg Drilling</u> |
| <b>MATERIAL DESCRIPTION</b> |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 0                           |               |           |             | ML                      | Moist, dark brown, Sandy SILT  |                                 |                     |  |                         |                         |                               |
| 1                           |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 2                           |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 3                           |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 4                           |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 5                           |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 6                           |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 7                           |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 8                           |               |           |             | CL                      | Medium-brown, Silty CLAY   |                                 |                     |  |                         |                         |                               |
| 9                           |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 10                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 11                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 12                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 13                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 14                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 15                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 16                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 17                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 18                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 19                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 20                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 21                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 22                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 23                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 24                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 25                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 26                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 27                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 28                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 29                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 30                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 31                          |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 32                          |               |           |             |                         | END OF BORING AT APPROXIMATELY 32 FEET<br>GROUNDWATER ENCOUNTERED AT APPROXIMATELY 32 FEET |                                 |                     |  |                         |                         |                               |

Figure , Log of Boring B42, page 1 of 1



| SAMPLE SYMBOLS                      |                                |                          |
|-------------------------------------|--------------------------------|--------------------------|
| <input type="checkbox"/>            | ... SAMPLING UNSUCCESSFUL      | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | ... DISTURBED OR BAG SAMPLE    | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... STANDARD PENETRATION TEST  | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... CHUNK SAMPLE               | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... DRIVE SAMPLE (UNDISTURBED) | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... WATER TABLE OR SEEPAGE     | <input type="checkbox"/> |

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| DEPTH<br>IN<br>FEET                    | SAMPLE<br>NO. | LITHOLOGY | GROUNDWATER | SOIL<br>CLASS<br>(USCS) | <b>BORING B67</b>  |  | PENETRATION<br>RESISTANCE<br>(BLOWS/FT.) | DRY DENSITY<br>(P.C.F.) | MOISTURE<br>CONTENT (%) |
|--|---------------|-----------|-------------|-------------------------|--------------------|--|--|-------------------------|-------------------------|
|  |               |           |             |                         | ELEV. (MSL.) _____ | DATE COMPLETED <u>2/18/2016</u>                                  |  |                         |                         |
| MATERIAL DESCRIPTION                   |               |           |             |                         |                    |  |  |                         |                         |
| 0                                      |               |           |             |                         |                    | Surface grass, medium-dark brown, loose organic matter           |  |                         |                         |
| 1                                      |               |           |             | CH                      |                    | Dense, moist, medium to dark brown, CLAY                         |  |                         |                         |
| 2                                      |               |           |             |                         |                    |  |  |                         |                         |
| 3                                      |               |           |             |                         |                    |  |  |                         |                         |
| 4                                      |               |           |             |                         |                    |  |  |                         |                         |
| 5                                      |               |           |             |                         |                    |  |  |                         |                         |
| 6                                      |               |           |             | SM                      |                    | Dense, dry, hard, light-brown, Silty SAND with occasional gravel |  |                         |                         |
| 7                                      |               |           |             |                         |                    |  |  |                         |                         |
| 8                                      |               |           |             |                         |                    |  |  |                         |                         |
| 9                                      |               |           |             |                         |                    |  |  |                         |                         |
| 10                                     |               |           |             |                         |                    |  |  |                         |                         |
| 11                                     |               |           |             |                         |                    |  |  |                         |                         |
| 12                                     |               |           |             |                         |                    |  |  |                         |                         |
| 13                                     |               |           |             |                         |                    |  |  |                         |                         |
| 14                                     |               |           |             |                         |                    |  |  |                         |                         |
| 15                                     |               |           |             |                         |                    |  |  |                         |                         |
| 16                                     |               |           |             |                         |                    |  |  |                         |                         |
| 17                                     |               |           |             | CL                      |                    | Damp, reddish-brown, CLAY with some gravel                       |  |                         |                         |
| 18                                     |               |           |             |                         |                    |  |  |                         |                         |
| 19                                     |               |           |             |                         |                    |  |  |                         |                         |
| 20                                     |               |           |             |                         |                    |  |  |                         |                         |
| 21                                     |               |           |             |                         |                    |  |  |                         |                         |
| 22                                     |               |           |             |                         |                    |  |  |                         |                         |
| 23                                     |               |           |             |                         |                    |  |  |                         |                         |
| 24                                     |               |           |             |                         |                    | - screened 20 - 30 feet and waited for water                     |  |                         |                         |
| 25                                     |               |           |             |                         |                    | - returned 4 hrs. later and 3 feet of water in hole              |  |                         |                         |
| 26                                     |               |           |             |                         |                    |  |  |                         |                         |
| 27                                     |               |           |             |                         |                    |  |  |                         |                         |
| 28                                     |               |           |             |                         |                    |  |  |                         |                         |
| 29                                     |               |           |             |                         |                    |  |  |                         |                         |
| 30                                     |               |           |             |                         |                    | - refusal at hard sandstone                                      |  |                         |                         |
| END OF BORING AT APPROXIMATELY 30 FEET |               |           |             |                         |                    |  |  |                         |                         |

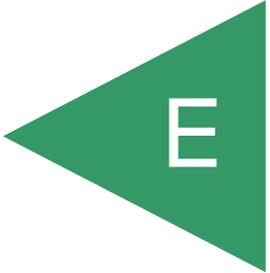
Figure , Log of Boring B67, page 1 of 1



| SAMPLE SYMBOLS                      |                                |                          |
|-------------------------------------|--------------------------------|--------------------------|
| <input type="checkbox"/>            | ... SAMPLING UNSUCCESSFUL      | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | ... DISTURBED OR BAG SAMPLE    | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... STANDARD PENETRATION TEST  | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... CHUNK SAMPLE               | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... DRIVE SAMPLE (UNDISTURBED) | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... WATER TABLE OR SEEPAGE     |                          |

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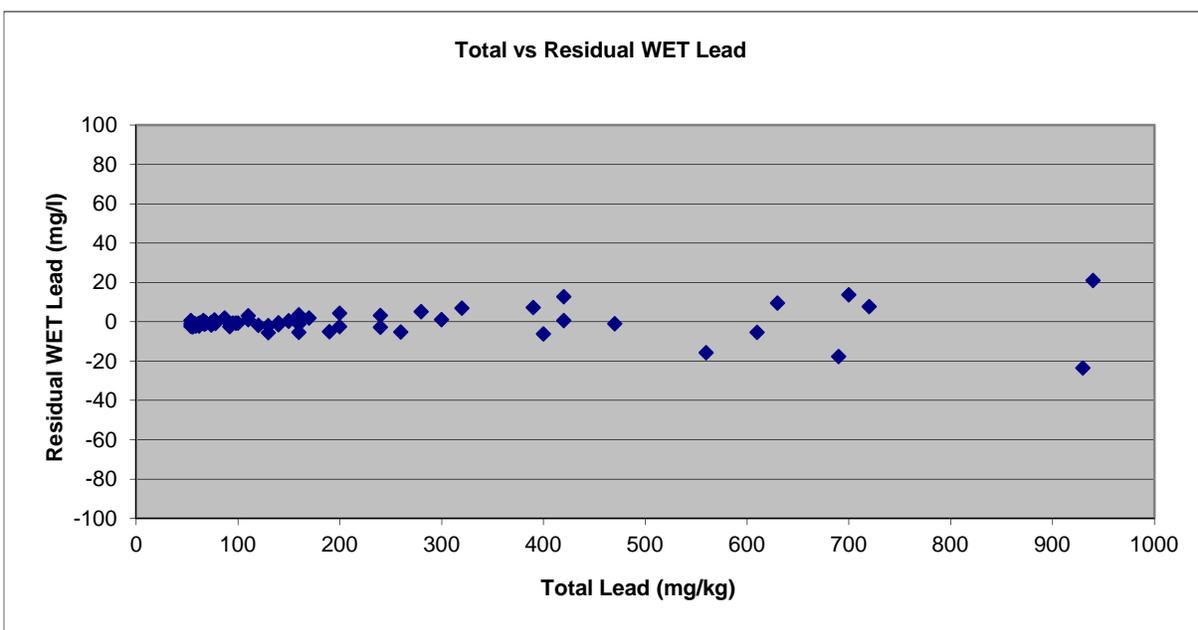
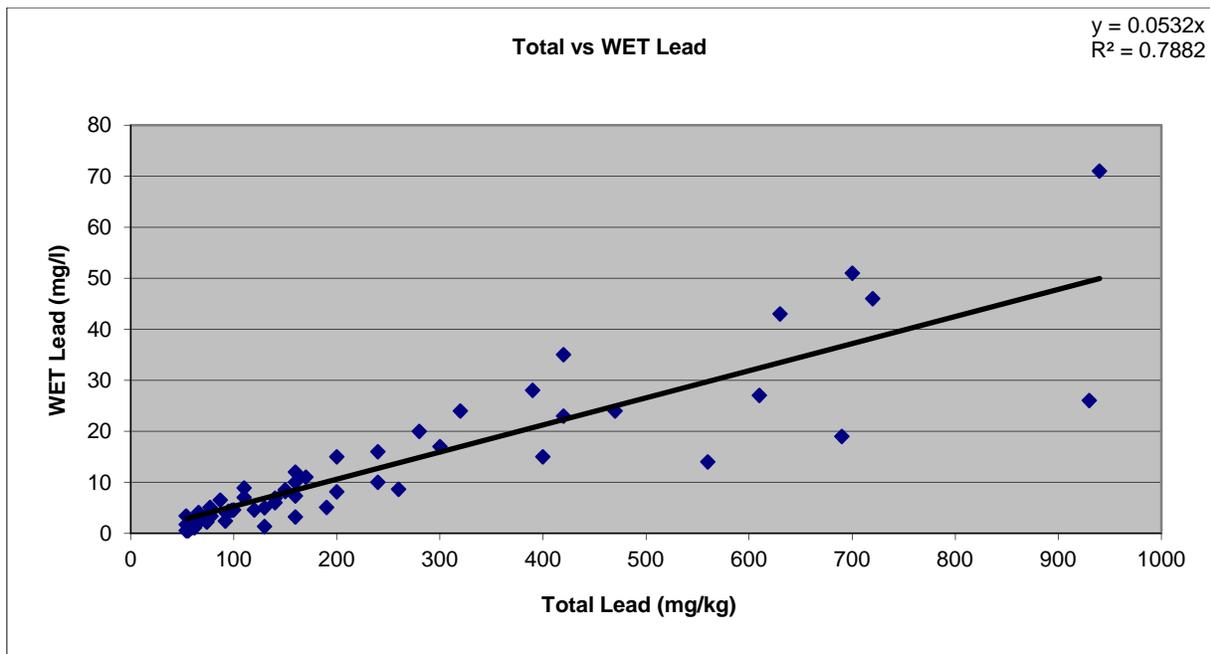
APPENDIX

A solid green triangle pointing to the left, containing the letter 'E' in white.

E

| Sample ID | Sample Depth<br>(feet) | Total Lead<br>(mg/kg) | WET Lead<br>(mg/l) | Residual<br>WET Lead<br>(mg/l) | Squared Residual<br>WET Lead<br>(mg/l) |
|-----------|------------------------|-----------------------|--------------------|--------------------------------|--|
| B1-0      | 0 to 0.5               | 420                   | 23                 | 0.68                           | 0.46                                   |
| B3-0      | 0 to 0.5               | 110                   | 8.9                | 3.05                           | 9.32                                   |
| B6-0      | 0 to 0.5               | 200                   | 8.1                | -2.53                          | 6.40                                   |
| B7-0      | 0 to 0.5               | 140                   | 6.9                | -0.54                          | 0.29                                   |
| B8-0      | 0 to 0.5               | 150                   | 8.5                | 0.53                           | 0.28                                   |
| B9-0      | 0 to 0.5               | 78                    | 3.3                | -0.85                          | 0.72                                   |
| B10-0     | 0 to 0.5               | 54                    | 3.4                | 0.53                           | 0.28                                   |
| B11-0     | 0 to 0.5               | 160                   | 7.3                | -1.20                          | 1.45                                   |
| B12-0     | 0 to 0.5               | 61                    | 2.0                | -1.24                          | 1.54                                   |
| B13-0     | 0 to 0.5               | 150                   | 8.2                | 0.23                           | 0.05                                   |
| B14-0     | 0 to 0.5               | 610                   | 27                 | -5.42                          | 29.41                                  |
| B15-0     | 0 to 0.5               | 77                    | 5.1                | 1.01                           | 1.01                                   |
| B16-0     | 0 to 0.5               | 160                   | 10                 | 1.50                           | 2.24                                   |
| B17-0     | 0 to 0.5               | 68                    | 2.6                | -1.01                          | 1.03                                   |
| B18-0     | 0 to 0.5               | 130                   | 5.0                | -1.91                          | 3.65                                   |
| B19-0     | 0 to 0.5               | 67                    | 2.7                | -0.86                          | 0.74                                   |
| B20-0     | 0 to 0.5               | 100                   | 4.6                | -0.72                          | 0.51                                   |
| B21-0     | 0 to 0.5               | 62                    | 2.6                | -0.70                          | 0.48                                   |
| B22-0     | 0 to 0.5               | 170                   | 11                 | 1.96                           | 3.86                                   |
| B22-1     | 1 to 1.5               | 98                    | 4.5                | -0.71                          | 0.50                                   |
| B22-2     | 2 to 2.5               | 66                    | 4.1                | 0.59                           | 0.35                                   |
| B23-0     | 0 to 0.5               | 200                   | 15                 | 4.37                           | 19.09                                  |
| B24-0     | 0 to 0.5               | 160                   | 12                 | 3.50                           | 12.22                                  |
| B28-0     | 0 to 0.5               | 720                   | 46                 | 7.73                           | 59.75                                  |
| B28-1     | 1 to 1.5               | 190                   | 5.1                | -5.00                          | 24.99                                  |
| B28-2     | 2 to 2.5               | 87                    | 6.5                | 1.88                           | 3.52                                   |
| B29-0     | 0 to 0.5               | 110                   | 7.0                | 1.15                           | 1.33                                   |
| B30-0     | 0 to 0.5               | 240                   | 16                 | 3.24                           | 10.52                                  |
| B31-0     | 0 to 0.5               | 390                   | 28                 | 7.27                           | 52.86                                  |
| B32-0     | 0 to 0.5               | 320                   | 24                 | 6.99                           | 48.87                                  |
| B32-2     | 2 to 2.5               | 56                    | 0.5                | -2.48                          | 6.13                                   |
| B33-0     | 0 to 0.5               | 140                   | 6.0                | -1.44                          | 2.08                                   |
| B34-0     | 0 to 0.5               | 95                    | 4.3                | -0.75                          | 0.56                                   |
| B35-0     | 0 to 0.5               | 68                    | 3.4                | -0.21                          | 0.05                                   |
| B35-1     | 1 to 1.5               | 74                    | 2.2                | -1.73                          | 3.00                                   |
| B38-0     | 0 to 0.5               | 130                   | 1.3                | -5.61                          | 31.47                                  |
| B38-1     | 1 to 1.5               | 62                    | 1.1                | -2.20                          | 4.82                                   |
| B39-0     | 0 to 0.5               | 55                    | 0.5                | -2.42                          | 5.87                                   |
| B40-0     | 0 to 0.5               | 930                   | 26                 | -23.43                         | 549.08                                 |
| B40-1     | 1 to 1.5               | 66                    | 2.8                | -0.71                          | 0.50                                   |
| B40-2     | 2 to 2.5               | 59                    | 1.0                | -2.14                          | 4.56                                   |
| B41-1     | 1 to 1.5               | 93                    | 3.9                | -1.04                          | 1.09                                   |
| B42-0     | 0 to 0.5               | 58                    | 2.1                | -0.98                          | 0.97                                   |
| B42-2     | 2 to 2.5               | 400                   | 15                 | -6.26                          | 39.20                                  |
| B43-0     | 0 to 0.5               | 69                    | 3.0                | -0.67                          | 0.45                                   |
| B44-0     | 0 to 0.5               | 92                    | 2.4                | -2.49                          | 6.20                                   |
| B49-1     | 1 to 1.5               | 54                    | 0.5                | -2.37                          | 5.62                                   |
| B51-0     | 0 to 0.5               | 64                    | 2.8                | -0.60                          | 0.36                                   |
| B53-0     | 0 to 0.5               | 120                   | 4.6                | -1.78                          | 3.16                                   |
| B53-1     | 1 to 1.5               | 260                   | 8.6                | -5.22                          | 27.25                                  |

|       |          |     |     |        |        |
|-------|----------|-----|-----|--------|--------|
| B54-0 | 0 to 0.5 | 67  | 2.4 | -1.16  | 1.35   |
| B54-1 | 1 to 1.5 | 560 | 14  | -15.77 | 248.56 |
| B55-0 | 0 to 0.5 | 690 | 19  | -17.68 | 312.43 |
| B56-2 | 2 to 2.5 | 160 | 3.2 | -5.30  | 28.14  |
| B57-0 | 0 to 0.5 | 54  | 1.7 | -1.17  | 1.37   |
| B59-0 | 0 to 0.5 | 240 | 10  | -2.76  | 7.60   |
| B60-0 | 0 to 0.5 | 470 | 24  | -0.98  | 0.96   |
| B61-0 | 0 to 0.5 | 280 | 20  | 5.12   | 26.18  |
| B62-0 | 0 to 0.5 | 300 | 17  | 1.05   | 1.11   |
| B63-0 | 0 to 0.5 | 420 | 35  | 12.68  | 160.67 |
| B64-0 | 0 to 0.5 | 700 | 51  | 13.79  | 190.24 |
| B65-0 | 0 to 0.5 | 940 | 71  | 21.04  | 442.51 |
| B66-0 | 0 to 0.5 | 630 | 43  | 9.51   | 90.51  |
| B67-0 | 0 to 0.5 | 74  | 3.6 | -0.33  | 0.11   |



**Pb- B1 to B10 - 0 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 9          |
| Number of Distinct Observations   | 9          |
| Number of Missing Observations    | 0          |
| Mean                              | 132        |
| Median                            | 110        |
| Std. Error of Mean                | 41.51      |
| Skewness                          | 1.708      |
| SD of logged Data                 | 1.235      |
| Minimum                           | 6.2        |
| Maximum                           | 420        |
| SD                                | 124.5      |
| Coefficient of Variation          | 0.945      |
| Mean of logged Data               | 4.388      |
| <b>90% Standard Bootstrap UCL</b> | <b>182</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>196</b> |

**Pb- B1 to B10 - 1 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 9           |
| Number of Distinct Observations   | 9           |
| Number of Missing Observations    | 0           |
| Mean                              | 12.7        |
| Median                            | 6.8         |
| Std. Error of Mean                | 4.605       |
| Skewness                          | 2.289       |
| SD of logged Data                 | 0.932       |
| Minimum                           | 1.9         |
| Maximum                           | 47          |
| SD                                | 13.82       |
| Coefficient of Variation          | 1.084       |
| Mean of logged Data               | 2.144       |
| <b>90% Standard Bootstrap UCL</b> | <b>18.3</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>19.9</b> |

**Pb- B1 to B10 - 2 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 9           |
| Number of Distinct Observations   | 9           |
| Number of Missing Observations    | 0           |
| Mean                              | 10          |
| Median                            | 6.8         |
| Std. Error of Mean                | 2.348       |
| Skewness                          | 1.274       |
| SD of logged Data                 | 0.754       |
| Minimum                           | 1.9         |
| Maximum                           | 25          |
| SD                                | 7.044       |
| Coefficient of Variation          | 0.704       |
| Mean of logged Data               | 2.075       |
| <b>90% Standard Bootstrap UCL</b> | <b>12.9</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>13.6</b> |

**Pb- B11 to B21 - 0 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 11         |
| Number of Distinct Observations   | 10         |
| Number of Missing Observations    | 0          |
| Mean                              | 150        |
| Median                            | 100        |
| Std. Error of Mean                | 47.61      |
| Skewness                          | 2.939      |
| SD of logged Data                 | 0.68       |
| Minimum                           | 61         |
| Maximum                           | 610        |
| SD                                | 157.9      |
| Coefficient of Variation          | 1.056      |
| Mean of logged Data               | 4.732      |
| <b>90% Standard Bootstrap UCL</b> | <b>210</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>224</b> |

**Pb- B11 to B21 - 1 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 11          |
| Number of Distinct Observations   | 11          |
| Number of Missing Observations    | 0           |
| Mean                              | 10.5        |
| Median                            | 8.2         |
| Std. Error of Mean                | 2.309       |
| Skewness                          | 2.57        |
| SD of logged Data                 | 0.543       |
| Minimum                           | 4.7         |
| Maximum                           | 32          |
| SD                                | 7.659       |
| Coefficient of Variation          | 0.73        |
| Mean of logged Data               | 2.192       |
| <b>90% Standard Bootstrap UCL</b> | <b>13.3</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>14.2</b> |

**Pb- B11 to B21 - 2 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 11          |
| Number of Distinct Observations   | 10          |
| Number of Missing Observations    | 0           |
| Mean                              | 9.7         |
| Median                            | 6           |
| Std. Error of Mean                | 2.409       |
| Skewness                          | 1.297       |
| SD of logged Data                 | 0.746       |
| Minimum                           | 2.6         |
| Maximum                           | 26          |
| SD                                | 7.99        |
| Coefficient of Variation          | 0.822       |
| Mean of logged Data               | 2.004       |
| <b>90% Standard Bootstrap UCL</b> | <b>12.6</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>13.5</b> |

**Pb- B22 to B31 - 0 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 10         |
| Number of Distinct Observations   | 10         |
| Number of Missing Observations    | 0          |
| Mean                              | 342        |
| Median                            | 185        |
| Std. Error of Mean                | 134.4      |
| Skewness                          | 2.065      |
| SD of logged Data                 | 1.467      |
| Minimum                           | 12         |
| Maximum                           | 1400       |
| SD                                | 424.9      |
| Coefficient of Variation          | 1.242      |
| Mean of logged Data               | 5.091      |
| <b>90% Standard Bootstrap UCL</b> | <b>504</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>550</b> |

**Pb- B22 to B31 - 1 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 10          |
| Number of Distinct Observations   | 10          |
| Number of Missing Observations    | 0           |
| Mean                              | 39.7        |
| Median                            | 12          |
| Std. Error of Mean                | 18.9        |
| Skewness                          | 2.215       |
| SD of logged Data                 | 1.251       |
| Minimum                           | 3.3         |
| Maximum                           | 190         |
| SD                                | 59.77       |
| Coefficient of Variation          | 1.506       |
| Mean of logged Data               | 2.893       |
| <b>90% Standard Bootstrap UCL</b> | <b>62.8</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>68.8</b> |

**Pb- B22 to B31 - 2 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 10          |
| Number of Distinct Observations   | 10          |
| Number of Missing Observations    | 0           |
| Mean                              | 27.1        |
| Median                            | 17          |
| Std. Error of Mean                | 8.8         |
| Skewness                          | 1.538       |
| SD of logged Data                 | 0.962       |
| Minimum                           | 5.6         |
| Maximum                           | 87          |
| SD                                | 27.83       |
| Coefficient of Variation          | 1.028       |
| Mean of logged Data               | 2.867       |
| <b>90% Standard Bootstrap UCL</b> | <b>37.7</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>40.7</b> |

**Pb- B32 to B42 - 0 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 11         |
| Number of Distinct Observations   | 10         |
| Number of Missing Observations    | 0          |
| Mean                              | 169        |
| Median                            | 68         |
| Std. Error of Mean                | 80.43      |
| Skewness                          | 2.767      |
| SD of logged Data                 | 1.307      |
| Minimum                           | 11         |
| Maximum                           | 930        |
| SD                                | 266.8      |
| Coefficient of Variation          | 1.578      |
| Mean of logged Data               | 4.342      |
| <b>90% Standard Bootstrap UCL</b> | <b>267</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>292</b> |

**Pb- B32 to B42 - 1 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 11          |
| Number of Distinct Observations   | 9           |
| Number of Missing Observations    | 0           |
| Mean                              | 38.4        |
| Median                            | 21          |
| Std. Error of Mean                | 9.065       |
| Skewness                          | 0.697       |
| SD of logged Data                 | 0.855       |
| Minimum                           | 10          |
| Maximum                           | 93          |
| SD                                | 30.06       |
| Coefficient of Variation          | 0.784       |
| Mean of logged Data               | 3.332       |
| <b>90% Standard Bootstrap UCL</b> | <b>49.4</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>52.5</b> |

**Pb- B32 to B42 - 2 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 11         |
| Number of Distinct Observations   | 9          |
| Number of Missing Observations    | 0          |
| Mean                              | 59.3       |
| Median                            | 13         |
| Std. Error of Mean                | 34.53      |
| Skewness                          | 3.162      |
| SD of logged Data                 | 1.13       |
| Minimum                           | 10         |
| Maximum                           | 400        |
| SD                                | 114.5      |
| Coefficient of Variation          | 1.932      |
| Mean of logged Data               | 3.255      |
| <b>90% Standard Bootstrap UCL</b> | <b>101</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>113</b> |

**Pb- B43 to B52 - 0 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 9           |
| Number of Distinct Observations   | 9           |
| Number of Missing Observations    | 0           |
| Mean                              | 46.3        |
| Median                            | 43          |
| Std. Error of Mean                | 8.477       |
| Skewness                          | 0.394       |
| SD of logged Data                 | 0.727       |
| Minimum                           | 7.8         |
| Maximum                           | 92          |
| SD                                | 25.43       |
| Coefficient of Variation          | 0.549       |
| Mean of logged Data               | 3.651       |
| <b>90% Standard Bootstrap UCL</b> | <b>56.6</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>59.5</b> |

**Pb- B43 to B52 - 1 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 10          |
| Number of Distinct Observations   | 10          |
| Number of Missing Observations    | 0           |
| Mean                              | 18          |
| Median                            | 11          |
| Std. Error of Mean                | 5.054       |
| Skewness                          | 1.605       |
| SD of logged Data                 | 0.797       |
| Minimum                           | 4.0         |
| Maximum                           | 54          |
| SD                                | 15.98       |
| Coefficient of Variation          | 0.888       |
| Mean of logged Data               | 2.589       |
| <b>90% Standard Bootstrap UCL</b> | <b>24.1</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>25.7</b> |

**Pb- B43 to B52 - 2 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 11          |
| Number of Distinct Observations   | 10          |
| Number of Missing Observations    | 0           |
| Mean                              | 11.6        |
| Median                            | 9.1         |
| Std. Error of Mean                | 2.119       |
| Skewness                          | 1.859       |
| SD of logged Data                 | 0.493       |
| Minimum                           | 6.1         |
| Maximum                           | 29          |
| SD                                | 7.027       |
| Coefficient of Variation          | 0.604       |
| Mean of logged Data               | 2.328       |
| <b>90% Standard Bootstrap UCL</b> | <b>14.3</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>14.9</b> |

**Pb- B53 to B67 - 0 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 15         |
| Number of Distinct Observations   | 15         |
| Number of Missing Observations    | 0          |
| Mean                              | 336        |
| Median                            | 280        |
| Std. Error of Mean                | 75.87      |
| Skewness                          | 0.686      |
| SD of logged Data                 | 1.288      |
| Minimum                           | 12         |
| Maximum                           | 940        |
| SD                                | 293.8      |
| Coefficient of Variation          | 0.875      |
| Mean of logged Data               | 5.253      |
| <b>90% Standard Bootstrap UCL</b> | <b>430</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>459</b> |

**Pb- B53 to B67 - 1 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 15         |
| Number of Distinct Observations   | 13         |
| Number of Missing Observations    | 0          |
| Mean                              | 64.7       |
| Median                            | 12         |
| Std. Error of Mean                | 39.05      |
| Skewness                          | 3.023      |
| SD of logged Data                 | 1.294      |
| Minimum                           | 6.5        |
| Maximum                           | 560        |
| SD                                | 151.3      |
| Coefficient of Variation          | 2.336      |
| Mean of logged Data               | 2.871      |
| <b>90% Standard Bootstrap UCL</b> | <b>113</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>127</b> |

**Pb- B53 to B67 - 2 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 15          |
| Number of Distinct Observations   | 13          |
| Number of Missing Observations    | 0           |
| Mean                              | 21.3        |
| Median                            | 8.6         |
| Std. Error of Mean                | 10.13       |
| Skewness                          | 3.612       |
| SD of logged Data                 | 0.898       |
| Minimum                           | 5.7         |
| Maximum                           | 160         |
| SD                                | 39.23       |
| Coefficient of Variation          | 1.845       |
| Mean of logged Data               | 2.449       |
| <b>90% Standard Bootstrap UCL</b> | <b>34.0</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>37.2</b> |

**As**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 22          |
| Number of Distinct Observations   | 17          |
| Number of Missing Observations    | 0           |
| Mean                              | 3.94        |
| Median                            | 4           |
| Std. Error of Mean                | 0.177       |
| Skewness                          | -0.206      |
| SD of logged Data                 | 0.225       |
| Minimum                           | 2.4         |
| Maximum                           | 5.5         |
| SD                                | 0.829       |
| Coefficient of Variation          | 0.211       |
| Mean of logged Data               | 1.347       |
| <b>95% Standard Bootstrap UCL</b> | <b>4.22</b> |

**Co**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 22          |
| Number of Distinct Observations   | 20          |
| Number of Missing Observations    | 0           |
| Mean                              | 11.9        |
| Median                            | 9.4         |
| Std. Error of Mean                | 1.376       |
| Skewness                          | 1.262       |
| SD of logged Data                 | 0.492       |
| Minimum                           | 4.8         |
| Maximum                           | 27          |
| SD                                | 6.456       |
| Coefficient of Variation          | 0.545       |
| Mean of logged Data               | 2.35        |
| <b>95% Standard Bootstrap UCL</b> | <b>14.1</b> |

**Pb**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 22          |
| Number of Distinct Observations   | 18          |
| Number of Missing Observations    | 0           |
| Mean                              | 38.2        |
| Median                            | 12.5        |
| Std. Error of Mean                | 18.67       |
| Skewness                          | 4.317       |
| SD of logged Data                 | 1.136       |
| Minimum                           | 4           |
| Maximum                           | 420         |
| SD                                | 87.58       |
| Coefficient of Variation          | 2.293       |
| Mean of logged Data               | 2.754       |
| <b>95% Standard Bootstrap UCL</b> | <b>68.5</b> |

**Ni**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 22         |
| Number of Distinct Observations   | 17         |
| Number of Missing Observations    | 0          |
| Mean                              | 88.91      |
| Median                            | 37.5       |
| Std. Error of Mean                | 21.71      |
| Skewness                          | 1.638      |
| SD of logged Data                 | 0.957      |
| Minimum                           | 14         |
| Maximum                           | 340        |
| SD                                | 101.8      |
| Coefficient of Variation          | 1.145      |
| Mean of logged Data               | 3.992      |
| <b>95% Standard Bootstrap UCL</b> | <b>123</b> |

**Tl**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 22          |
| Number of Distinct Observations   | 5           |
| Number of Missing Observations    | 0           |
| Mean                              | 0.986       |
| Median                            | 0.5         |
| Std. Error of Mean                | 0.235       |
| Skewness                          | 2.156       |
| SD of logged Data                 | 0.726       |
| Minimum                           | 0.5         |
| Maximum                           | 4.4         |
| SD                                | 1.102       |
| Coefficient of Variation          | 1.117       |
| Mean of logged Data               | -0.361      |
| <b>95% Standard Bootstrap UCL</b> | <b>1.35</b> |

**TPHd**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 38         |
| Number of Distinct Observations   | 36         |
| Number of Missing Observations    | 0          |
| Mean                              | 55.66      |
| Median                            | 11.5       |
| Std. Error of Mean                | 31.79      |
| Skewness                          | 5.695      |
| SD of logged Data                 | 1.517      |
| Minimum                           | 0.5        |
| Maximum                           | 1200       |
| SD                                | 196        |
| Coefficient of Variation          | 3.521      |
| Mean of logged Data               | 2.444      |
| <b>95% Standard Bootstrap UCL</b> | <b>108</b> |

**TPHmo**

|                                 |       |
|---------------------------------|-------|
| Total Number of Observations    | 38    |
| Number of Distinct Observations | 32    |
| Number of Missing Observations  | 0     |
| Mean                            | 149.5 |
| Median                          | 14    |
| Std. Error of Mean              | 88.36 |
| Skewness                        | 5.552 |
| SD of logged Data               | 1.897 |
| Minimum                         | 0.5   |
| Maximum                         | 3300  |
| SD                              | 544.7 |
| Coefficient of Variation        | 3.643 |
| Mean of logged Data             | 2.895 |
| 95% Standard Bootstrap UCL      | 292   |

Thallium - Corrected

General Statistics

|                              |       |                                 |        |
|------------------------------|-------|---------------------------------|--------|
| Total Number of Observations | 22    | Number of Distinct Observations | 5      |
| Number of Detects            | 4     | Number of Non-Detects           | 18     |
| Number of Distinct Detects   | 4     | Number of Distinct Non-Detects  | 1      |
| Minimum Detect               | 2.6   | Minimum Non-Detect              | 0.5    |
| Maximum Detect               | 4.4   | Maximum Non-Detect              | 0.5    |
| Variance Detects             | 0.696 | Percent Non-Detects             | 81.82% |
| Mean Detects                 | 3.175 | SD Detects                      | 0.834  |
| Median Detects               | 2.85  | CV Detects                      | 0.263  |
| Skewness Detects             | 1.764 | Kurtosis Detects                | 3.112  |
| Mean of Logged Detects       | 1.132 | SD of Logged Detects            | 0.241  |

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

|                        |       |                                   |       |
|------------------------|-------|-----------------------------------|-------|
| Mean                   | 0.986 | Standard Error of Mean            | 0.265 |
| SD                     | 1.077 | 95% KM (BCA) UCL                  | N/A   |
| 95% KM (t) UCL         | 1.442 | 95% KM (Percentile Bootstrap) UCL | N/A   |
| 95% KM (z) UCL         | 1.422 | 95% KM Bootstrap t UCL            | N/A   |
| 90% KM Chebyshev UCL   | 1.782 | 95% KM Chebyshev UCL              | 2.142 |
| 97.5% KM Chebyshev UCL | 2.642 | 99% KM Chebyshev UCL              | 3.624 |

Suggested UCL to Use

Data appear Normal, May want to try Normal Distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

ATTACHMENT J

WATER POLLUTION CONTROL PLAN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** WATER QUALITY  
 FUNCTIONAL SUPERVISOR  
 KAMRAN MAKHJURI  
 CALCULATED BY  
 DESIGNED BY  
 CHECKED BY  
 GANGA D. TRIPATHI  
 KAMRAN MAKHJURI  
 REVISED BY  
 DATE REVISED  
 GT KN  
 4/20/15 4/20/15

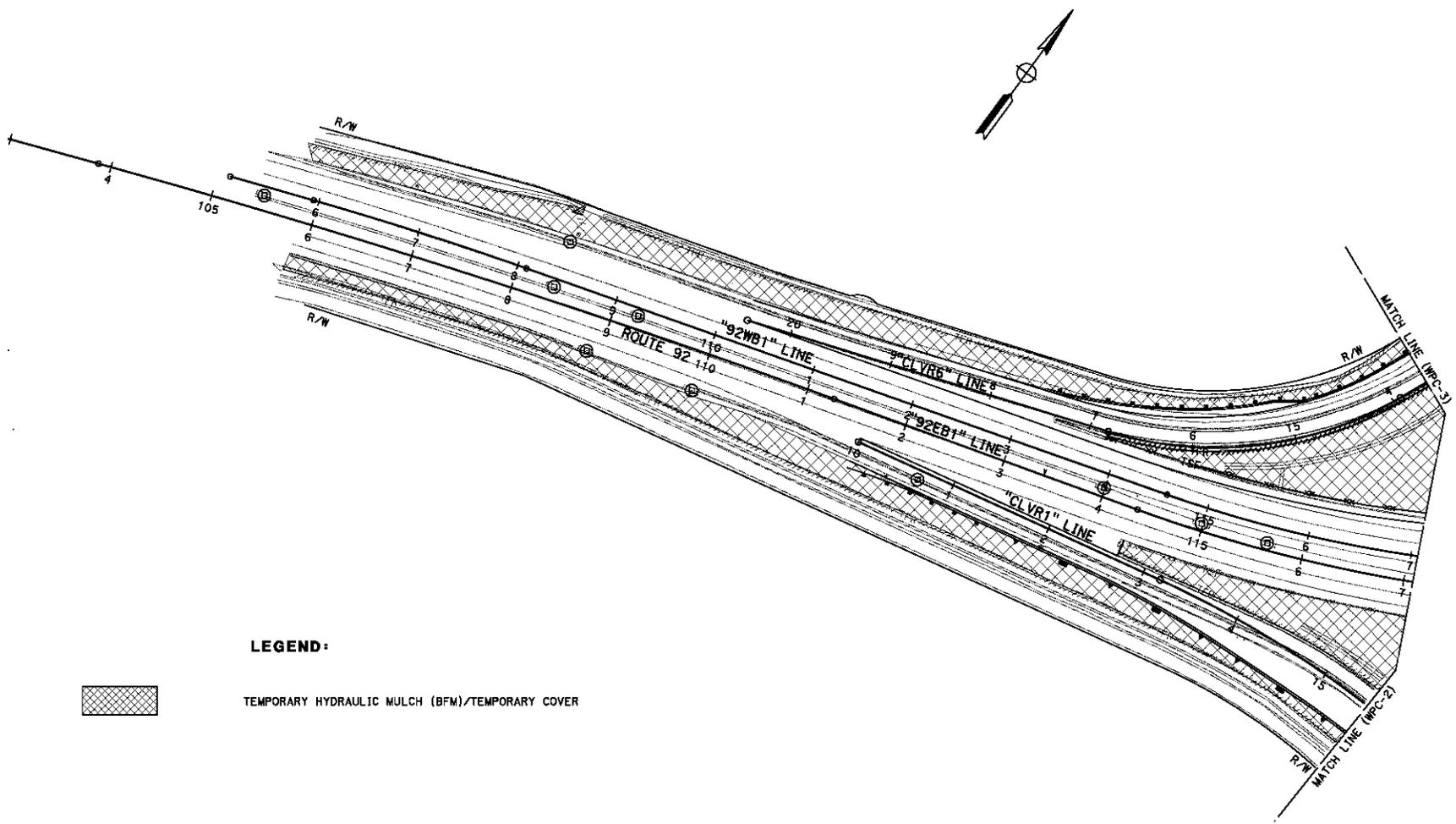
**NOTE:**  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

| DIST | COUNTY | ROUTE  | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|--------|--------------------------|-----------|--------------|
| 04   | SM     | 92, 82 | R11.0/R11.4<br>10.4/10.7 |           |              |

|                           |      |         |
|---------------------------|------|---------|
| REGISTERED CIVIL ENGINEER | DATE | 1-14-16 |
| Ganga D. Tripathi         |      |         |
| No. 78447                 |      |         |
| PLANS APPROVAL DATE       |      | 9-30-17 |

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENCIES SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SPANNED COPIES OF THIS PLAN SHEET.



**LEGEND:**  
 TEMPORARY HYDRAULIC MULCH (BFM)/TEMPORARY COVER

**TEMPORARY WATER POLLUTION CONTROL PLAN**  
 SCALE: 1" = 50'

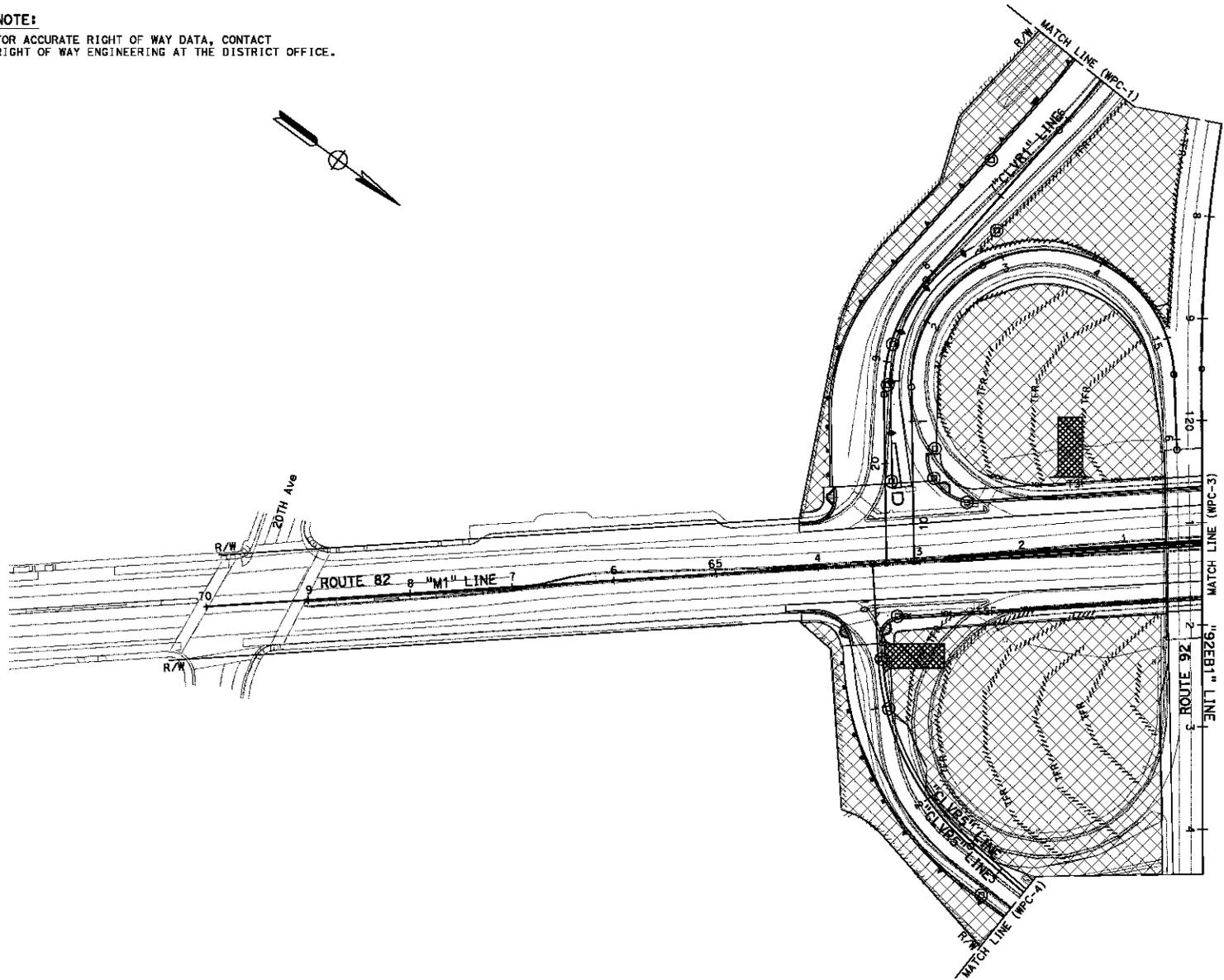
APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

**WPC-1**

LAST REVISION: DATE PLOTTED => 18-FEB-2016  
 04-27-15 TIME PLOTTED => 10:39

|                     |                              |                       |                   |         |         |
|---------------------|------------------------------|-----------------------|-------------------|---------|---------|
| STATE OF CALIFORNIA | DEPARTMENT OF TRANSPORTATION | FUNCTIONAL SUPERVISOR | DESIGNED BY       | REVISOR | DATE    |
| <b>Caltrans</b>     | <b>WATER QUALITY</b>         | KAMRAN MAKHJURI       | GANGA D. TRIPATHI | KN      | 4/20/15 |
|                     |                              | KAMRAN MAKHJURI       | KAMRAN MAKHJURI   | KN      | 4/20/15 |

**NOTE:**  
FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



| DIST                | COUNTY | ROUTE   | POST MILES TOTAL PROJECT | SHEET No.                      | TOTAL SHEETS |
|---------------------|--------|---|--------------------------|--------------------------------|--------------|
| 04                  | SM     | 92, 82  | R11.0/R11.4<br>10.4/10.7 |                                |              |
| Office              |        | 1-14-16   |                          | REGISTERED CIVIL ENGINEER DATE |              |
| Ganga D. Tripathi   |        | 78447   |                          | EXP-9-30-17                    |              |
| PLANS APPROVAL DATE |        | THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SPANNED COPIES OF THIS PLAN SHEET. |                          |                                |              |



**TEMPORARY WATER POLLUTION CONTROL PLAN**  
SCALE: 1" = 50'

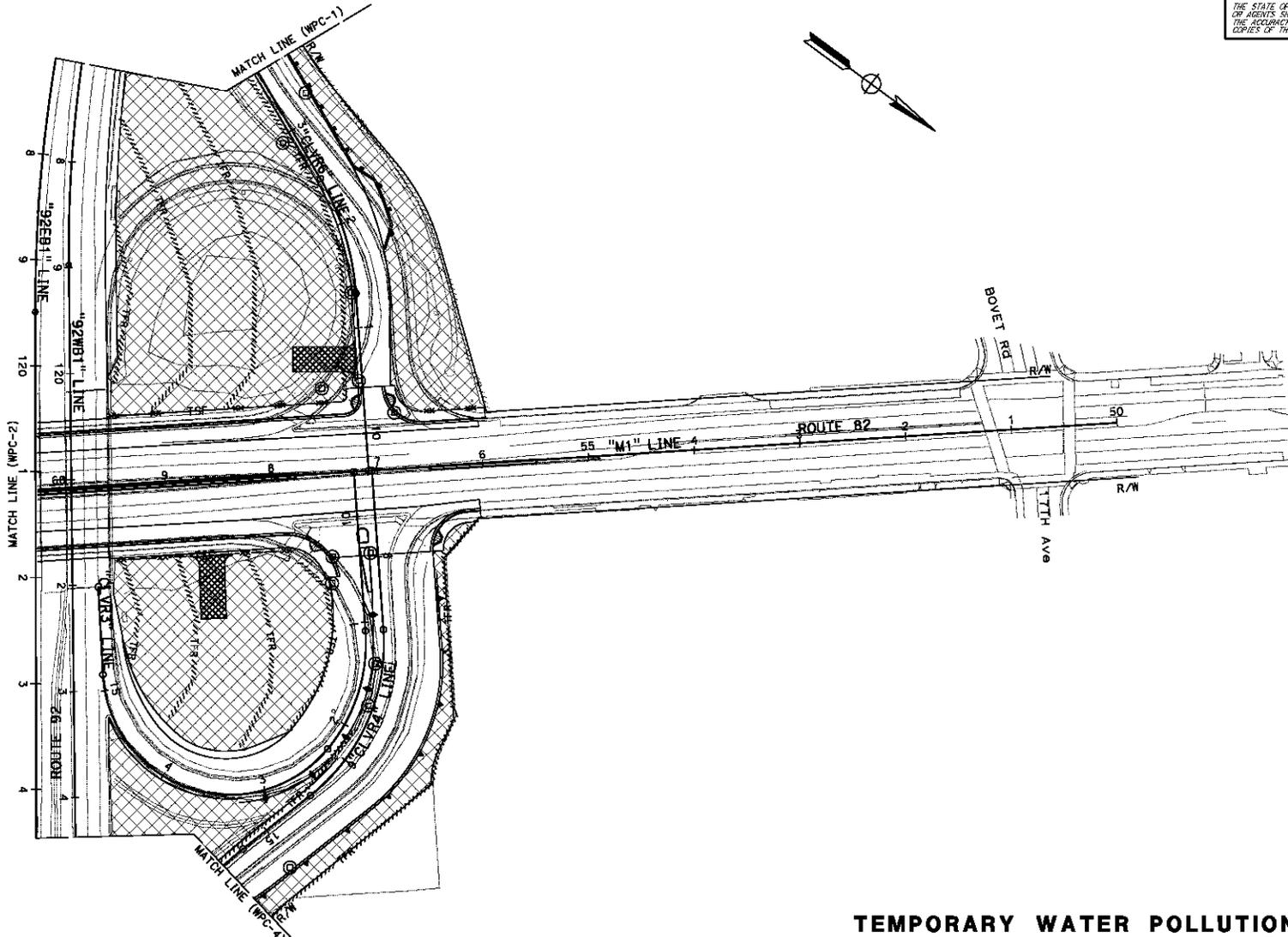
APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET WPC-1

**WPC-2**

|  |  |  |                                      |                            |          |                    |
|--|--|--|--------------------------------------|----------------------------|----------|--------------------|
| STATE OF CALIFORNIA<br><b>California</b><br>DEPARTMENT OF TRANSPORTATION<br><b>WATER QUALITY</b> | FUNCTIONAL SUPERVISOR<br>KAMRAN MAKHJURI | CALCULATED BY<br>DESIGNED BY<br>CHECKED BY | GANGA D. TRIPATHI<br>KAMRAN MAKHJURI | REVISED BY<br>DATE REVISED | GT<br>KN | 4/20/15<br>4/20/15 |
|--|--|--|--------------------------------------|----------------------------|----------|--------------------|

**NOTE:**  
FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



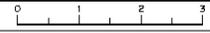
| DIST   | COUNTY | ROUTE  | POST MILES TOTAL PROJECT | SHEET NO.                        | TOTAL SHEETS |
|--|--------|--------|--------------------------|----------------------------------|--------------|
| 04   | SM     | 92, 82 | R11.0/R11.4<br>10.4/10.7 |                                  |              |
| REGISTERED CIVIL ENGINEER<br><b>Ganga D. Tripathi</b><br>No. 78447<br>Exp. 9-30-17<br>CIVIL<br>STATE OF CALIFORNIA   |        |        | 1-14-16<br>DATE          | REGISTERED PROFESSIONAL ENGINEER |              |
| PLANS APPROVAL DATE<br>1-14-16   |        |        |                          |                                  |              |
| <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENCIES SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SPANNED COPIES OF THIS PLAN SHEET.</small> |        |        |                          |                                  |              |

**TEMPORARY WATER POLLUTION CONTROL PLAN**  
SCALE: 1" = 50'

APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET WPC-1

**WPC-3**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** WATER QUALITY

FUNCTIONAL SUPERVISOR  
 KAMRAN MAKHJURI

DESIGNED BY  
 GANGA D. TRIPATHI

CHECKED BY  
 KAMRAN MAKHJURI

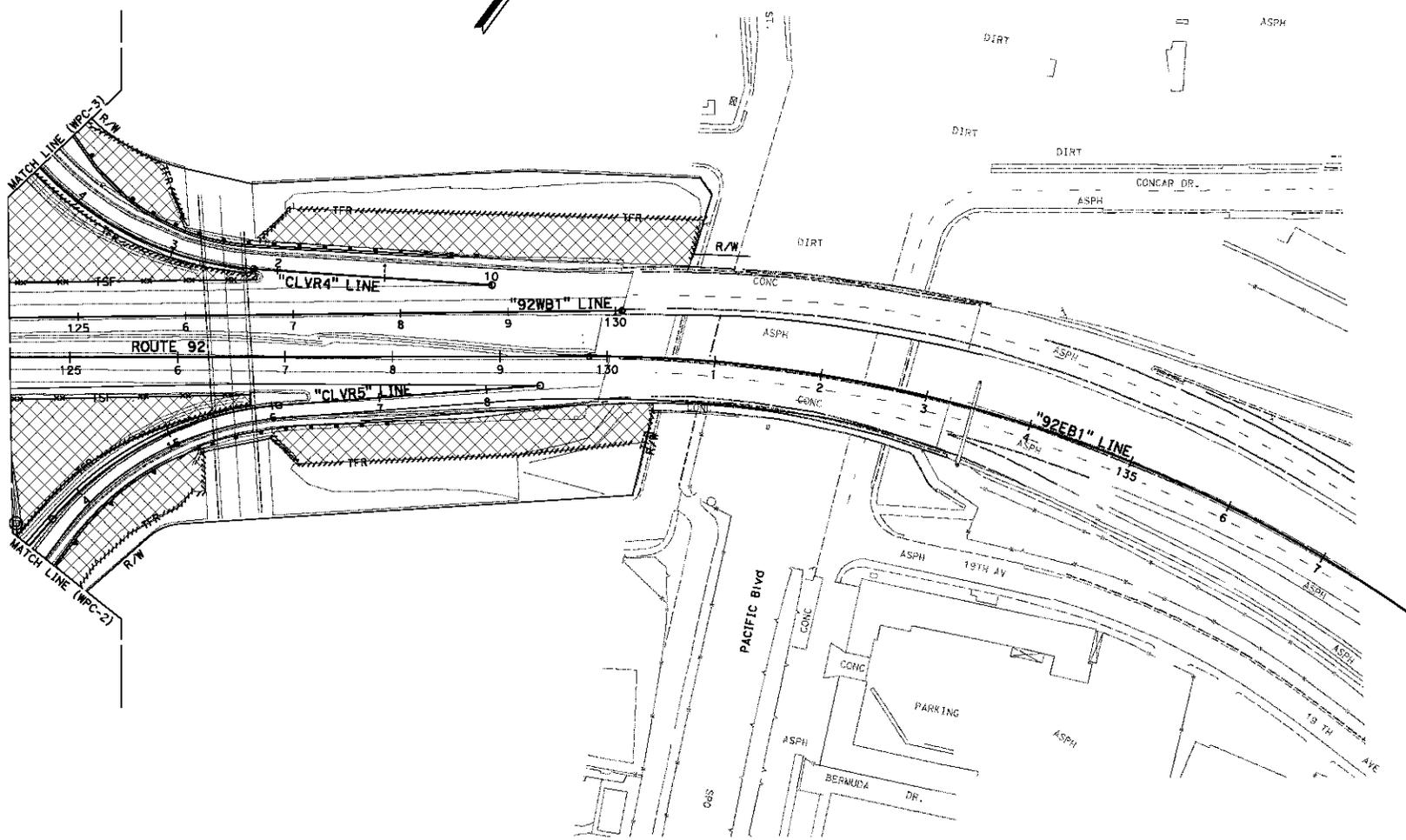
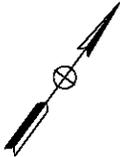
REVISED BY  
 KN

DATE REVISED  
 4/20/15

GT

4/20/15

**NOTE:**  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



| DIST | COUNTY | ROUTE  | POST MILES TOTAL PROJECT  | SHEET No. | TOTAL SHEETS |
|------|--------|--------|---------------------------|-----------|--------------|
| 04   | SM     | 92, 82 | R11.0/R11.4;<br>10.4/10.7 |           |              |

REGISTERED CIVIL ENGINEER: **Ganga D. Tripathi**  
 No. 78447  
 EXP. 9-30-17  
 CIVIL  
 STATE OF CALIFORNIA

PLANS APPROVAL DATE: 1-14-16  
 REGISTERED CIVIL ENGINEER DATE: 1-14-16

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**TEMPORARY WATER POLLUTION CONTROL PLAN**  
 SCALE: 1" = 50'

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET WPC-1

**WPC-4**

APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

BORDER LAST REVISED 2/1/2013

USERNAME => b130819  
 DGN FILE => 0412000496pb004.dgn

RELATIVE BORDER SCALE 15 IN INCHES

UNIT 0786

PROJECT NUMBER & PHASE

04120004961

DATE PLOTTED => 18-FEB-2016  
 TIME PLOTTED => 10:39  
 04-27-15

# PRELIMINARY SITE INVESTIGATION REPORT



## SR-82/SR-92 INTERCHANGE MODIFICATIONS SAN MATEO, CALIFORNIA

***PREPARED FOR:***

CALIFORNIA DEPARTMENT OF TRANSPORTATION  
DISTRICT 4  
OFFICE OF ENVIRONMENTAL ENGINEERING  
111 GRAND AVENUE, MS8C  
OAKLAND, CA 94612



***PREPARED BY:***

GEOCON CONSULTANTS, INC.  
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LIVERMORE, CA 94550



GEOCON PROJECT NO. E8721-02-36  
CALTRANS EA 04-235521  
PROJECT # 04-1200-0496-1

MARCH 2016

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- C. Laboratory Reports and Chain-of-Custody Documentation (on CD)
- D. Soil Boring Logs
- E. Metal and Hydrocarbon Statistical Analysis

## REPORT LIMITATIONS

This report has been prepared exclusively for the State of California Department of Transportation (Caltrans) District 4. The information contained herein is only valid as of the date of the report and will require an update to reflect additional information obtained.

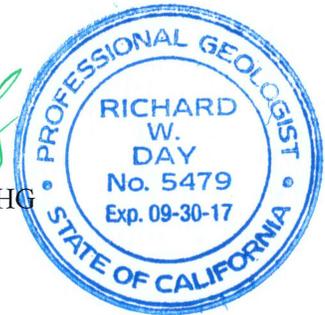
This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty, express or implied, with respect to the content of this report or any subsequent reports, correspondence or consultation. Geocon Consultants, Inc. strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

### GEOCON CONSULTANTS, INC.

  
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Project Scientist

  
Richard Day, CEG, CHG  
Senior Geologist



### CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 4 OFFICE OF ENVIRONMENTAL ENGINEERING

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# PRELIMINARY SITE INVESTIGATION REPORT

## 1.0 INTRODUCTION

This Preliminary Site Investigation Report for the State Route 82 (SR-82) and SR-92 Interchange Modification Project in San Mateo, California was prepared by Geocon Consultants, Inc. under California Department of Transportation (Caltrans) Contract No. 04A4336 and Task Order No. 36 (TO-36), EA 04-235651.

### 1.1 Project Description and Proposed Improvements

The project proposes to reconstruct the SR-92/SR-82 interchange within the existing alignment as a partial cloverleaf interchange by eliminating the westbound (WB) SR-92 loop offramp to southbound (SB) SR-82 and the eastbound (EB) loop offramp to northbound (NB) SR-82. The project will re-align and widen the onramps and offramps, signalize the offramp intersections, and construct retaining and sound walls along the ramps. Additionally, maintenance vehicle pullouts and CHP enforcement areas will be created at the onramps. The improvements will take place within Caltrans right-of-way. The project location is depicted on the attached Site Plan, Figure 1.

The site investigation was performed in the following areas:

- EB SR-92 Offramp to SB SR-82 (Borings B1 to B10)
- SB SR-82 Loop Onramp to EB SR-92 (Borings B11 to B21)
- NB SR-82 Onramp to EB SR-92 (Borings B22 to B31)
- WB SR-92 Offramp to NB SR-82 (Borings B32 to B42)
- NB SR-82 Loop Onramp to WB SR-92 (Borings B43 to B52)
- SB SR-82 Onramp to WB SR-92 (Borings B53 to B67)

### 1.2 General Objectives

The purpose of the site investigation was to evaluate concentrations of California Assessment Manual (CAM 17) metals, particularly aurally-deposited lead, total petroleum hydrocarbons as diesel (TPHd), as motor oil (TPHmo), and as gasoline (TPHg), benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tert-butyl ether (MTBE), and volatile organic compounds (VOCs) in soil and TPHg, BTEX, MTBE, and VOCs in groundwater within the project limits.

The information obtained from this investigation will be used by Caltrans to evaluate soil and groundwater handling practices, worker health and safety, and soil and groundwater reuse and disposal options.

## 2.0 BACKGROUND

### 2.1 Hazardous Waste Determination Criteria

Regulatory criteria to classify a waste as California hazardous for handling and disposal purposes are contained in the CCR, Title 22, Division 4.5, Chapter 11, Article 3, §66261.24. Criteria to classify a waste as Resource, Conservation, and Recovery Act (RCRA) hazardous are contained in Chapter 40 of the Code of Federal Regulations (40 CFR), Section 261.

For waste containing metals, the waste is classified as California hazardous when: 1) the representative total metal content equals or exceeds the respective Total Threshold Limit Concentration (TTLC); or 2) the representative soluble metal content equals or exceeds the respective Soluble Threshold Limit Concentration (STLC) based on the standard Waste Extraction Test (WET). A waste has the potential of exceeding the STLC when the waste's total metal content is greater than or equal to 10 times the respective STLC value since the WET uses a 1:10 dilution ratio. Hence, when a total metal is detected at a concentration greater than or equal to 10 times the respective STLC, and assuming that 100 percent of the total metals are soluble, soluble metal analysis is required. A material is classified as RCRA hazardous, or Federal hazardous, when the representative soluble metal content equals or exceeds the Federal regulatory level based on the Toxicity Characteristic Leaching Procedure (TCLP).

The above regulatory criteria are based on chemical concentrations. Wastes may also be classified as hazardous based on other criteria such as ignitability and corrosivity; however, for the purposes of this investigation, toxicity (i.e., representative lead concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or other criteria. Waste that is classified as either California hazardous or RCRA hazardous requires management as a hazardous waste.

### 2.2 DTSC Variance

The DTSC issued a statewide Variance effective July 1, 2009, regarding the management of ADL-impacted soils within Caltrans right-of-way. Under the Variance, soil that is classified as a non-RCRA hazardous waste, based primarily on ADL content, may be suitable for reuse within Caltrans right-of-way. ADL soil that is classified as a RCRA hazardous waste is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste (Caltrans Type Z-3).

ADL soil reused under the Variance must always be at least five feet above the highest groundwater elevation and, depending on lead concentrations, must be covered with at least one foot of non-hazardous soil or a pavement structure. The ADL soil may not be placed in areas where it might

contact groundwater or surface water (such as streams and rivers), and must be buried in locations that are protected from erosion that may result from storm water run-on and run-off.

Review of the statewide Variance indicates the following conditions regarding the reuse and management of ADL-impacted soil as fill material for construction and maintenance operations. If ADL soil meets the Variance criteria but is not intended to be reused within Caltrans right-of-way, then the excavated soil must be disposed of as a California hazardous waste (Caltrans Type Z-2). A copy of the Variance is presented as Appendix A.

**Caltrans Type Y-1:** ADL soil exhibiting a total lead concentration less than or equal to 1,411 milligrams per kilogram (mg/kg), a DI-WET (WET using deionized water as extractant) lead concentration less than or equal to 1.5 milligrams per liter (mg/l), and a pH value greater than or equal to 5.5 may be reused within the same Caltrans corridor and must be covered with at least one foot of non-hazardous soil.

**Caltrans Type Y-2:** ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET lead concentration less than or equal to 1.5 mg/l, and a pH value greater than 5 and less than 5.5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET lead concentration greater than 1.5 mg/l and less than or equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

ADL soil exhibiting a total lead concentration greater than 1,411 mg/kg and less than or equal to 3,397 mg/kg, a DI-WET lead concentration less than or equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

**Caltrans Type Z-2:** ADL soil exhibiting a total lead concentration greater than 3,397 mg/kg, a DI-WET lead concentration greater than 150 mg/l, or a pH value less than or equal to 5 is not eligible for reuse under the Variance and must be disposed of as a California hazardous waste.

**Caltrans Type Z-3:** ADL soil exhibiting a TCLP lead concentration greater than or equal to 5 mg/l is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste.

## 2.3 California Human Health Screening Levels

The California Environmental Protection Agency (Cal/EPA) has prepared technical reports entitled *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties* (Cal/EPA, January 2005) and *Revised California Human Health Screening Levels for Beryllium* (Cal/EPA, March 2009) and *Lead* (Cal/EPA, September 2009), which present CHHSLs for soil, shallow soil gas, and indoor air to assist in evaluating sites impacted by releases of hazardous chemicals.

The CHHSLs are concentrations of 54 hazardous chemicals including Title 22 metals that Cal/EPA considers to be below thresholds of concern for risks to human health. The CHHSLs were developed by the Office of Environmental Health Hazard Assessment (OEHHA) on behalf of Cal/EPA. The thresholds of concern used to develop the CHHSLs are an excess lifetime cancer risk of one in a million and a hazard quotient or 1.0 for non-cancer effects. Under most circumstances, the presence of a chemical at concentrations below its respective CHHSL can be assumed to not pose a significant risk. The presence of a chemical at concentrations above a CHHSL does not indicate that adverse impacts to human health are occurring or will occur but suggests that further evaluation is warranted (Cal/EPA, January 2005).

The CHHSLs for residential and industrial/commercial land use were used for comparison on Table 3.

## 2.4 Environmental Screening Levels

The San Francisco Bay Regional Water Quality Control Board (SFRWQCB) has prepared a technical report entitled *User's Guide: Derivation and Application of Environmental Screening Levels, Interim Final 2016* (updated February 2016), which presents Environmental Screening Levels (ESLs) for over 100 commonly found contaminants in soil, groundwater, soil gas, and surface water, to assist in evaluating sites impacted by releases of hazardous chemicals. "If used correctly, ESLs are considered to be protective for typical bay area sites. Under most circumstances, ...the presence of a chemical in soil, soil gas, or groundwater at concentrations below the corresponding ESL can be assumed to not pose a significant threat to human health, water resources, or the environment." (SFRWQCB, February 2016).

ESLs are commonly used by contractors, soil trucking companies, and private and commercial land owners as default acceptance criteria to evaluate suitability of import soil material. The ESL Tables Tier 1, ESL Soil Screening Levels Summary Table, and S-1, Summary of Soil ESLs, Direct Exposure to Human Health, were used for this characterization.

The respective ESLs are listed at the end of Tables 3 to 7 for comparative purposes.

### 3.0 SCOPE OF SERVICES

The scope of services performed under TO-36, EA 04-235521 included the following:

#### 3.1 Pre-field Activities

- Prepared a Preliminary Site Investigation Workplan and Health and Safety Plan, dated December 2015 (revised March 2016).
- Obtained boring permits from San Mateo County Environmental Health Division (SMCEHD). Copies of the boring permits are included as Appendix B.
- Notified Underground Service Alert (USA) at least 48-hours prior to field activities.
- Retained the services of Advanced Technology Laboratories, Signal Hill, California (ATL), a Caltrans-approved and California-certified analytical laboratory, to perform the chemical analyses of soil and groundwater samples.

#### 3.2 Field Activities

Our field investigation was performed on January 8, January 21, February 18, March 10, and March 11, 2016, by Geocon staff. Sixty-six soil borings were advanced at the project locations using hand-auger and direct-push drilling techniques. The borings were advanced to a maximum depth of 35 feet.

The following soil samples were collected:

- 22 for CAM 17 metals analysis
- 176 for total lead analysis
- 38 for TPHd and TPHmo analyses
- 4 for TPHg analysis
- 6 for BTEX/MTBE analysis
- 6 for VOCs analysis

The following groundwater samples were collected:

- 1 for TPHg analysis
- 1 for BTEX/MTBE analysis
- 2 for VOCs analysis

QA/QC samples for TPHg, BTEX, and VOCs were also collected.

All samples were transported to ATL for analysis under standard chain-of-custody (COC) documentation.

## **4.0 INVESTIGATIVE METHODS**

### **4.1 Sampling Procedures**

Soil samples were collected from the 66 boring locations using hand-auger and direct-push drilling techniques. Groundwater samples were collected from three of the borings. Boring B5 was not sampled due to time constraints within ramp closure. Boring coordinates are presented on Table 1. The Site Plan, Figure 2, shows the boring locations.

Soil samples collected using a hand-auger were placed in resealable plastic bags or stainless steel tubes and sealed with Teflon tape and plastic lids prior to being stored in a chest cooled with ice.

Soil samples collected using a direct-push sample rig were obtained by hydraulically advancing a two-inch-diameter, four-foot-long stainless steel core-barrel sampler lined with an acetate sample tube into undisturbed soil. Soil samples were collected for laboratory analysis by cutting an approximately six-inch-long section of the acetate tube from the target sample depth, capping the ends with Teflon tape and plastic end caps.

The grab-groundwater samples were pumped from the tubing fitted with a check valve directly into the appropriate laboratory containers or using a disposable bailer.

Sample containers were labeled, placed in a chest cooled with ice as necessary, and transported to a Caltrans-approved, certified environmental laboratory using standard COC documentation. Hand-auger soil borings were back-filled to surface with soil cuttings; direct-push borings were backfilled to near-surface with neat cement.

Geocon provided QA/QC procedures during the field activities. These procedures included washing the sampling equipment with a Liqui-Nox® solution followed by a double rinse with deionized water. Decontamination water was disposed of to the ground surface within Caltrans right-of-way in a manner not to create runoff, away from drain inlets or potential water bodies.

### **4.2 Laboratory Analyses**

Laboratory analyses were performed by ATL under standard and expedited turnaround-times. The laboratory reports and COC documentation are included in Appendix C.

The soil samples were analyzed as follows:

- 176 samples for total lead using EPA Test Method 6010 ICAP.
- 22 samples for CAM 17 metals using EPA Test Methods 6010 ICAP and 7471.
- 6 samples with a total chromium concentration equal to or exceeding 50 mg/kg (i.e. equal to or exceeding 10 times the STLC of 5.0 mg/l) were further analyzed for WET chromium.
- 64 samples with total lead concentrations equal to or exceeding 50 mg/kg (i.e. equal to or exceeding 10 times the STLC of 5.0 mg/l) were further analyzed for WET lead.
- 33 samples with WET lead concentrations equal to or exceeding 5 mg/l (i.e. equal to or exceeding the STLC of 5.0 mg/l) and total lead equal to or exceeding 100 mg/kg were further analyzed for TCLP lead.
- 12 samples with WET lead concentrations equal to or exceeding 5 mg/l (i.e. equal to or exceeding the STLC of 5.0 mg/l) were further analyzed for DI-WET lead and pH.
- 1 sample with total lead equal to or exceeding 1,000 mg/kg (i.e. equal to or exceeding the TTLC of 1,000 mg/kg) was further analyzed for TCLP lead.
- One sample with total mercury equal to or exceeding 2.0 mg/kg (i.e. equal to or exceeding ten times the STLC of 0.2 mg/l) was further analyzed for WET mercury.
- 4 samples with total nickel equal to or exceeding 200 mg/kg (i.e. equal to or exceeding ten times the STLC of 20 mg/kg) were further analyzed for WET nickel.
- 38 samples for TPHd using EPA Test Method 8015B.
- 38 samples for TPHmo using EPA Test Method 8015B.
- 4 samples for TPHg using EPA Test Method 8015B.
- 6 samples for BTEX and MTBE using EPA Test Method 8021.
- 6 samples for VOCs using EPA Test Method 8260B.

The groundwater samples were analyzed as follows:

- 1 sample for TPHg using EPA Test Method 8015B.
- 1 sample for BTEX/MTBE using EPA Test Method 8021.
- 2 samples for VOCs using EPA Test Method 8260B.

Two trip blank samples were analyzed for TPHg using EPA Test Method 8015B and VOCs using EPA Test Method 8260B.

### **4.3 Laboratory QA/QC**

QA/QC procedures were performed for each method of analysis with specificity for each analyte listed in the test method's QA/QC. The laboratory QA/QC procedures included the following:

- One method blank for every 10 samples, batch of samples or type of matrix, whichever was more frequent.
- One sample analyzed in duplicate for every 10 samples, batch of samples or type of matrix, whichever was more frequent.
- One spiked sample for every 10 samples, batch of samples or type of matrix; whichever was more frequent, with spike made at 10 times the detection limit or at the analyte level.

Prior to submitting the samples to the laboratories, the COC documentation was reviewed for accuracy and completeness.

## **5.0 INVESTIGATIVE RESULTS**

### **5.1 Subsurface Conditions**

Borings were completed using hand-auger and direct-push drilling techniques. Soil in the project area consisted predominately of moist, brown dense clay to 6 feet, dry, brown/mottled red, hard silty sand with occasional gravel to 16 feet, reddish brown damp clay with gravel to 30 feet and sandstone with some gravel at 30 feet. A strong hydrocarbon odor was present in Boring B10 at a depth of ten feet, and groundwater was encountered at a depth of approximately 23 feet. Groundwater was encountered in boring B42 at a depth of 32 feet. Groundwater was not observed in Boring B67; however, damp clay with gravel was encountered at a depth of approximately 20.5 feet. The boring was temporarily screened and allowed to remain open. After several hours, groundwater had risen to approximately 14 feet below ground surface and groundwater samples were collected. Boring logs are included in Appendix D.

### **5.2 Laboratory Analytical Results**

The analytical results are summarized in Tables 2 through 7 and are summarized below:

Soil Sample Results:

- The following metals were not detected above their respective laboratory reporting limits: beryllium, cadmium, and silver.
- Chromium, lead, mercury, and nickel were reported at concentrations equal to or exceeding ten times their respective STLCS.
- Total chromium was reported at concentrations ranging from 11 mg/kg to 240 mg/kg.

- WET chromium was not detected at or above the laboratory reporting limit of 1.0 mg/l.
- Total lead was reported at concentrations ranging from 1.9 mg/kg to 1,400 mg/kg.
- WET lead was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/l) to 71 mg/l.
- DI-WET lead was detected in one sample at a concentration of 1.1 mg/l.
- TCLP lead was reported at concentrations ranging from not-detected (laboratory reporting limit of 0.050 mg/l) to 1.8 mg/l.
- Total mercury was reported at concentrations ranging from not detected (laboratory reporting limit of 0.10 mg/kg) to 4.4 mg/kg.
- WET mercury was not detected at or above the laboratory reporting limit of 0.001 mg/l.
- Total nickel was reported at concentrations ranging from 14 mg/kg to 340 mg/kg.
- WET nickel was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/l) to 1.6 mg/l.
- Remaining CAM 17 metals were reported in the samples at total concentrations below 10 times their respective STLCs.
- TPHd was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/kg) to 1,200 mg/kg.
- TPHmo was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/kg) to 3,300 mg/kg.
- TPHg was detected in one sample at a concentration of 150 mg/kg. TPHg was not detected (laboratory reporting limit of 1.0 mg/kg) in the remaining samples.
- Ethylbenzene was reported in one sample at a concentration of 520 mg/kg. BTEX or MTBE were not detected at or above the laboratory reporting limits in the remaining samples.
- VOCs were reported at concentrations ranging from not detected to 13,000 mg/kg.
- pH ranged from 6.2 to 8.2 pH units.

#### Groundwater Sample Results:

- TPHg was reported at a concentration of 1.3 mg/l in the single sample analyzed.
- BTEX/MTBE compounds were reported at concentrations ranging from not detected to 74 µg/l.
- VOCs were reported at concentrations ranging from not detected to 510 µg/l.

#### QA/QC Sample Results:

- TPHg was not detected at or above the laboratory reporting limit of 0.050 mg/l in the trip blank sample.
- VOCs were not detected at or above the laboratory reporting limits in the trip blank sample.

### 5.3 Laboratory Quality Assurance/Quality Control

We reviewed the QA/QC results provided with the laboratory analytical reports. The data indicate non-detect results for the method blanks at or above reporting limits. The surrogate was diluted out for several samples. Several samples required dilution due to the high concentrations of target analytes. One laboratory control sample was biased high. Associated sample results were non-detect for the target analyte; therefore, reanalysis was not necessary. The surrogate recovery was below acceptance limits due to possible matrix interference for two samples. The Relative Percent Difference (RPD) was outside of acceptance criteria for several samples; calculations were based on raw values. The RPD for several samples was outside of acceptance limits due to possible matrix interference. The Matrix Spike (MS) was outside of acceptance limits for several samples; however, the analytical batch was validated by the laboratory control sample.

### 5.4 Statistical Evaluation for Lead Detected in Soil Samples

Statistical methods were applied to the total lead data to evaluate: 1) the upper confidence limits (UCLs) of the arithmetic means of the total lead concentrations for each sampling depth; and 2) if an acceptable correlation between total and WET lead concentrations exist that would allow the prediction of WET lead concentrations based on calculated UCLs.

#### 5.4.1 Calculating the UCLs for the Arithmetic Mean

The upper one-sided 90% and 95% UCLs of the arithmetic mean are defined as the values that, when calculated repeatedly for randomly drawn subsets of site data, equal or exceed the true mean 90% and 95% of the time, respectively. Statistical confidence limits are the classical tool for addressing uncertainties of a distribution mean. The UCLs of the arithmetic mean concentration are used as the mean concentrations because it is not possible to know the true mean due to the essentially infinite number of soil samples that could be collected from a site. The UCLs therefore account for uncertainties due to limited sampling data. As data become less limited at a site, uncertainties decrease, and the UCLs move closer to the true mean.

Non-parametric bootstrap techniques were used to calculate the UCLs. The bootstrap test results are included in Appendix E. The following tables present the calculated UCLs and statistics for the site:

**EB SR-92 Offramp to SB SR-82 (Borings B1 to B10)**

| Sample Interval (feet) | Total Lead 90% UCL (mg/kg) | Total Lead 95% UCL (mg/kg) | Total Lead Mean (mg/kg) | Total Lead Minimum (mg/kg) | Total Lead Maximum (mg/kg) |
|------------------------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|
| 0 to 0.5               | 182                        | 196                        | 132                     | 6.2                        | 420                        |
| 1 to 1.5               | 18.3                       | 19.9                       | 12.7                    | 1.9                        | 47                         |
| 2 to 2.5               | 12.9                       | 13.6                       | 10                      | 1.9                        | 25                         |

**SB SR-82 Onramp to EB SR-92 (Borings B11 to B21)**

| Sample Interval (feet) | Total Lead 90% UCL (mg/kg) | Total Lead 95% UCL (mg/kg) | Total Lead Mean (mg/kg) | Total Lead Minimum (mg/kg) | Total Lead Maximum (mg/kg) |
|------------------------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|
| 0 to 0.5               | 210                        | 224                        | 150                     | 61                         | 610                        |
| 1 to 1.5               | 13.3                       | 14.2                       | 10.5                    | 4.7                        | 32                         |
| 2 to 2.5               | 12.6                       | 13.5                       | 9.7                     | 2.6                        |                            |

**NB SR-82 Onramp to EB SR-92 (Borings B22 to B31)**

| Sample Interval (feet) | Total Lead 90% UCL (mg/kg) | Total Lead 95% UCL (mg/kg) | Total Lead Mean (mg/kg) | Total Lead Minimum (mg/kg) | Total Lead Maximum (mg/kg) |
|------------------------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|
| 0 to 0.5               | 504                        | 550                        | 342                     | 12                         | 1,400                      |
| 1 to 1.5               | 62.8                       | 68.8                       | 39.7                    | 3.3                        | 190                        |
| 2 to 2.5               | 37.7                       | 40.7                       | 27.1                    | 5.6                        | 87                         |

**WB SR-92 Offramp to NB SR-82 (Borings B32 to B42)**

| Sample Interval (feet) | Total Lead 90% UCL (mg/kg) | Total Lead 95% UCL (mg/kg) | Total Lead Mean (mg/kg) | Total Lead Minimum (mg/kg) | Total Lead Maximum (mg/kg) |
|------------------------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|
| 0 to 0.5               | 267                        | 292                        | 169                     | 11                         | 930                        |
| 1 to 1.5               | 49.4                       | 52.5                       | 38.4                    | 10                         | 93                         |
| 2 to 2.5               | 101                        | 113                        | 59.3                    | 10                         | 400                        |

**NB SR-82 Onramp to WB SR-92 (Borings B43 to B52)**

| Sample Interval (feet) | Total Lead 90% UCL (mg/kg) | Total Lead 95% UCL (mg/kg) | Total Lead Mean (mg/kg) | Total Lead Minimum (mg/kg) | Total Lead Maximum (mg/kg) |
|------------------------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|
| 0 to 0.5               | 56.6                       | 59.5                       | 46.3                    | 7.8                        | 92                         |
| 1 to 1.5               | 24.1                       | 25.7                       | 18                      | 4.0                        | 54                         |
| 2 to 2.5               | 14.3                       | 14.9                       | 11.6                    | 6.1                        | 29                         |

**SB SR-82 Onramp to WB SR-92 (Borings B53 to B67)**

| Sample Interval (feet) | Total Lead 90% UCL (mg/kg) | Total Lead 95% UCL (mg/kg) | Total Lead Mean (mg/kg) | Total Lead Minimum (mg/kg) | Total Lead Maximum (mg/kg) |
|------------------------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|
| 0 to 0.5               | 430                        | 459                        | 336                     | 12                         | 940                        |
| 1 to 1.5               | 113                        | 127                        | 64.7                    | 6.5                        | 560                        |
| 2 to 2.5               | 34.0                       | 37.2                       | 21.3                    | 5.7                        | 160                        |

#### **5.4.2 Correlation of Total and WET Lead**

Total and corresponding WET lead concentrations are bivariate data with a linear structure. This linear structure should allow for the prediction of WET lead concentrations based on the 95% UCL total lead concentrations presented in the tables above.

To estimate the degree of interrelation between total and corresponding WET lead values ( $x$  and  $y$ , respectively), the *correlation coefficient* [ $r$ ] is used. The correlation coefficient is a ratio that ranges from +1 to -1. A *correlation coefficient* of +1 indicates a perfect direct relationship between two variables; a *correlation coefficient* of -1 indicates that one variable changes inversely with relation to the other. Between the two extremes is a spectrum of less-than-perfect relationships, including zero, which indicates the lack of any sort of linear relationship at all. The *correlation coefficient* was calculated for 64 ( $x$ ,  $y$ ) data points (i.e., soil samples analyzed for both total lead [ $x$ ] and WET lead [ $y$ ]) from the site. The resulting *coefficient of determination* ( $r^2$ ) equaled 0.7882, which yields a corresponding *correlation coefficient* ( $r$ ) of 0.888.

For the *correlation coefficient* that indicates a linear relationship between total and WET lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line) by forcing the y-intercept equal to zero since that is a known point. The equation of the regression line was determined to be  $y = 0.0532(x)$ , where  $x$  represents total lead concentrations and  $y$  represents predicted WET lead concentrations.

This equation was used to estimate the expected WET lead concentrations for the total lead UCLs for the data set (see Section 5.4.1). Regression analysis results and a scatter plot depicting the ( $x$ ,  $y$ ) data points along with the regression line are included in Appendix E. The predicted WET lead concentrations are summarized in Tables 8a to 8f.

## 6.0 CONCLUSIONS

### 6.1 Lead in Soil

#### **6.1.1 EB SR-92 Offramp to SB SR-82 (Borings B1 to B10)**

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the total lead UCLs and predicted WET lead concentrations for data collected from this portion of the Site. Weighted averages are calculated by using the total lead concentration for each 0.5-foot-depth interval as the value for the underlying 0.5-foot-depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 8a.

| Excavation Depth                     | 90% UCL<br>Total Lead<br>(mg/kg) | 90% UCL<br>Predicted<br>WET Lead<br>(mg/l) | 95% UCL<br>Total Lead<br>(mg/kg) | Waste<br>Classification |
|--------------------------------------|----------------------------------|--|----------------------------------|-------------------------|
| 0 to 1 ft                            | 182                              | 9.7  | 196                              | <b>Hazardous</b>        |
| <i>Underlying soil (1 to 2.5 ft)</i> | <i>16.5</i>                      | <i>0.9</i>                                 | <i>17.8</i>                      | <i>Non-hazardous</i>    |
| 0 to 2 ft                            | 100                              | 5.3  | 108                              | <b>Hazardous</b>        |
| <i>Underlying soil (2 to 2.5 ft)</i> | <i>12.9</i>                      | <i>0.7</i>                                 | <i>13.6</i>                      | <i>Non-hazardous</i>    |
| 0 to 2.5 ft                          | 83                               | 4.4  | 89                               | Non-hazardous           |

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 1 foot would be classified as a California hazardous waste since the UCL-predicted WET lead concentration is greater than the lead STLC of 5.0 mg/l. Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the reported DI-WET and pH results, soil excavated from 0 to 1 foot may be reused (as Caltrans Type Y-1) within Caltrans right-of-way in accordance with the DTSC Variance. Underlying soil (i.e., deeper than 1 foot) would be classified as non-hazardous based on lead results.

Alternately, if soil were excavated to a depth of 2.5 feet or greater and managed as a whole, it would be classified as non-hazardous based on lead content.

#### **6.1.2 SB SR-82 Loop Onramp to EB SR-92 (Borings B11 to B21)**

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the total lead UCLs and predicted WET lead concentrations for data collected from this portion of the Site. Weighted averages are calculated by using the total lead concentration for each 0.5-foot-depth interval as the value for the underlying 0.5-foot-depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 8b.

| <b>Excavation Depth</b>              | <b>90% UCL Total Lead (mg/kg)</b> | <b>90% UCL Predicted WET Lead (mg/l)</b> | <b>95% UCL Total Lead (mg/kg)</b> | <b>Waste Classification</b> |
|--------------------------------------|-----------------------------------|--|-----------------------------------|-----------------------------|
| 0 to 1 ft                            | 210                               | <b>11.2</b>                              | 224                               | <b>Hazardous</b>            |
| <i>Underlying soil (1 to 2.5 ft)</i> | <i>13.1</i>                       | <i>0.7</i>                               | <i>14.0</i>                       | <i>Non-hazardous</i>        |
| 0 to 2 ft                            | 112                               | <b>5.9</b>                               | 119                               | <b>Hazardous</b>            |
| <i>Underlying soil (2 to 2.5 ft)</i> | <i>12.6</i>                       | <i>0.7</i>                               | <i>13.5</i>                       | <i>Non-hazardous</i>        |
| 0 to 2.5 ft                          | 92.0                              | 4.9                                      | 98.0                              | Non-hazardous               |

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 1 foot would be classified as a California hazardous waste since the UCL-predicted WET lead concentration is greater than the lead STLC of 5.0 mg/l. Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the reported DI-WET and pH results, soil excavated from 0 to 1 foot may be reused (as Caltrans Type Y-1) within Caltrans right-of-way in accordance with the DTSC Variance. Underlying soil (i.e., deeper than 1 foot) would be classified as non-hazardous based on lead results.

Alternately, if soil were excavated to a depth of 2.5 feet or greater and managed as a whole, it would be classified as non-hazardous based on lead content.

### **6.1.3 NB SR-82 Onramp to EB SR-92 (Borings B22 to B31)**

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the total lead UCLs and predicted WET lead concentrations for data collected from this portion of the Site. Weighted averages are calculated by using the total lead concentration for each 0.5-foot-depth interval as the value for the underlying 0.5-foot-depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 8c.

| <b>Excavation Depth</b>              | <b>90% UCL Total Lead (mg/kg)</b> | <b>90% UCL Predicted WET Lead (mg/l)</b> | <b>95% UCL Total Lead (mg/kg)</b> | <b>Waste Classification</b> |
|--------------------------------------|-----------------------------------|--|-----------------------------------|-----------------------------|
| 0 to 1 ft                            | 504                               | <b>26.8</b>                              | 550                               | <b>Hazardous</b>            |
| <i>Underlying soil (1 to 2.5 ft)</i> | <i>54.4</i>                       | <i>2.9</i>                               | <i>59.4</i>                       | <i>Non-hazardous</i>        |
| 0 to 2 ft                            | 283                               | <b>15.1</b>                              | 309                               | <b>Hazardous</b>            |
| <i>Underlying soil (2 to 2.5 ft)</i> | <i>37.7</i>                       | <i>2.0</i>                               | <i>40.7</i>                       | <i>Non-hazardous</i>        |
| 0 to 2.5 ft                          | 234                               | <b>12.5</b>                              | 256                               | <b>Hazardous</b>            |

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 1 foot would be classified as a California hazardous waste since the UCL-predicted WET lead concentration is greater than the lead STLC of 5.0 mg/l. Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the reported DI-WET and pH results, soil excavated from 0 to 1 foot may be reused (as Caltrans Type Y-1) within Caltrans right-of-way in accordance with the DTSC Variance. Underlying soil (i.e., deeper than 1 foot) would be classified as non-hazardous based on lead results.

#### **6.1.4 WB SR-92 Offramp to NB SR-82 (Borings B32 to B42)**

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the total lead UCLs and predicted WET lead concentrations for data collected from this portion of the Site. Weighted averages are calculated by using the total lead concentration for each 0.5-foot-depth interval as the value for the underlying 0.5-foot-depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 8d.

| <b>Excavation Depth</b>              | <b>90% UCL Total Lead (mg/kg)</b> | <b>90% UCL Predicted WET Lead (mg/l)</b> | <b>95% UCL Total Lead (mg/kg)</b> | <b>Waste Classification</b> |
|--------------------------------------|-----------------------------------|--|-----------------------------------|-----------------------------|
| 0 to 1 ft                            | 267                               | <b>14.2</b>                              | 292                               | <b>Hazardous</b>            |
| <i>Underlying soil (1 to 2.5 ft)</i> | 66.6                              | 3.5                                      | 72.7                              | <i>Non-hazardous</i>        |
| 0 to 2 ft                            | 158                               | <b>8.4</b>                               | 172                               | <b>Hazardous</b>            |
| <i>Underlying soil (2 to 2.5 ft)</i> | 101                               | 5.4                                      | 113                               | <i>Non-hazardous</i>        |
| 0 to 2.5 ft                          | 147                               | <b>7.8</b>                               | 160                               | <b>Hazardous</b>            |

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 1 foot would be classified as a California hazardous waste since the UCL-predicted WET lead concentration is greater than the lead STLC of 5.0 mg/l. Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the reported DI-WET and pH results, soil excavated from 0 to 1 foot may be reused (as Caltrans Type Y-1) within Caltrans right-of-way in accordance with the DTSC Variance. Underlying soil (i.e., deeper than 1 foot) would be classified as non-hazardous based on lead results.

#### **6.1.5 NB SR-82 Loop Onramp to WB SR-92 (Borings B43 to B52)**

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the total lead UCLs and predicted WET lead concentrations for data collected from this portion of the Site. Weighted averages are calculated by using the total lead

concentration for each 0.5-foot-depth interval as the value for the underlying 0.5-foot-depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 8e.

| Excavation Depth                     | 90% UCL Total Lead (mg/kg) | 90% UCL Predicted WET Lead (mg/l) | 95% UCL Total Lead (mg/kg) | Waste Classification |
|--------------------------------------|----------------------------|-----------------------------------|----------------------------|----------------------|
| 0 to 1 ft                            | 56.6                       | 3.0                               | 59.5                       | Non-hazardous        |
| <i>Underlying soil (1 to 2.5 ft)</i> | <i>20.8</i>                | <i>1.1</i>                        | <i>22.1</i>                | <i>Non-hazardous</i> |
| 0 to 2 ft                            | 40.4                       | 2.1                               | 42.6                       | Non-hazardous        |
| <i>Underlying soil (2 to 2.5 ft)</i> | <i>14.3</i>                | <i>0.8</i>                        | <i>14.9</i>                | <i>Non-hazardous</i> |
| 0 to 2.5 ft                          | 35.0                       | 1.9                               | 37.0                       | Non-hazardous        |

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 2.5 feet would be classified as non-hazardous based on lead results.

#### **6.1.6 SB SR-82 Onramp to WB SR-92 (Borings B53 to B67)**

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the total lead UCLs and predicted WET lead concentrations for data collected from this portion of the Site. Weighted averages are calculated by using the total lead concentration for each 0.5-foot-depth interval as the value for the underlying 0.5-foot-depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 8f.

| Excavation Depth                     | 90% UCL Total Lead (mg/kg) | 90% UCL Predicted WET Lead (mg/l) | 95% UCL Total Lead (mg/kg) | Waste Classification |
|--------------------------------------|----------------------------|-----------------------------------|----------------------------|----------------------|
| 0 to 1 ft                            | 430                        | <b>22.9</b>                       | 459                        | <b>Hazardous</b>     |
| <i>Underlying soil (1 to 2.5 ft)</i> | <i>86.7</i>                | <i>4.6</i>                        | <i>97.1</i>                | <i>Non-hazardous</i> |
| 0 to 2 ft                            | 272                        | <b>14.4</b>                       | 293                        | <b>Hazardous</b>     |
| <i>Underlying soil (2 to 2.5 ft)</i> | <i>34.0</i>                | <i>1.8</i>                        | <i>37.2</i>                | <i>Non-hazardous</i> |
| 0 to 2.5 ft                          | 224                        | <b>11.9</b>                       | 242                        | <b>Hazardous</b>     |

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 1 foot would be classified as a California hazardous waste since the UCL-predicted WET lead concentration is greater than the lead STLC of 5.0 mg/l. Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the reported DI-WET and pH results, soil excavated from 0 to 1 foot

may be reused (as Caltrans Type Y-1) within Caltrans right-of-way in accordance with the DTSC Variance. Underlying soil (i.e., deeper than 1 foot) would be classified as non-hazardous based on lead results.

## 6.2 Remaining CAM 17 Metals in Soil

With the exceptions of chromium, mercury, and nickel, remaining CAM 17 metals were reported in the samples at total concentrations below 10 times their respective STLCs.

WET chromium was not detected in the samples at or above the reporting limit of 1.0 mg/l. WET mercury was not detected at or above the reporting limit of 0.001 mg/l in the sample analyzed. WET nickel was reported at a maximum concentration of 1.6 mg/l, below the STLC of 20 mg/l. Therefore, soil would not be classified as hazardous based on chromium, mercury, or nickel content.

The CAM 17 metal concentrations in site soil were compared to CHHSLs and ESLs. Arsenic, cadmium, cobalt, lead and nickel were reported at concentrations greater than one or more ESL values. Because concentrations of arsenic, cadmium, cobalt, lead, and nickel exceeded one or more ESL, non-parametric bootstrap techniques were used to calculate the UCLs. The bootstrap test result is included in Appendix D. CHHSLs, ESLs, UCLs, and published background concentrations for arsenic, cadmium, cobalt, lead, and nickel are summarized in the table below.

| Metal    | Maximum | 95% UCL | Tier 1 ESL | Shallow Soil Residential CHHSL/ESL | Shallow Soil Commercial/ Industrial CHHSL/ESL | Worker Direct Exposure ESL | Published Background Mean <sup>1</sup> | Published Background Range <sup>1</sup> |
|----------|---------|---------|------------|------------------------------------|---|----------------------------|--|---|
| Arsenic  | 5.5     | 4.22    | 0.067      | 0.07/0.067                         | 0.24/0.31                                     | 0.94                       | 3.5                                    | 0.6 to 11.0                             |
| Cobalt   | 27      | 14.1    | 23         | 660/23                             | 3,200/350                                     | 27                         | 14.9                                   | 2.7 to 46.9                             |
| Lead     | 420     | 68.5    | 80         | 150/80                             | 3,500/320                                     | 2,700                      | 23.9                                   | 12.4 to 97.1                            |
| Nickel   | 340     | 123     | 83         | 1,600/820                          | 16,000/11,000                                 | 83                         | 57                                     | 9 to 509                                |
| Thallium | 4.4     | 1.4*    | 0.78       | 5.0/0.78                           | 63/12   | 3.4                        | 0.56                                   | 0.17 to 1.10                            |

Concentrations reported in mg/kg

<sup>1</sup> Kearney Foundation of Soil Science, March 1996

\* – Thallium was detected in four of 22 samples at or above the reporting limit of 1.0 mg/kg. The 95% KM UCL shown is corrected for non-detects.

Based on the maximum and/or the 95% UCL concentrations for arsenic, cobalt, lead, nickel, and thallium, reuse or disposal of excavated soil may be restricted depending on proposed use.

Metals results for soil samples are summarized in Table 3.

### **6.3 Petroleum Compounds in Soil**

Four soil samples were analyzed for MTBE, BTEX, and TPHg. MTBE was not detected in the samples at or above the reporting limits. TPHg and ethylbenzene were reported at concentrations of 150 mg/kg and 520 µg/kg, respectively, in sample B10-10 where odor was noted during drilling. The reported TPHg concentration is above the Tier 1 ESL of 100 mg/kg, however, it is below the residential, commercial/industrial, and construction worker direct exposure ESLs. The reported ethylbenzene concentration is below the ESLs. BTEX compounds and TPHg were not reported at or above laboratory reporting limits in the remaining samples.

TPHd was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/kg) to 1,200 mg/kg, above the Tier 1 and residential direct exposure ESL of 240 mg/kg and the construction worker direct exposure ESL of 900 mg/kg. The maximum concentration reported is equal to the commercial/industrial direct exposure ESL of 1,200 mg/kg. TPHd has a 95% UCL of 108 mg/kg.

TPHmo was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/kg) to 3,300 mg/kg, exceeding the Tier 1 ESL of 100 mg/kg, but below the residential land use ESL of 11,000 mg/kg, the commercial/industrial land use ESL of 140,000 mg/kg, and the construction worker exposure ESL of 31,000 mg/kg. TPHmo has a 95% UCL concentration of 292 mg/kg.

Based on the reported TPHg, TPHd, and TPHmo concentrations, reuse or disposal of excavated soil may be restricted, depending on proposed use.

A summary of petroleum compounds concentrations in site soil is presented in Table 4.

### **6.4 Volatile Organic Compounds in Soil**

VOCs were detected in one of eight samples analyzed at or above reporting limits. VOCs were reported in sample B10-10 at concentrations ranging from not detected (minimum laboratory reporting limit of 5.0 µg/kg ) to 13,000 µg/kg. Naphthalene was reported at a concentration of 4,900 µg/kg, above the Tier 1 ESL of 23 µg/kg and the residential direct exposure ESL of 1,900 µg/kg, but below the commercial/industrial and construction worker direct exposure ESLs of 8,200 µg/kg and 78,000 µg/kg, respectively.

Based on the reported VOC concentrations, reuse or disposal of excavated soil may be restricted, depending on proposed use.

A summary of VOC concentrations in site soil is presented in Table 5.

## 6.5 Petroleum Compounds in Groundwater

The groundwater sample collected from boring B10 was analyzed for TPHg, BTEX and MTBE. TPHg was reported at a concentration of 1.3 mg/l, above the MCL and direct exposure ESL for human health of 0.22 mg/l and the fresh water ecological habitat ESL of 0.44 mg/l, but below the saltwater ecological habitat ESL of 3.7 mg/l.

Benzene and ethylbenzene were reported at concentrations of 16 µg/l and 74 µg/l, respectively. These concentrations are above the MCLs of 1.0 µg/l for benzene and 30 µg/l for ethylbenzene, and the direct exposure ESL for human health of 0.15 µg/l and 1.5 µg/l, respectively, but below the fresh and saltwater ecological aquatic habitat ESLs.

Remaining BTEX compounds and MTBE were not detected in the sample at or above laboratory reporting limits.

Based on the reported TPHg, benzene, and ethylbenzene concentrations, groundwater generated during construction activities may require treatment to reduce petroleum compound content prior to discharge or disposal.

A summary of petroleum compound concentrations for the groundwater sample is presented in Table 6.

## 6.6 Volatile Organic Compounds in Groundwater

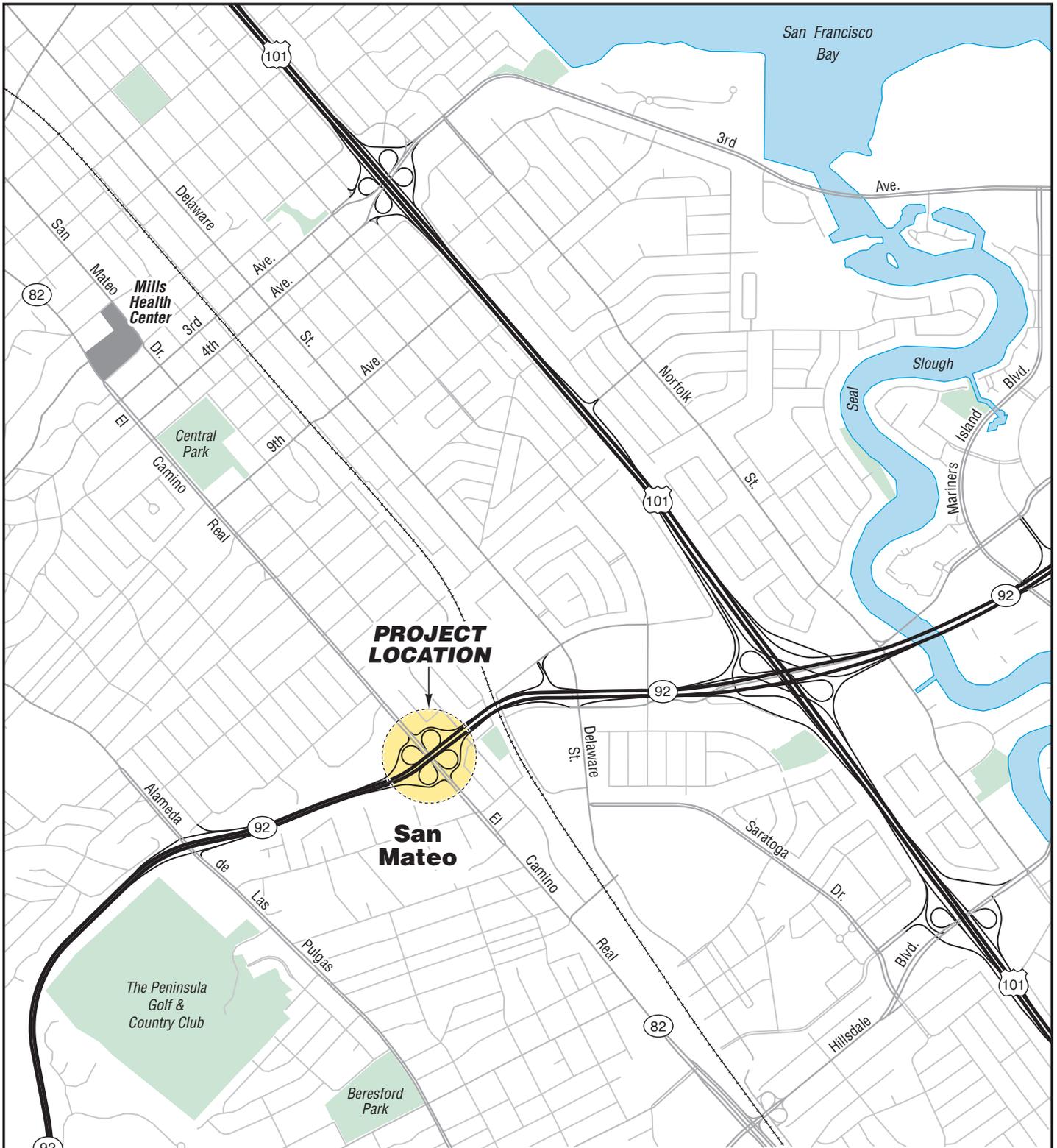
Groundwater samples were collected from Borings B10, B42, and B67 and were analyzed for VOCs. The sample analyzed from Boring B10 was reported to contain VOCs at concentrations of up to 510 µg/l. Concentrations of benzene and ethylbenzene were reported at concentrations of 17 µg/l and 82 µg/l, respectively, above the MCLs of 1.0 µg/l and 30 µg/l, respectively, and the direct exposure for human health ESL of 0.15 µg/l and 1.5 µg/l, respectively, but below the fresh and salt water ecological aquatic habitat ESLs. Remaining samples were non-detect for VOCs.

Based on the reported VOC concentrations, groundwater generated during construction activities may require treatment to reduce VOC content prior to discharge or disposal.

A summary of volatile organic compound concentrations for the groundwater sample is presented in Table 7.

## 6.7 Worker Protection

The contractor(s) should prepare a project-specific health and safety plan to prevent or minimize worker exposure to metals, petroleum hydrocarbons, and volatile organic compounds in soil and groundwater. The plan should include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of soil and groundwater.



0 1/2  
 Scale in Miles



**GEOCON**  
 CONSULTANTS, INC.

6671 BRISA STREET - LIVERMORE, CA 94550  
 PHONE 925.371.5900 - FAX 925.371.5915

SR-82 / SR-92 Interchange Modifications

San Mateo,  
 California

**VICINITY MAP**

GEOCON Proj. No. E8721-02-36

Task Order No. 36

March 2016

Figure 1

**LEGEND:**  
 Boring Location



**GEOCON**  
 CONSULTANTS, INC.  
 6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

|                                      |                     |
|--------------------------------------|---------------------|
| SR-82/SR-92 Interchange Modification |                     |
| San Mateo, California                | <b>SITE PLAN</b>    |
| EA No. 04-235521                     |                     |
| GEOCON Proj. No. E8721-02-36         | March 2016 Figure 2 |

**TABLE 1**  
**Boring Coordinates**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| <b>Boring</b> | <b>Easting</b> | <b>Northing</b> |
|---------------|----------------|-----------------|
| B1            | 6,035,763.837  | 2,027,491.884   |
| B2            | 6,035,832.375  | 2,027,506.118   |
| B3            | 6,035,900.458  | 2,027,521.307   |
| B4            | 6,035,969.028  | 2,027,535.447   |
| B5            | Not Sampled    | Not Sampled     |
| B6            | 6,036,468.357  | 2,027,534.527   |
| B7            | 6,036,511.754  | 2,027,562.995   |
| B8            | 6,036,517.676  | 2,027,554.937   |
| B9            | 6,036,559.106  | 2,027,591.029   |
| B10           | 6,036,570.087  | 2,027,573.995   |
| B11           | 6,036,533.926  | 2,027,668.505   |
| B12           | 6,036,552.779  | 2,027,627.545   |
| B13           | 6,036,500.947  | 2,027,611.268   |
| B14           | 6,036,453.708  | 2,027,566.570   |
| B15           | 6,036,360.263  | 2,027,552.015   |
| B16           | 6,036,280.707  | 2,027,599.384   |
| B17           | 6,036,441.550  | 2,027,597.058   |
| B18           | 6,036,386.400  | 2,027,581.552   |
| B19           | 6,036,329.520  | 2,027,601.967   |
| B20           | 6,036,289.519  | 2,027,648.905   |
| B21           | 6,036,281.361  | 2,027,707.290   |
| B22           | 6,036,666.145  | 2,027,705.632   |
| B23           | 6,036,627.605  | 2,027,748.708   |
| B24           | 6,036,728.054  | 2,027,711.003   |
| B25           | 6,036,811.536  | 2,027,814.942   |
| B26           | 6,036,767.533  | 2,027,801.549   |
| B27           | 6,036,790.401  | 2,027,874.800   |
| B28           | 6,036,795.119  | 2,027,954.885   |
| B29           | 6,036,794.066  | 2,028,013.936   |
| B30           | 6,036,813.774  | 2,028,084.791   |
| B31           | 6,036,841.173  | 2,028,137.390   |
| B32           | 6,036,704.480  | 2,028,254.192   |
| B33           | 6,036,642.643  | 2,028,251.221   |
| B34           | 6,036,583.033  | 2,028,260.687   |
| B35           | 6,036,525.301  | 2,028,277.039   |
| B36           | 6,036,466.541  | 2,028,289.618   |
| B37           | 6,036,403.129  | 2,028,285.145   |
| B38           | 6,036,349.934  | 2,028,257.391   |
| B39           | 6,036,310.145  | 2,028,214.927   |
| B40           | 6,036,290.362  | 2,028,165.034   |
| B41           | 6,036,260.337  | 2,028,197.149   |
| B42           | 6,036,271.495  | 2,028,257.685   |
| B43           | 6,036,348.057  | 2,028,205.023   |
| B44           | 6,036,383.152  | 2,028,241.601   |
| B45           | 6,036,435.431  | 2,028,256.978   |
| B46           | 6,036,436.324  | 2,028,239.674   |
| B47           | 6,036,485.162  | 2,028,242.472   |
| B48           | 6,036,483.200  | 2,028,224.757   |

**TABLE 1**  
**Boring Coordinates**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| <b>Boring</b> | <b>Easting</b> | <b>Northing</b> |
|---------------|----------------|-----------------|
| B49           | 6,036,521.654  | 2,028,206.929   |
| B50           | 6,036,535.574  | 2,028,159.452   |
| B51           | 6,036,525.186  | 2,028,108.056   |
| B52           | 6,036,493.748  | 2,028,061.766   |
| B53           | 6,036,188.041  | 2,028,092.742   |
| B54           | 6,036,155.131  | 2,028,130.187   |
| B55           | 6,036,131.409  | 2,028,091.635   |
| B56           | 6,036,079.106  | 2,028,058.937   |
| B57           | 6,036,042.057  | 2,028,015.271   |
| B58           | 6,036,021.001  | 2,027,959.087   |
| B59           | 6,036,003.133  | 2,027,901.749   |
| B60           | 6,035,926.412  | 2,027,742.719   |
| B61           | 6,035,887.865  | 2,027,696.628   |
| B62           | 6,035,838.974  | 2,027,659.613   |
| B63           | 6,035,898.068  | 2,027,752.838   |
| B64           | 6,035,852.964  | 2,027,712.643   |
| B65           | 6,035,806.979  | 2,027,674.102   |
| B66           | 6,035,754.198  | 2,027,645.347   |
| B67           | 6,036,077.276  | 2,028,133.703   |

NAD 83, Zone 3, feet

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID | Sample Depth (feet) | Total Lead (mg/kg) | WET Lead (mg/l) | DI-WET Lead (mg/l) | TCLP Lead (mg/l) | pH  |
|-----------|---------------------|--------------------|-----------------|--------------------|------------------|-----|
| B1-0      | 0 to 0.5            | 420                | 23              | <1.0               | 0.16             | 6.2 |
| B1-1      | 1 to 1.5            | 3.9                | ---             | ---                | ---              | --- |
| B1-2      | 2 to 2.5            | 6.3                | ---             | ---                | ---              | --- |
| B2-0      | 0 to 0.5            | 28                 | ---             | ---                | ---              | --- |
| B2-1      | 1 to 1.5            | 6.5                | ---             | ---                | ---              | --- |
| B2-2      | 2 to 2.5            | 11                 | ---             | ---                | ---              | --- |
| B3-0      | 0 to 0.5            | 110                | 8.9             | ---                | <0.050           | --- |
| B3-1      | 1 to 1.5            | 11                 | ---             | ---                | ---              | --- |
| B3-2      | 2 to 2.5            | 16                 | ---             | ---                | ---              | --- |
| B4-0      | 0 to 0.5            | 6.2                | ---             | ---                | ---              | --- |
| B4-1      | 1 to 1.5            | 1.9                | ---             | ---                | ---              | --- |
| B4-2      | 2 to 2.5            | 1.9                | ---             | ---                | ---              | --- |
| B6-0      | 0 to 0.5            | 200                | 8.1             | ---                | <0.050           | --- |
| B6-1      | 1 to 1.5            | 5.6                | ---             | ---                | ---              | --- |
| B6-2      | 2 to 2.5            | 6.8                | ---             | ---                | ---              | --- |
| B7-0      | 0 to 0.5            | 140                | 6.9             | ---                | <0.050           | --- |
| B7-1      | 1 to 1.5            | 18                 | ---             | ---                | ---              | --- |
| B7-2      | 2 to 2.5            | 25                 | ---             | ---                | ---              | --- |
| B8-0      | 0 to 0.5            | 150                | 8.5             | <1.0               | <0.050           | 7.4 |
| B8-1      | 1 to 1.5            | 6.8                | ---             | ---                | ---              | --- |
| B8-2      | 2 to 2.5            | 6.5                | ---             | ---                | ---              | --- |
| B9-0      | 0 to 0.5            | 78                 | 3.3             | ---                | ---              | --- |
| B9-1      | 1 to 1.5            | 47                 | ---             | ---                | ---              | --- |
| B9-2      | 2 to 2.5            | 12                 | ---             | ---                | ---              | --- |
| B10-0     | 0 to 0.5            | 54                 | 3.4             | ---                | ---              | --- |
| B10-1     | 1 to 1.5            | 14                 | ---             | ---                | ---              | --- |
| B10-2     | 2 to 2.5            | 4.6                | ---             | ---                | ---              | --- |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| <b>Sample ID</b> | <b>Sample Depth (feet)</b> | <b>Total Lead (mg/kg)</b> | <b>WET Lead (mg/l)</b> | <b>DI-WET Lead (mg/l)</b> | <b>TCLP Lead (mg/l)</b> | <b>pH</b> |
|------------------|----------------------------|---------------------------|------------------------|---------------------------|-------------------------|-----------|
| B11-0            | 0 to 0.5                   | 160                       | 7.3                    | ---                       | 0.076                   | ---       |
| B11-1            | 1 to 1.5                   | 32                        | ---                    | ---                       | ---                     | ---       |
| B11-2            | 2 to 2.5                   | 9.8                       | ---                    | ---                       | ---                     | ---       |
| B12-0            | 0 to 0.5                   | 61                        | 2.0                    | ---                       | ---                     | ---       |
| B12-1            | 1 to 1.5                   | 7.5                       | ---                    | ---                       | ---                     | ---       |
| B12-2            | 2 to 2.5                   | 6.0                       | ---                    | ---                       | ---                     | ---       |
| B13-0            | 0 to 0.5                   | 150                       | 8.2                    | ---                       | 0.079                   | ---       |
| B13-1            | 1 to 1.5                   | 5.6                       | ---                    | ---                       | ---                     | ---       |
| B13-2            | 2 to 2.5                   | 2.6                       | ---                    | ---                       | ---                     | ---       |
| B14-0            | 0 to 0.5                   | 610                       | 27                     | <1.0                      | 0.59                    | 6.9       |
| B14-1            | 1 to 1.5                   | 11                        | ---                    | ---                       | ---                     | ---       |
| B14-2            | 2 to 2.5                   | 22                        | ---                    | ---                       | ---                     | ---       |
| B15-0            | 0 to 0.5                   | 77                        | 5.1                    | ---                       | ---                     | ---       |
| B15-1            | 1 to 1.5                   | 10                        | ---                    | ---                       | ---                     | ---       |
| B15-2            | 2 to 2.5                   | 4.5                       | ---                    | ---                       | ---                     | ---       |
| B16-0            | 0 to 0.5                   | 160                       | 10                     | <1.0                      | 0.087                   | 6.9       |
| B16-1            | 1 to 1.5                   | 4.9                       | ---                    | ---                       | ---                     | ---       |
| B16-2            | 2 to 2.5                   | 4.7                       | ---                    | ---                       | ---                     | ---       |
| B17-0            | 0 to 0.5                   | 68                        | 2.6                    | ---                       | ---                     | ---       |
| B17-1            | 1 to 1.5                   | 4.7                       | ---                    | ---                       | ---                     | ---       |
| B17-2            | 2 to 2.5                   | 6.0                       | ---                    | ---                       | ---                     | ---       |
| B18-0            | 0 to 0.5                   | 130                       | 5.0                    | ---                       | <0.050                  | ---       |
| B18-1            | 1 to 1.5                   | 8.2                       | ---                    | ---                       | ---                     | ---       |
| B18-2            | 2 to 2.5                   | 16                        | ---                    | ---                       | ---                     | ---       |
| B19-0            | 0 to 0.5                   | 67                        | 2.7                    | ---                       | ---                     | ---       |
| B19-1            | 1 to 1.5                   | 9.8                       | ---                    | ---                       | ---                     | ---       |
| B19-2            | 2 to 2.5                   | 5.3                       | ---                    | ---                       | ---                     | ---       |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| <b>Sample ID</b> | <b>Sample Depth (feet)</b> | <b>Total Lead (mg/kg)</b> | <b>WET Lead (mg/l)</b> | <b>DI-WET Lead (mg/l)</b> | <b>TCLP Lead (mg/l)</b> | <b>pH</b> |
|------------------|----------------------------|---------------------------|------------------------|---------------------------|-------------------------|-----------|
| B20-0            | 0 to 0.5                   | 100                       | 4.6                    | ---                       | ---                     | ---       |
| B20-1            | 1 to 1.5                   | 7.7                       | ---                    | ---                       | ---                     | ---       |
| B20-2            | 2 to 2.5                   | 4.0                       | ---                    | ---                       | ---                     | ---       |
| B21-0            | 0 to 0.5                   | 62                        | 2.6                    | ---                       | ---                     | ---       |
| B21-1            | 1 to 1.5                   | 14                        | ---                    | ---                       | ---                     | ---       |
| B21-2            | 2 to 2.5                   | 26                        | ---                    | ---                       | ---                     | ---       |
| B22-0            | 0 to 0.5                   | 170                       | 11                     | ---                       | 0.11                    | ---       |
| B22-1            | 1 to 1.5                   | 98                        | 4.5                    | ---                       | ---                     | ---       |
| B22-2            | 2 to 2.5                   | 66                        | 4.1                    | ---                       | ---                     | ---       |
| B23-0            | 0 to 0.5                   | 200                       | 15                     | <1.0                      | 0.20                    | 7.4       |
| B23-1            | 1 to 1.5                   | 34                        | ---                    | ---                       | ---                     | ---       |
| B23-2            | 2 to 2.5                   | 29                        | ---                    | ---                       | ---                     | ---       |
| B24-0            | 0 to 0.5                   | 160                       | 12                     | ---                       | 0.12                    | ---       |
| B24-1            | 1 to 1.5                   | 23                        | ---                    | ---                       | ---                     | ---       |
| B24-2            | 2 to 2.5                   | 25                        | ---                    | ---                       | ---                     | ---       |
| B25-1            | 1 to 1.5                   | 6.8                       | ---                    | ---                       | ---                     | ---       |
| B25-2            | 2 to 2.5                   | 10                        | ---                    | ---                       | ---                     | ---       |
| B25-0            | 0 to 0.5                   | 12                        | ---                    | ---                       | ---                     | ---       |
| B26-0            | 0 to 0.5                   | 19                        | ---                    | ---                       | ---                     | ---       |
| B26-1            | 1 to 1.5                   | 3.3                       | ---                    | ---                       | ---                     | ---       |
| B26-2            | 2 to 2.5                   | 5.6                       | ---                    | ---                       | ---                     | ---       |
| B27-0            | 0 to 0.5                   | 1,400                     | ---                    | ---                       | 1.8                     | ---       |
| B27-1            | 1 to 1.5                   | 11                        | ---                    | ---                       | ---                     | ---       |
| B27-2            | 2 to 2.5                   | 24                        | ---                    | ---                       | ---                     | ---       |
| B28-0            | 0 to 0.5                   | 720                       | 46                     | <1.0                      | 0.26                    | 7.0       |
| B28-1            | 1 to 1.5                   | 190                       | 5.1                    | ---                       | 0.13                    | ---       |
| B28-2            | 2 to 2.5                   | 87                        | 6.5                    | ---                       | ---                     | ---       |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID | Sample<br>Depth<br>(feet) | Total<br>Lead<br>(mg/kg) | WET<br>Lead<br>(mg/l) | DI-WET<br>Lead<br>(mg/l) | TCLP<br>Lead<br>(mg/l) | pH  |
|-----------|---------------------------|--------------------------|-----------------------|--------------------------|------------------------|-----|
| B29-0     | 0 to 0.5                  | 110                      | 7.0                   | ---                      | 0.052                  | --- |
| B29-1     | 1 to 1.5                  | 13                       | ---                   | ---                      | ---                    | --- |
| B29-2     | 2 to 2.5                  | 7.1                      | ---                   | ---                      | ---                    | --- |
| B30-0     | 0 to 0.5                  | 240                      | 16                    | ---                      | 0.097                  | --- |
| B30-1     | 1 to 1.5                  | 9.3                      | ---                   | ---                      | ---                    | --- |
| B30-2     | 2 to 2.5                  | 7.7                      | ---                   | ---                      | ---                    | --- |
| B31-0     | 0 to 0.5                  | 390                      | 28                    | <1.0                     | 0.11                   | 6.9 |
| B31-1     | 1 to 1.5                  | 8.4                      | ---                   | ---                      | ---                    | --- |
| B31-2     | 2 to 2.5                  | 9.2                      | ---                   | ---                      | ---                    | --- |
| B32-0     | 0 to 0.5                  | 320                      | 24                    | <1.0                     | 0.11                   | 7.5 |
| B32-1     | 1 to 1.5                  | 21                       | ---                   | ---                      | ---                    | --- |
| B32-2     | 2 to 2.5                  | 56                       | <1.0                  | ---                      | ---                    | --- |
| B33-0     | 0 to 0.5                  | 140                      | 6.0                   | ---                      | <0.050                 | --- |
| B33-1     | 1 to 1.5                  | 10                       | ---                   | ---                      | ---                    | --- |
| B33-2     | 2 to 2.5                  | 13                       | ---                   | ---                      | ---                    | --- |
| B34-0     | 0 to 0.5                  | 95                       | 4.3                   | ---                      | ---                    | --- |
| B34-1     | 1 to 1.5                  | 38                       | ---                   | ---                      | ---                    | --- |
| B34-2     | 2 to 2.5                  | 12                       | ---                   | ---                      | ---                    | --- |
| B35-0     | 0 to 0.5                  | 68                       | 3.4                   | ---                      | ---                    | --- |
| B35-1     | 1 to 1.5                  | 74                       | 2.2                   | ---                      | ---                    | --- |
| B35-2     | 2 to 2.5                  | 42                       | ---                   | ---                      | ---                    | --- |
| B36-0     | 0 to 0.5                  | 41                       | ---                   | ---                      | ---                    | --- |
| B36-1     | 1 to 1.5                  | 11                       | ---                   | ---                      | ---                    | --- |
| B36-2     | 2 to 2.5                  | 24                       | ---                   | ---                      | ---                    | --- |
| B37-0     | 0 to 0.5                  | 11                       | ---                   | ---                      | ---                    | --- |
| B37-1     | 1 to 1.5                  | 10                       | ---                   | ---                      | ---                    | --- |
| B37-2     | 2 to 2.5                  | 12                       | ---                   | ---                      | ---                    | --- |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| <b>Sample ID</b> | <b>Sample Depth (feet)</b> | <b>Total Lead (mg/kg)</b> | <b>WET Lead (mg/l)</b> | <b>DI-WET Lead (mg/l)</b> | <b>TCLP Lead (mg/l)</b> | <b>pH</b> |
|------------------|----------------------------|---------------------------|------------------------|---------------------------|-------------------------|-----------|
| B38-0            | 0 to 0.5                   | 130                       | 1.3                    | ---                       | ---                     | ---       |
| B38-1            | 1 to 1.5                   | 62                        | 1.1                    | ---                       | ---                     | ---       |
| B38-2            | 2 to 2.5                   | 11                        | ---                    | ---                       | ---                     | ---       |
| B39-0            | 0 to 0.5                   | 55                        | <1.0                   | ---                       | ---                     | ---       |
| B39-1            | 1 to 1.5                   | 16                        | ---                    | ---                       | ---                     | ---       |
| B39-2            | 2 to 2.5                   | 10                        | ---                    | ---                       | ---                     | ---       |
| B40-0            | 0 to 0.5                   | 930                       | 26                     | <1.0                      | 0.052                   | 7.7       |
| B40-1            | 1 to 1.5                   | 66                        | 2.8                    | ---                       | ---                     | ---       |
| B40-2            | 2 to 2.5                   | 59                        | 1.0                    | ---                       | ---                     | ---       |
| B41-0            | 0 to 0.5                   | 11                        | ---                    | ---                       | ---                     | ---       |
| B41-1            | 1 to 1.5                   | 93                        | 3.9                    | ---                       | ---                     | ---       |
| B41-2            | 2 to 2.5                   | 13                        | ---                    | ---                       | ---                     | ---       |
| B42-1            | 1 to 1.5                   | 21                        | ---                    | ---                       | ---                     | ---       |
| B42-0            | 0 to 0.5                   | 58                        | 2.1                    | ---                       | ---                     | ---       |
| B42-2            | 2 to 2.5                   | 400                       | 15                     | ---                       | 0.085                   | ---       |
| B43-0            | 0 to 0.5                   | 69                        | 3.0                    | ---                       | ---                     | ---       |
| B43-1            | 1 to 1.5                   | 7.1                       | ---                    | ---                       | ---                     | ---       |
| B43-2            | 2 to 2.5                   | 6.6                       | ---                    | ---                       | ---                     | ---       |
| B44-0            | 0 to 0.5                   | 92                        | 2.4                    | ---                       | ---                     | ---       |
| B44-1            | 1 to 1.5                   | 4.0                       | ---                    | ---                       | ---                     | ---       |
| B44-2            | 2 to 2.5                   | 20                        | ---                    | ---                       | ---                     | ---       |
| B45-0            | 0 to 0.5                   | 46                        | ---                    | ---                       | ---                     | ---       |
| B45-1            | 1 to 1.5                   | 24                        | ---                    | ---                       | ---                     | ---       |
| B45-2            | 2 to 2.5                   | 13                        | ---                    | ---                       | ---                     | ---       |
| B46-0            | 0 to 0.5                   | 34                        | ---                    | ---                       | ---                     | ---       |
| B46-1            | 1 to 1.5                   | 8.5                       | ---                    | ---                       | ---                     | ---       |
| B46-2            | 2 to 2.5                   | 6.6                       | ---                    | ---                       | ---                     | ---       |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID | Sample<br>Depth<br>(feet) | Total<br>Lead<br>(mg/kg) | WET<br>Lead<br>(mg/l) | DI-WET<br>Lead<br>(mg/l) | TCLP<br>Lead<br>(mg/l) | pH  |
|-----------|---------------------------|--------------------------|-----------------------|--------------------------|------------------------|-----|
| B47-0     | 1 to 1.5                  | 37                       | ---                   | ---                      | ---                    | --- |
| B47-1     | 2 to 2.5                  | 29                       | ---                   | ---                      | ---                    | --- |
| B47-2     | 2 to 2.5                  | 12                       | ---                   | ---                      | ---                    | --- |
| B48-0     | 0 to 0.5                  | 38                       | ---                   | ---                      | ---                    | --- |
| B48-1     | 1 to 1.5                  | 15                       | ---                   | ---                      | ---                    | --- |
| B48-2     | 2 to 2.5                  | 7.9                      | ---                   | ---                      | ---                    | --- |
| B49-0     | 0 to 0.5                  | 7.8                      | ---                   | ---                      | ---                    | --- |
| B49-1     | 1 to 1.5                  | 54                       | <1.0                  | ---                      | ---                    | --- |
| B49-2     | 2 to 2.5                  | 7.7                      | ---                   | ---                      | ---                    | --- |
| B50-0     | 0 to 0.5                  | 43                       | ---                   | ---                      | ---                    | --- |
| B50-1     | 1 to 1.5                  | 10                       | ---                   | ---                      | ---                    | --- |
| B50-2     | 2 to 2.5                  | 9.1                      | ---                   | ---                      | ---                    | --- |
| B51-0     | 0 to 0.5                  | 64                       | 2.8                   | ---                      | ---                    | --- |
| B51-1     | 1 to 1.5                  | 8.4                      | ---                   | ---                      | ---                    | --- |
| B51-2     | 2 to 2.5                  | 9.9                      | ---                   | ---                      | ---                    | --- |
| B52-0     | 0 to 0.5                  | 23                       | ---                   | ---                      | ---                    | --- |
| B52-1     | 1 to 1.5                  | 12                       | ---                   | ---                      | ---                    | --- |
| B52-2     | 2 to 2.5                  | 6.1                      | ---                   | ---                      | ---                    | --- |
| B53-0     | 0 to 0.5                  | 120                      | 4.6                   | ---                      | ---                    | --- |
| B53-1     | 1 to 1.5                  | 260                      | 8.6                   | ---                      | <0.050                 | --- |
| B53-2     | 2 to 2.5                  | 7.1                      | ---                   | ---                      | ---                    | --- |
| B54-0     | 0 to 0.5                  | 67                       | 2.4                   | ---                      | ---                    | --- |
| B54-1     | 1 to 1.5                  | 560                      | 14                    | ---                      | 0.085                  | --- |
| B54-2     | 2 to 2.5                  | 8.6                      | ---                   | ---                      | ---                    | --- |
| B55-0     | 0 to 0.5                  | 690                      | 19                    | <1.0                     | 0.28                   | 8.2 |
| B55-1     | 1 to 1.5                  | 8.2                      | ---                   | ---                      | ---                    | --- |
| B55-2     | 2 to 2.5                  | 14                       | ---                   | ---                      | ---                    | --- |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID | Sample<br>Depth<br>(feet) | Total<br>Lead<br>(mg/kg) | WET<br>Lead<br>(mg/l) | DI-WET<br>Lead<br>(mg/l) | TCLP<br>Lead<br>(mg/l) | pH  |
|-----------|---------------------------|--------------------------|-----------------------|--------------------------|------------------------|-----|
| B56-0     | 0 to 0.5                  | 38                       | ---                   | ---                      | ---                    | --- |
| B56-1     | 1 to 1.5                  | 12                       | ---                   | ---                      | ---                    | --- |
| B56-2     | 2 to 2.5                  | 160                      | 3.2                   | ---                      | ---                    | --- |
| B57-0     | 0 to 0.5                  | 54                       | 1.7                   | ---                      | ---                    | --- |
| B57-1     | 1 to 1.5                  | 15                       | ---                   | ---                      | ---                    | --- |
| B57-2     | 2 to 2.5                  | 7.1                      | ---                   | ---                      | ---                    | --- |
| B58-0     | 0 to 0.5                  | 12                       | ---                   | ---                      | ---                    | --- |
| B58-1     | 1 to 1.5                  | 6.5                      | ---                   | ---                      | ---                    | --- |
| B58-2     | 2 to 2.5                  | 5.7                      | ---                   | ---                      | ---                    | --- |
| B59-0     | 0 to 0.5                  | 240                      | 10                    | ---                      | 0.11                   | --- |
| B59-1     | 1 to 1.5                  | 7.9                      | ---                   | ---                      | ---                    | --- |
| B59-2     | 2 to 2.5                  | 10                       | ---                   | ---                      | ---                    | --- |
| B60-0     | 0 to 0.5                  | 470                      | 24                    | ---                      | 0.067                  | --- |
| B60-1     | 1 to 1.5                  | 11                       | ---                   | ---                      | ---                    | --- |
| B60-2     | 2 to 2.5                  | 6.5                      | ---                   | ---                      | ---                    | --- |
| B61-0     | 0 to 0.5                  | 280                      | 20                    | ---                      | 0.086                  | --- |
| B61-1     | 1 to 1.5                  | 18                       | ---                   | ---                      | ---                    | --- |
| B61-2     | 2 to 2.5                  | 7.0                      | ---                   | ---                      | ---                    | --- |
| B62-0     | 0 to 0.5                  | 300                      | 17                    | ---                      | 0.072                  | --- |
| B62-1     | 1 to 1.5                  | 8.8                      | ---                   | ---                      | ---                    | --- |
| B62-2     | 2 to 2.5                  | 5.8                      | ---                   | ---                      | ---                    | --- |
| B63-0     | 0 to 0.5                  | 420                      | 35                    | ---                      | 0.33                   | --- |
| B63-1     | 1 to 1.5                  | 12                       | ---                   | ---                      | ---                    | --- |
| B63-2     | 2 to 2.5                  | 36                       | ---                   | ---                      | ---                    | --- |
| B64-0     | 0 to 0.5                  | 700                      | 51                    | <1.0                     | 0.22                   | 7.1 |
| B64-1     | 1 to 1.5                  | 9.4                      | ---                   | ---                      | ---                    | --- |
| B64-2     | 2 to 2.5                  | 14                       | ---                   | ---                      | ---                    | --- |

**TABLE 2**  
**Summary of Lead and pH Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID                       | Sample Depth (feet) | Total Lead (mg/kg) | WET Lead (mg/l) | DI-WET Lead (mg/l) | TCLP Lead (mg/l) | pH  |
|---------------------------------|---------------------|--------------------|-----------------|--------------------|------------------|-----|
| B65-0                           | 0 to 0.5            | 940                | 71              | 1.1                | 0.34             | 6.9 |
| B65-1                           | 1 to 1.5            | 9.3                | ---             | ---                | ---              | --- |
| B65-2                           | 2 to 2.5            | 22                 | ---             | ---                | ---              | --- |
| B66-0                           | 0 to 0.5            | 630                | 43              | ---                | 0.25             | --- |
| B66-1                           | 1 to 1.5            | 12                 | ---             | ---                | ---              | --- |
| B66-2                           | 2 to 2.5            | 8.9                | ---             | ---                | ---              | --- |
| B67-0                           | 0 to 0.5            | 74                 | 3.6             | ---                | ---              | --- |
| B67-1                           | 1 to 1.5            | 21                 | ---             | ---                | ---              | --- |
| B67-2                           | 2 to 2.5            | 6.2                | ---             | ---                | ---              | --- |
| <b>Hazardous Waste Criteria</b> |                     |                    |                 |                    |                  |     |
|                                 | TTLIC (mg/kg)       | 1,000              | ---             | ---                | ---              | --- |
|                                 | STLC (mg/l)         | ---                | 5.0             | ---                | ---              | --- |
|                                 | TCLP (mg/l)         | ---                | ---             | ---                | 5.0              | --- |

**Notes:**

- mg/kg = Milligrams per kilogram
- mg/l = Milligrams per liter
- WET = Waste Extraction Test using citric acid as the extraction fluid
- DI-WET = Waste Extraction Test using deionized water as the extraction fluid
- TCLP = Toxicity Characteristic Leaching Procedure
- TTLIC = Total Threshold Limit Concentration

**Table 3**  
**Summary of CAM 17 Metals Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID | Depth Interval | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium    | Cobalt | Copper | Lead | Mercury       | Molybdenum | Nickel      | Selenium | Silver | Thallium | Vanadium | Zinc |
|-----------|----------------|----------|---------|--------|-----------|---------|-------------|--------|--------|------|---------------|------------|-------------|----------|--------|----------|----------|------|
| B1-0      | 0 to 0.5       | <2.0     | 5.1     | 130    | <1.0      | <1.0    | 44          | 8.6    | 41     | 420  | <0.10         | 1.1        | 63          | <1.0     | <1.0   | 2.7      | 28       | 150  |
| B3-2      | 2 to 2.5       | <2.0     | 4.1     | 170    | <1.0      | <1.0    | 26          | 8.1    | 17     | 16   | <0.10         | <1.0       | 30          | <1.0     | <1.0   | 3.0      | 35       | 39   |
| B8-1      | 1 to 1.5       | <2.0     | 4.2     | 130    | <1.0      | <1.0    | 130<br><1.0 | 17     | 27     | 6.8  | <0.10         | <1.0       | 170         | <1.0     | <1.0   | <1.0     | 49       | 41   |
| B14-2     | 2 to 2.5       | <2.0     | 2.5     | 73     | <1.0      | <1.0    | 240<br><1.0 | 25     | 34     | 22   | <0.10         | <1.0       | 340<br>1.6  | 1.0      | <1.0   | <1.0     | 58       | 58   |
| B15-0     | 0 to 0.5       | <2.0     | 2.4     | 180    | <1.0      | <1.0    | 11          | 4.8    | 9.7    | 77   | <0.10         | <1.0       | 14          | <1.0     | <1.0   | <1.0     | 30       | 140  |
| B17-1     | 1 to 1.5       | 3.4      | 4.2     | 160    | <1.0      | <1.0    | 170<br><1.0 | 23     | 34     | 4.7  | <0.10         | <1.0       | 270<br><1.0 | <1.0     | <1.0   | <1.0     | 46       | 44   |
| B20-2     | 2 to 2.5       | 4.5      | 3.9     | 89     | <1.0      | <1.0    | 230<br><1.0 | 27     | 39     | 4.0  | 4.4<br><0.001 | <1.0       | 320<br><1.0 | <1.0     | <1.0   | <1.0     | 60       | 48   |
| B23-1     | 1 to 1.5       | <2.0     | 4.0     | 140    | <1.0      | <1.0    | 28          | 12     | 16     | 34   | <0.10         | <1.0       | 37          | <1.0     | <1.0   | 4.4      | 31       | 45   |
| B25-0     | 0 to 0.5       | <2.0     | 4.9     | 130    | <1.0      | <1.0    | 42          | 11     | 21     | 12   | <0.10         | <1.0       | 63          | <1.0     | <1.0   | <1.0     | 36       | 41   |
| B27-2     | 2 to 2.5       | <2.0     | 5.5     | 120    | <1.0      | <1.0    | 63<br><1.0  | 13     | 33     | 24   | 0.14          | <1.0       | 86          | <1.0     | <1.0   | <1.0     | 45       | 62   |
| B29-1     | 1 to 1.5       | <2.0     | 4.3     | 120    | <1.0      | <1.0    | 130<br><1.0 | 20     | 38     | 13   | <0.10         | <1.0       | 200<br>1.1  | 1.1      | <1.0   | <1.0     | 48       | 40   |
| B34-1     | 1 to 1.5       | <2.0     | 3.7     | 130    | <1.0      | <1.0    | 19          | 7.2    | 15     | 38   | <0.10         | <1.0       | 23          | <1.0     | <1.0   | <1.0     | 27       | 44   |
| B37-2     | 2 to 2.5       | <2.0     | 3.9     | 150    | <1.0      | <1.0    | 28          | 9.9    | 18     | 12   | <0.10         | <1.0       | 38          | <1.0     | <1.0   | <1.0     | 30       | 53   |
| B41-2     | 2 to 2.5       | <2.0     | 3.2     | 140    | <1.0      | <1.0    | 21          | 7.8    | 15     | 13   | <0.10         | <1.0       | 28          | <1.0     | <1.0   | <1.0     | 29       | 33   |
| B43-0     | 0 to 0.5       | <2.0     | 3.1     | 110    | <1.0      | <1.0    | 23          | 7.2    | 15     | 69   | <0.10         | <1.0       | 30          | <1.0     | <1.0   | <1.0     | 24       | 63   |
| B44-1     | 1 to 1.5       | <2.0     | 2.6     | 160    | <1.0      | <1.0    | 26          | 5.9    | 13     | 4.0  | <0.10         | <1.0       | 28          | <1.0     | <1.0   | <1.0     | 34       | 32   |
| B46-0     | 0 to 0.5       | <2.0     | 4.0     | 140    | <1.0      | <1.0    | 23          | 8.7    | 17     | 34   | <0.10         | <1.0       | 30          | <1.0     | <1.0   | <1.0     | 29       | 46   |

**Table 3  
Summary of CAM 17 Metals Results - Soil  
SR-82/SR-92 Interchange  
San Mateo, CA**

| Sample ID                                      | Depth Interval                        | Antimony | Arsenic | Barium  | Beryllium | Cadmium | Chromium               | Cobalt | Copper | Lead  | Mercury | Molybdenum | Nickel | Selenium | Silver | Thallium | Vanadium | Zinc    |  |
|--|---------------------------------------|----------|---------|---------|-----------|---------|------------------------|--------|--------|-------|---------|------------|--------|----------|--------|----------|----------|---------|--|
| B48-2  | 2 to 2.5                              | <2.0     | 3.9     | 140     | <1.0      | <1.0    | 20                     | 8.9    | 13     | 7.9   | <0.10   | <1.0       | 24     | <1.0     | <1.0   | <1.0     | 29       | 29      |  |
| B55-1  | 1 to 1.5                              | <2.0     | 4.6     | 130     | <1.0      | <1.0    | 25                     | 10     | 24     | 8.2   | <0.10   | <1.0       | 39     | <1.0     | <1.0   | <1.0     | 30       | 45      |  |
| B58-2  | 2 to 2.5                              | <2.0     | 3.4     | 150     | <1.0      | <1.0    | 21                     | 5.0    | 11     | 5.7   | <0.10   | <1.0       | 22     | <1.0     | <1.0   | <1.0     | 28       | 35      |  |
| B62-2  | 2 to 2.5                              | 2.2      | 5.0     | 75      | <1.0      | <1.0    | 45                     | 12     | 27     | 5.8   | <0.10   | <1.0       | 73     | <1.0     | <1.0   | <1.0     | 35       | 47      |  |
| B65-1  | 1 to 1.5                              | <2.0     | 4.1     | 140     | <1.0      | <1.0    | 24                     | 8.5    | 15     | 9.3   | <0.10   | <1.0       | 28     | <1.0     | <1.0   | 2.6      | 33       | 98      |  |
| <b>Hazardous Waste Criteria</b>                |                                       |          |         |         |           |         |                        |        |        |       |         |            |        |          |        |          |          |         |  |
|  | TTL (mg/kg)                           | 500      | 500     | 10,000  | 75        | 100     | 2,500                  | 8,000  | 2,500  | 1,000 | 20      | 3,500      | 2,000  | 100      | 500    | 700      | 2,400    | 5,000   |  |
|  | STLC (mg/l)                           | 15       | 5.0     | 100     | 0.75      | 1.0     | 5.0                    | 80     | 25     | 5.0   | 0.2     | 350        | 20     | 1.0      | 5.0    | 7.0      | 24       | 250     |  |
|  | TCLP (mg/l)                           | ---      | 5.0     | 100     | ---       | 1.0     | 6.0                    | ---    | ---    | 5.0   | 0.2     | ---        | ---    | 1.0      | 5.0    | ---      | ---      | ---     |  |
| <b>CHHSLs</b>                                  |                                       |          |         |         |           |         |                        |        |        |       |         |            |        |          |        |          |          |         |  |
|  | Residential Land Use                  | 30       | 0.07    | 5,200   | 150       | 1.7     | 100,000                | 660    | 3,000  | 150   | 18      | 380        | 1,600  | 380      | 380    | 5.0      | 530      | 23,000  |  |
|  | Commercial/Industrial Land Use        | 380      | 0.24    | 63,000  | 1,700     | 7.5     | 100,000                | 3,200  | 38,000 | 3,500 | 180     | 4,800      | 16,000 | 4,800    | 4,800  | 63       | 6,700    | 100,000 |  |
| <b>ESLs</b>                                    |                                       |          |         |         |           |         |                        |        |        |       |         |            |        |          |        |          |          |         |  |
|  | Tier 1                                | 31       | 0.067   | 2,900   | 0.083     | 0.00006 | 120,000                | 23     | 3,100  | 80    | 13      | 390        | 83     | 390      | 390    | 0.78     | 600      | 23,000  |  |
|  | Residential Direct Exposure           | 31       | 0.067   | 15,000  | 0.083     | 0.014   | 120,000                | 23     | 3,100  | 80    | 13      | 390        | 820    | 390      | 390    | 0.78     | 140,000  | 23,000  |  |
|  | Commercial/Industrial Direct Exposure | 470      | 0.31    | 220,000 | 0.039     | 0.058   | 1,800,000              | 350    | 47,000 | 320   | 190     | 5,800      | 11,000 | 5,800    | 5,800  | 12       | 580,000  | 350,000 |  |
|  | Construction Worker Direct Exposure   | 140      | 0.94    | 2,900   | 2.9       | 0.00006 | 510,000 <sup>(1)</sup> | 27     | 14,000 | 2,700 | 42      | 1,700      | 83     | 1,700    | 1,700  | 3.4      | 600      | 100,000 |  |
| <b>Background Concentrations<sup>(2)</sup></b> |                                       |          |         |         |           |         |                        |        |        |       |         |            |        |          |        |          |          |         |  |
|  | Minimum                               | 0.15     | 0.6     | 133     | 0.25      | 0.05    | 23                     | 2.7    | 9.1    | 12.4  | 0.10    | 0.1        | 9.0    | 0.015    | 0.10   | 0.17     | 39       | 88      |  |
|  | Mean                                  | 0.60     | 3.5     | 509     | 1.28      | 0.36    | 122                    | 14.9   | 28.7   | 23.9  | 0.26    | 1.3        | 57     | 0.058    | 0.80   | 0.56     | 112      | 149     |  |
|  | Maximum                               | 1.95     | 11      | 1,400   | 2.70      | 1.70    | 1,579                  | 46.9   | 96.4   | 97.1  | 0.90    | 9.6        | 509    | 0.430    | 8.30   | 1.10     | 288      | 236     |  |

**Notes:**

Results are shown in milligrams per kilogram (mg/kg)

< = not detected at or above laboratory reporting limit

TTL = Total Threshold Limit Concentration

STLC = Soluble Threshold Limit Concentration

TCLP = Toxicity Characteristic Leaching Procedure

ESLs = Environmental Screening Levels, Direct Exposure for Human Health, Table Tier 1 and S-1, SFRWQCB, February 2016

<sup>(1)</sup> = Value listed is for Chromium III, as there is no construction exposure standard for total chromium.

<sup>(2)</sup> = Background Concentrations of Trace and Major Elements in California Soils (Kearney Foundation of Soil Science, Division of Agricultural and Natural Resources, University of California, March 1996)

*Values listed in italics are results of WET analysis in milligrams per liter (mg/l)*

**TABLE 4**  
**Summary of Petroleum Compounds Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| <b>Sample ID</b> | <b>Depth Interval</b> | <b>TPHd (mg/kg)</b> | <b>TPHmo (mg/kg)</b> | <b>TPHg (mg/kg)</b> | <b>MTBE/BTEX (µg/kg)</b> |
|------------------|-----------------------|---------------------|----------------------|---------------------|--------------------------|
| B3-0             | 0 to 0.5              | 16                  | 43                   | ---                 | ---                      |
| B3-2             | 2 to 2.5              | 4.0                 | 7.8                  | ---                 | ---                      |
| B9-0             | 0 to 0.5              | 28                  | 61                   | ---                 | ---                      |
| B9-2             | 2 to 2.5              | 6.6                 | 14                   | ---                 | ---                      |
| B10-10           | 10 to 10.5            | ---                 | ---                  | 150                 | Ethylbenzene = 520       |
| B10-25           | 25 to 25.5            | ---                 | ---                  | <1.0                | ND                       |
| B12-0            | 0 to 0.5              | 72                  | 150                  | ---                 | ---                      |
| B12-2            | 2 to 2.5              | <1.0                | <1.0                 | ---                 | ---                      |
| B14-0            | 0 to 0.5              | 160                 | 610                  | ---                 | ---                      |
| B14-2            | 2 to 2.5              | 5.0                 | 11                   | ---                 | ---                      |
| B16-0            | 0 to 0.5              | 27                  | 91                   | ---                 | ---                      |
| B16-2            | 2 to 2.5              | 1.5                 | 1.4                  | ---                 | ---                      |
| B19-0            | 0 to 0.5              | 41                  | 59                   | ---                 | ---                      |
| B19-2            | 2 to 2.5              | 7.4                 | 5.2                  | ---                 | ---                      |
| B23-0            | 0 to 0.5              | 20                  | 42                   | ---                 | ---                      |
| B23-2            | 2 to 2.5              | 38                  | 120                  | ---                 | ---                      |
| B25-10           | 10 to 10.5            | ---                 | ---                  | <1.0                | ND                       |
| B25-25           | 25 to 25.5            | ---                 | ---                  | <1.0                | ND                       |
| B26-0            | 0 to 0.5              | 240                 | 690                  | ---                 | ---                      |
| B26-2            | 2 to 2.5              | 1.4                 | 1.4                  | ---                 | ---                      |
| B29-0            | 0 to 0.5              | 3.2                 | 7.4                  | ---                 | ---                      |
| B29-2            | 2 to 2.5              | 6.0                 | 4.6                  | ---                 | ---                      |
| B32-0            | 0 to 0.5              | 44                  | 140                  | ---                 | ---                      |
| B32-2            | 2 to 2.5              | 2.9                 | 4.9                  | ---                 | ---                      |
| B37-0            | 0 to 0.5              | 5.2                 | 11                   | ---                 | ---                      |
| B37-2            | 2 to 2.5              | 2.6                 | 4.3                  | ---                 | ---                      |
| B41-0            | 0 to 0.5              | 3.2                 | 4.8                  | ---                 | ---                      |
| B41-2            | 2 to 2.5              | 12                  | 14                   | ---                 | ---                      |
| B44-0            | 0 to 0.5              | 13                  | 22                   | ---                 | ---                      |
| B44-2            | 2 to 2.5              | 6.1                 | 4.7                  | ---                 | ---                      |
| B48-0            | 0 to 0.5              | 21                  | 40                   | ---                 | ---                      |
| B48-2            | 2 to 2.5              | 4.8                 | 3.7                  | ---                 | ---                      |

**TABLE 4**  
**Summary of Petroleum Compounds Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID | Depth Interval | TPHd<br>(mg/kg) | TPHmo<br>(mg/kg) | TPHg<br>(mg/kg) | MTBE/BTEX<br>(µg/kg) |
|-----------|----------------|-----------------|------------------|-----------------|----------------------|
| B51-0     | 0 to 0.5       | 15              | 22               | ---             | ---                  |
| B51-2     | 2 to 2.5       | 17              | 23               | ---             | ---                  |
| B55-0     | 0 to 0.5       | 1,200           | 3,300            | ---             | ---                  |
| B55-2     | 2 to 2.5       | 13              | 14               | ---             | ---                  |
| B58-0     | 0 to 0.5       | 11              | 15               | ---             | ---                  |
| B58-2     | 2 to 2.5       | 7.3             | 4.5              | ---             | ---                  |
| B61-0     | 0 to 0.5       | 32              | 83               | ---             | ---                  |
| B61-2     | 2 to 2.5       | 8.2             | 6.6              | ---             | ---                  |
| B64-0     | 0 to 0.5       | 18              | 44               | ---             | ---                  |
| B64-2     | 2 to 2.5       | 1.3             | <1.0             | ---             | ---                  |
| B67-10    | 10 to 10.5     | ---             | ---              | ---             | ND*                  |
| B67-25    | 25 to 25.5     | ---             | ---              | ---             | ND*                  |

| <u>ESLs</u>                           |       |         |       |                        |  |
|---------------------------------------|-------|---------|-------|------------------------|--|
| Tier 1                                | 240   | 100     | 100   | Ethylbenzene = 1,400   |  |
| Residential Direct Exposure           | 240   | 11,000  | 770   | Ethylbenzene = 5,500   |  |
| Commercial/Industrial Direct Exposure | 1,200 | 140,000 | 4,100 | Ethylbenzene = 24,000  |  |
| Construction Worker Direct Exposure   | 900   | 31,000  | 2,800 | Ethylbenzene = 510,000 |  |

**Notes:**

- mg/kg = milligrams per kilogram
- µg/kg = micrograms per kilogram
- TPHd = Total petroleum hydrocarbons as diesel
- TPHmo = Total petroleum hydrocarbons as motor oil
- TPHg = Total petroleum hydrocarbons as gasoline
- ESLs = Environmental Screening Levels, Direct Exposure for Human Health, Tables Tier 1 and S-1, SFRWQCB, February 2016
- BTEX = Benzene, toluene, ethylbenzene, and total xylenes
- MTBE = methyl tert-butyl ether
- ND = Not Detected
- \* = BTEX not detected. Sample not analyzed for MTBE
- = Not Analyzed or no standard exists

**TABLE 5**  
**Summary of Volatile Organic Compounds Results - Soil**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID   | Depth Interval                        | 4-Isopropyltoluene | Ethylbenzene | Isopropylbenzene | n-Butylbenzene | n-Propylbenzene | Naphthalene | sec-Butylbenzene | tert-Butylbenzene | Other VOCs |
|-------------|---------------------------------------|--------------------|--------------|------------------|----------------|-----------------|-------------|------------------|-------------------|------------|
| B4-10       | 10 to 10.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| B4-20       | 20 to 20.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| B10-10      | 10 to 10.5                            | 210                | 520          | 13,000           | 4,100          | 6,700           | 4,900       | 810              | 120               | ND         |
| B10-25      | 25 to 25.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| B42-10      | 10 to 10.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| B42-25      | 25 to 25.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| B67-10      | 10 to 10.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| B67-25      | 25 to 25.5                            | <5.0               | <5.0         | <5.0             | <5.0           | <5.0            | <5.0        | <5.0             | <5.0              | ND         |
| <hr/>       |                                       |                    |              |                  |                |                 |             |                  |                   |            |
| <b>ESLs</b> |                                       |                    |              |                  |                |                 |             |                  |                   |            |
|             | Tier 1                                | ---                | 1,400        | ---              | ---            | ---             | 23          | ---              | ---               | ---        |
|             | Residential Direct Exposure           | ---                | 5,500        | ---              | ---            | ---             | 1,900       | ---              | ---               | ---        |
|             | Commercial/Industrial Direct Exposure | ---                | 24,000       | ---              | ---            | ---             | 8,200       | ---              | ---               | ---        |
|             | Construction Worker Direct Exposure   | ---                | 510,000      | ---              | ---            | ---             | 78,000      | ---              | ---               | ---        |

**Notes:**

Results shown in micrograms per kilogram (µg/kg)  
 < = Not detected at the stated reporting limit  
 ND = Not detected

--- = Not Analyzed or no standard exists  
 ESLs = Environmental Screening Levels, Direct Exposure for Human Health, Tables Tier 1 and S-1,  
 SFRWQCB, February 2016

**TABLE 6**  
**Summary of Petroleum Compounds Results - Groundwater**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID                              | TPHg<br>(mg/l) | BTEX/MTBE<br>(µg/l)                  |
|--|----------------|--------------------------------------|
| B10-GW                                 | 1.3            | Benzene= 16<br>Ethylbenzene = 74     |
| Trip Blank                             | <0.05          | ND                                   |
| <b><u>ESLs</u></b>                     |                |                                      |
| MCL                                    | 0.22           | Benzene = 1.0<br>Ethylbenzene = 30   |
| Direct Exposure Human Health           | 0.22           | Benzene = 0.15<br>Ethylbenzene = 1.5 |
| Fresh Water Ecological Aquatic Habitat | 0.44           | Benzene = 46<br>Ethylbenzene = 290   |
| Saltwater Ecological Aquatic Habitat   | 3.7            | Benzene = 350<br>Ethylbenzene = 43   |

**Notes:**

- mg/l = milligrams per liter
- µg/l = micrograms per liter
- TPHg = Total petroleum hydrocarbons as gasoline
- BTEX = Benzene, toluene, ethylbenzene, and total xylenes
- MTBE = Methyl tert-butyl ether
- < = Not detected at or above the stated laboratory reporting limit
- ND = None detected
- ESLs = Environmental Screening Levels, (SFRWQCB, February 2016)
- MCL = Maximum Contaminant Level

**TABLE 7**  
**Summary of Volatile Organic Compounds Results - Groundwater**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

| Sample ID  | Benzene | Ethylbenzene | Isopropylbenzene | Naphthalene | n-Butylbenzene | n-Propylbenzene | sec-Butylbenzene | tert-Butylbenzene | Remaining VOCs |
|------------|---------|--------------|------------------|-------------|----------------|-----------------|------------------|-------------------|----------------|
| B10-GW     | 17      | 82           | 510              | 7.8         | 11             | 110             | 10               | 2.4               | ND             |
| B42-GW     | <0.50   | <0.50        | <0.50            | <0.50       | <0.50          | <0.50           | <0.50            | <0.50             | ND             |
| B67-GW     | <5.0    | <5.0         | <5.0             | <5.0        | <5.0           | <5.0            | <5.0             | <5.0              | ND             |
| Trip Blank | <0.50   | <0.50        | <0.50            | <0.50       | <0.50          | <0.50           | <0.50            | <0.50             | ND             |

| <u>ESLs</u>                            |      |     |     |      |     |     |     |     |     |
|--|------|-----|-----|------|-----|-----|-----|-----|-----|
| MCL                                    | 1.0  | 30  | --- | 0.12 | --- | --- | --- | --- | --- |
| Direct Exposure Human Health           | 0.15 | 1.5 | --- | 0.12 | --- | --- | --- | --- | --- |
| Fresh Water Ecological Aquatic Habitat | 46   | 290 | --- | 24   | --- | --- | --- | --- | --- |
| Saltwater Ecological Aquatic Habitat   | 350  | 43  | --- | 240  | --- | --- | --- | --- | --- |

**Notes:**

- µg/l = micrograms per liter
- VOCs = Volatile organic compounds
- ND = Not detected
- < = Not detected at or above the stated laboratory reporting limit
- ESLs = Environmental Screening Levels, (SFRWQCB, February 2016)
- MCL = Maximum Contaminant Level

**TABLE 8a**  
**Summary of Lead Statistical Analysis**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

**EB SR-92 Offramp to SB SR-82**  
**(Borings B1 to B10)**

**TOTAL LEAD**

|      | <b>90% UCL</b> | <b>95% UCL</b> |
|------|----------------|----------------|
| 0 ft | 182            | 196            |
| 1 ft | 18.3           | 19.9           |
| 2 ft | 12.9           | 13.6           |

**EXCAVATION SCENARIOS**

| <b>Excavation Depth</b>              | <b>Weighted Averages</b>                      |                                 | <b>95% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> |
|--------------------------------------|---|---------------------------------|---|
|                                      | <b>90% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> | <b>WET<br/>Lead*<br/>(mg/l)</b> |   |
| 0 to 1 ft                            | 182   | 9.7                             | 196   |
| <i>Underlying Soil (1 to 2.5 ft)</i> | <i>16.5</i>                                   | <i>0.9</i>                      | <i>17.8</i>                                   |
| 0 to 2 ft                            | 100   | 5.3                             | 108   |
| <i>Underlying Soil (2 to 2.5 ft)</i> | <i>12.9</i>                                   | <i>0.7</i>                      | <i>13.6</i>                                   |
| 0 to 2.5 ft                          | 83  | 4.4                             | 89  |

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = WET lead concentrations are predicted using slope of regression line,  
 where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0532 x$

**TABLE 8b**  
**Summary of Lead Statistical Analysis**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

**SB SR-82 Loop Onramp to EB SR-92**  
**(Borings B11 to B21)**

**TOTAL LEAD**

|      | <b>90% UCL</b> | <b>95% UCL</b> |
|------|----------------|----------------|
| 0 ft | 210            | 224            |
| 1 ft | 13.3           | 14.2           |
| 2 ft | 12.6           | 13.5           |

**EXCAVATION SCENARIOS**

| <b>Excavation Depth</b>              | <b>Weighted Averages</b>                      |                                 | <b>95% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> |
|--------------------------------------|---|---------------------------------|---|
|                                      | <b>90% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> | <b>WET<br/>Lead*<br/>(mg/l)</b> |   |
| 0 to 1 ft                            | 210   | 11.2                            | 224   |
| <i>Underlying Soil (1 to 2.5 ft)</i> | <i>13.1</i>                                   | <i>0.7</i>                      | <i>14</i>                                     |
| 0 to 2 ft                            | 112   | 5.9                             | 119   |
| <i>Underlying Soil (2 to 2.5 ft)</i> | <i>12.6</i>                                   | <i>0.7</i>                      | <i>13.5</i>                                   |
| 0 to 2.5 ft                          | 92  | 4.9                             | 98  |

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = WET lead concentrations are predicted using slope of regression line,  
 where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0532 x$

**TABLE 8c**  
**Summary of Lead Statistical Analysis**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

**NB SR-82 Onramp to EB SR-92**  
**(Borings B22 to B31)**

**TOTAL LEAD**

|      | <b>90% UCL</b> | <b>95% UCL</b> |
|------|----------------|----------------|
| 0 ft | 504            | 550            |
| 1 ft | 62.8           | 68.8           |
| 2 ft | 37.7           | 40.7           |

**EXCAVATION SCENARIOS**

| <b>Excavation Depth</b>              | <b>Weighted Averages</b>                      |                                 | <b>95% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> |
|--------------------------------------|---|---------------------------------|---|
|                                      | <b>90% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> | <b>WET<br/>Lead*<br/>(mg/l)</b> |   |
| 0 to 1 ft                            | 504   | 26.8                            | 550   |
| <i>Underlying Soil (1 to 2.5 ft)</i> | 54.4  | 2.9                             | 59.4  |
| 0 to 2 ft                            | 283   | 15.1                            | 309   |
| <i>Underlying Soil (2 to 2.5 ft)</i> | 37.7  | 2.0                             | 40.7  |
| 0 to 2.5 ft                          | 234   | 12.5                            | 256   |

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = WET lead concentrations are predicted using slope of regression line,  
where y = predicted WET lead and x = total lead.

Regression Line Slope:  $y = 0.0532 \cdot x$

**TABLE 8d**  
**Summary of Lead Statistical Analysis**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

**WB SR-92 Offramp to NB SR-82**  
**(Borings B32 to B42)**

**TOTAL LEAD**

|      | 90% UCL | 95% UCL |
|------|---------|---------|
| 0 ft | 267     | 292     |
| 1 ft | 49.4    | 52.5    |
| 2 ft | 101     | 113     |

**EXCAVATION SCENARIOS**

| Excavation Depth                     | Weighted Averages                   |                        | 95% UCL<br>Total<br>Lead<br>(mg/kg) |
|--------------------------------------|-------------------------------------|------------------------|-------------------------------------|
|                                      | 90% UCL<br>Total<br>Lead<br>(mg/kg) | WET<br>Lead*<br>(mg/l) |                                     |
| 0 to 1 ft                            | 267                                 | 14.2                   | 292                                 |
| <i>Underlying Soil (1 to 2.5 ft)</i> | 66.6                                | 3.5                    | 72.7                                |
| 0 to 2 ft                            | 158                                 | 8.4                    | 172                                 |
| <i>Underlying Soil (2 to 2.5 ft)</i> | 101                                 | 5.4                    | 113                                 |
| 0 to 2.5 ft                          | 147                                 | 7.8                    | 160                                 |

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = WET lead concentrations are predicted using slope of regression line,  
where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0532 \cdot x$

**TABLE 8e**  
**Summary of Lead Statistical Analysis**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

**NB SR-82 Loop Onramp to WB SR-92**  
**(Borings B43 to B52)**

**TOTAL LEAD**

|      | <b>90% UCL</b> | <b>95% UCL</b> |
|------|----------------|----------------|
| 0 ft | 56.6           | 59.5           |
| 1 ft | 24.1           | 25.7           |
| 2 ft | 14.3           | 14.9           |

**EXCAVATION SCENARIOS**

| <b>Excavation Depth</b>              | <b>Weighted Averages</b>                      |                                 | <b>95% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> |
|--------------------------------------|---|---------------------------------|---|
|                                      | <b>90% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> | <b>WET<br/>Lead*<br/>(mg/l)</b> |   |
| 0 to 1 ft                            | 56.6  | 3.0                             | 59.5  |
| <i>Underlying Soil (1 to 2.5 ft)</i> | 20.8  | 1.1                             | 22.1  |
| 0 to 2 ft                            | 40.4  | 2.1                             | 42.6  |
| <i>Underlying Soil (2 to 2.5 ft)</i> | 14.3  | 0.8                             | 14.9  |
| 0 to 2.5 ft                          | 35.1  | 1.9                             | 37.1  |

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = WET lead concentrations are predicted using slope of regression line,  
 where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0532 \cdot x$

**TABLE 8f**  
**Summary of Lead Statistical Analysis**  
**SR-82/SR-92 Interchange**  
**San Mateo, CA**

**SB SR-82 Onramp to WB SR-92**  
**(Borings B53 to B67)**

**TOTAL LEAD**

|      | <b>90% UCL</b> | <b>95% UCL</b> |
|------|----------------|----------------|
| 0 ft | 430            | 459            |
| 1 ft | 113            | 127            |
| 2 ft | 34             | 37.2           |

**EXCAVATION SCENARIOS**

| <b>Excavation Depth</b>              | <b>Weighted Averages</b>                      |                                 | <b>95% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> |
|--------------------------------------|---|---------------------------------|---|
|                                      | <b>90% UCL<br/>Total<br/>Lead<br/>(mg/kg)</b> | <b>WET<br/>Lead*<br/>(mg/l)</b> |   |
| 0 to 1 ft                            | 430   | 22.9                            | 459   |
| <i>Underlying Soil (1 to 2.5 ft)</i> | 86.7  | 4.6                             | 97.1  |
| 0 to 2 ft                            | 272   | 14.4                            | 293   |
| <i>Underlying Soil (2 to 2.5 ft)</i> | 34.0  | 1.8                             | 37.2  |
| 0 to 2.5 ft                          | 224   | 11.9                            | 242   |

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

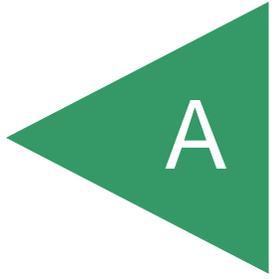
mg/l = milligrams per liter

\* = WET lead concentrations are predicted using slope of regression line,  
where y = predicted WET lead and x = total lead.

Regression Line Slope:  $y = 0.0532 \cdot x$

APPENDIX

A





**Matthew Rodriguez**  
Secretary for  
Environmental Protection



## Department of Toxic Substances Control

Barbara A. Lee, Director  
8800 Cal Center Drive  
Sacramento, California 95826-3200



**Edmund G. Brown Jr.**  
Governor

October 30, 2015

Ms. Katrina C. Pierce, Chief  
Division of Environmental Analysis  
California Department of Transportation  
P.O. Box 94284, MS-27  
Sacramento, California 94723-0001

### EXTENSION OF STATEWIDE VARIANCE NO. V09HQSCD006 FOR CALTRANS HANDLING OF AERIALY DEPOSITED LEAD SOILS

Dear Ms. Pierce:

This letter is in response to the October 20, 2015 request from the California Department of Transportation (Caltrans) for an extension of Variance No. V09HQSCD006 (Variance).

The Variance is hereby extended to April 30, 2016 and is subject to the same additional conditions as set forth in correspondence from Mr. Raymond Leclerc of the Department of Toxic Substances Control (DTSC) to Ms. Katrina C. Pierce of Caltrans dated June 30, 2015 (Extension) and clarified in correspondence dated July 6, 2015, which are repeated below for your convenience.

#### Additional requirements included in the June 30, 2015 correspondence:

- (1) Caltrans shall provide at least 30 day advance written notification to DTSC prior to implementation of any project for which Caltrans will invoke this Variance, and shall send copies of the notification to the Regional Water Quality Control Board (RWQCB) Air Quality Management District (AQMD [or Air Pollution Control District, as applicable]) and local Certified Uniform Program Agency (CUPA). For projects that overlie multiple local agency jurisdictions, all appropriate agencies shall receive a copy of the notification. The advance written notification shall include the following information:
  - a. A statement that the project will entail excavation, stockpiling and burial of aerially deposited lead (ADL)-contaminated soil pursuant to DTSC Variance No. V09HQSCD006;
  - b. Project number;
  - c. Project description;
  - d. Project Limits;
  - e. Electronic versions of the following documents:
    - i. The environmental document prepared for the project;
    - ii. This Variance; and
    - iii. DTSC-prepared fact sheet about this Variance.
  - f. Identify any ADL-contaminated soil that will be moved from the project area to another project area with a complete description of additional project areas.

- g. The following documents will be made available as described above within 10 days of completion:
- i. The Caltrans-approved Excavation and Transportation Plan,
  - ii. Contact information for the Resident Engineer and Project Manager
- (2) For every property where ADL-contaminated soil is buried pursuant to this Variance, Caltrans shall, in compliance with California Code of Regulations, title 22, section 67391.1, execute a legal instrument restricting use of that property, which instrument shall be binding in perpetuity upon Caltrans or any future legatee of the property. Said instrument shall be a land use covenant, except as provided by (a), and shall be recorded with the county (or counties) wherein ADL-contaminated soil has been buried.
- a. For any property for which DTSC determines as set forth in California Code of Regulations, title 22, section 67391.1(f) a land use covenant is not feasible, then another institutional control mechanism may be used as approved by DTSC.

Clarification for the additional requirements, provided in the July 6, 2015 correspondence:

- The additional requirements of the extension only apply to projects awarded after June 30, 2015, where excavation of ADL-contaminated soil will be handled and placed beneath roadways as defined in the Variance No. V09HQSCD006.
- For purposes of reporting, Caltrans may submit electronic copies, URL locations or hard copies of required documents;
- Item 1(f) applies to ADL-contaminated soil moved from one project to another project within the same corridor. Caltrans will provide all information required by Variance No. V09HQSCD006 under Section 9(u).
- Until an appropriate institutional control mechanism can be agreed upon, CalTrans shall provide to DTSC land survey measurement data collected where ADL-contaminated soil is buried.
- "Project implementation" in item 1 of the June 30, 2015, Extension refers to excavation of ADL-contaminated soil.
- Items 1(f) and 1(g) in the Extension are not subject to the 30-day submittal deadline specified in (1), but are subject to a 10-day deadline following document approval or staff identification.

This extension is granted without waiver of any rights that DTSC has to enforce any violations of the Variance that may have occurred prior to October 30, 2015.

If you have any questions regarding this extension of the Variance, please contact me at (916) 255-3582.

Sincerely



Raymond Leclerc, P.E.  
Division Chief

cc: See next page

Ms. Katrina C. Pierce  
July 6, 2015  
Page 3 of 3

Mr. Scott McGowen, Assistant Chief  
Division of Environmental Analysis  
California Department of Transportation  
P.O. Box 942874, MS-27  
Sacramento, California 94271-0001

Mr. Reed Sato  
Chief Counsel  
Office of Legal Affairs  
Department of Toxic Substances Control  
1001 I Street 23<sup>rd</sup> Floor  
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*Matthew Rodriguez*  
Secretary for  
Environmental Protection



## Department of Toxic Substances Control

Barbara A. Lee, Director  
1001 "I" Street  
P.O. Box 806  
Sacramento, California 95812-0806



*Edmund G. Brown Jr.*  
Governor

June 30, 2015

Ms. Katrina C. Pierce, Chief  
Division of Environmental Analysis  
California Department of Transportation  
P.O. Box 942873, MS-27  
Sacramento, California 94273-0001

### EXTENSION OF STATEWIDE VARIANCE NO. V09HQSCD006 FOR CALTRANS HANDLING OF AERIALY DEPOSITED LEAD SOIL

Dear Ms. Pierce:

This letter is in response to the June 16, 2015 request from the California Department of Transportation (CalTrans) for an extension of Variance No. V09HQSCD006 (Variance).

The Variance is hereby extended to October 31, 2015 and is subject to the following additional conditions:

- (1) Caltrans shall provide at least 30 day advance written notification to DTSC prior to implementation of any project for which CalTrans will invoke this Variance, and shall send copies of the notification to the RWQCB, AQMD (or APCD, as applicable) and local Certified Uniform Program Agency (CUPA). For projects that overlie multiple local agency jurisdictions, all appropriate agencies shall receive a copy of the notification. The advance written notification shall include the following information:
  - A. A statement that the project will entail excavation, stockpiling and burial of ADL-contaminated soil pursuant to DTSC Variance No. V15HWMP001;
  - B. Project number;
  - C. Project description;
  - D. Project Limits;
  - E. Electronic versions of the following documents:
    - i. the environmental document prepared for the project;
    - ii. this Variance; and
    - iii. DTSC-prepared fact sheet about this Variance.

- F. Identify any ADL soil that will be moved from the project area to another project area with a complete description of additional project areas.
  - G. The following documents will be made available as described above within 10 days of completion:
    - a. The Caltrans-approved Excavation and Transportation Plan,
    - b. Contact information for Resident Engineer and Project Manager,
- (2) For every property where ADL-contaminated soil is buried pursuant to this variance, CalTrans shall, in compliance with California Code of Regulations, title 22, section 67391.1, execute a legal instrument restricting use of that property, which instrument shall be binding in perpetuity upon CalTrans or any future legatee of the property. Said instrument shall be a land use covenant, except as provided by (a), and shall be recorded with the county (or counties) wherein ADL-contaminated soil has been buried.
- (a) For any property for which the Department determines as set forth in California Code of Regulations, title 22, section 67391.1(f) a land use covenant is not feasible, then another institutional control mechanism may be used as approved by the Department.

This extension is granted without waiver of any rights that DTSC has to enforce any violations of the Variance that may have occurred prior to July 1, 2015.

If you have any questions regarding this extension of the Variance, please contact me at (916) 255-3582.

Sincerely,



Raymond Leclerc, P.E.  
Division Chief

cc: See next page.

Ms. Katrina C. Pierce  
June 30, 2015  
Page 3

Mr. Scott McGowen, Chief  
Division of Environmental Analysis  
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Mr. Reed Sato  
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## Department of Toxic Substances Control

**Matthew Rodriguez**  
Secretary for  
Environmental Protection

Barbara A. Lee, Director  
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**Edmund G. Brown Jr.**  
Governor

December 16, 2014

Ms. Katrina C. Pierce, Chief  
Division of Environmental Analysis  
California Department of Transportation  
P.O. Box 942873, MS-27  
Sacramento, CA 94273-0001

**SUBJECT: SECOND EXTENSION OF STATEWIDE VARIANCE NO.  
V09HQSCD006 FOR CALTRANS' HANDLING OF AERIALLY  
DEPOSITED LEAD SOIL**

Dear Ms. Pierce:

This letter is in response to the December 2, 2014, request from the California Department of Transportation (Caltrans), for an extension for Variance No. V09HQSCD006 (Variance).

The original Variance was issued on June 30, 2009, with an effective period of five years, such that it was set to expire on June 30, 2014. Caltrans requested an extension in May 2014 and received a six-month extension of the Variance to December 31, 2014. The Department of Toxic Substances Control (DTSC) will be unable to issue Caltrans a new five-year Variance before the current Variance extension expires on December 31, 2014. This letter hereby extends the effective date of Variance from December 31, 2014 to June 30, 2015. This extension enables Caltrans to proceed with already-scheduled highway improvement projects without interruption.

The Variance applies to Caltrans' management of soil contaminated by aerial deposition of lead from motor vehicle exhaust. Such soil, historically referred to as "aerially deposited lead (ADL) soil," occurs along many roadsides statewide, and must be appropriately handled by Caltrans in the course of highway improvement projects. For such soil that contains lead in concentrations exceeding state, but not federal, regulatory thresholds for hazardous waste, the

Ms. Katrina C. Pierce  
December 16, 2014  
Page two

Variance waives specific hazardous waste management standards. In lieu of the standards waived, the Variance imposes alternate management standards (conditions) on Caltrans' soil handling activities, to ensure that the handling and relocation of the soil is conducted in a manner protective of human health and safety and the environment. The Variance applies to Caltrans' highway improvement projects in all Caltrans Districts.

If you have further questions regarding this Variance extension, please contact Mr. Bob Gipson, DTSC Project Manager, at (916) 327-4061.

Sincerely,



Pauline Batarseh, Chief  
Policy Implementation and Support Branch  
Policy and Program Support Division  
Hazardous Waste Management Program

Cc:  
Shaila Chowdhury  
Chief, Office of Hazardous Waste, Air, Noise and Paleontology  
Division of Environmental Analysis  
California Department of Transportation  
Sacramento, CA 94273-0001

Richard Bailey  
Senior Engineering Geologist  
Division of Environmental Analysis  
California Department of Transportation  
Sacramento, CA 94273-0001

Kim Christmann  
Senior Engineering Geologist  
Division of Environmental Analysis  
California Department of Transportation  
Sacramento, CA 94273-0001

Ms. Katrina C. Pierce  
December 16, 2014  
Page three

Donn Diebert, P.E.  
Chief, Policy Implementation Unit  
Policy Implementation and Support Branch  
Policy and Program Support Division  
Hazardous Waste Management Program  
Department of Toxic Substances Control  
1001 I Street, Sacramento, CA 95812-0806

Bob Gipson  
Environmental Scientist  
Policy Implementation Unit  
Policy Implementation and Support Branch  
Policy and Program Support Division  
Hazardous Waste Management Program  
Department of Toxic Substances Control  
1001 I Street, Sacramento, CA 95812-0806



**Matthew Rodriguez**  
Secretary for  
Environmental Protection



## Department of Toxic Substances Control



**Edmund G. Brown Jr.**  
Governor

Miriam Barcellona Ingenito  
Acting Director  
1001 "I" Street  
P.O. Box 806  
Sacramento, California 95812-0806

June 26, 2014

Ms. Katrina C. Pierce, Chief  
Division of Environmental Analysis  
California Department of Transportation  
P.O. Box 942873, MS-27  
Sacramento, California 94273-0001

### EXTENSION OF STATEWIDE VARIANCE NO. V09HQSCD006 FOR CALTRANS' HANDLING OF AERIALY DEPOSITED LEAD

Dear Ms. Pierce:

The Department of Toxic Substances Control (DTSC) received a letter dated May 30, 2014, from the California Department of Transportation (Caltrans), regarding Variance No. V09HQSCD006 (Variance), issued June 30, 2009. Caltrans is requesting DTSC to grant a six-month extension on the Variance with the new expiration date of December 31, 2014, instead of June 30, 2014. The Variance waives specified hazardous waste management requirements for purposes of Caltrans' handling of roadside soil contaminated with aerially deposited lead, and applies to Caltrans' highway improvement projects in all Caltrans Districts statewide.

Based on recent discussions between Caltrans and DTSC both agreed a six-month extension is necessary to provide adequate time for DTSC to finalize the new (renewal) variance, and for Caltrans to review and provide comments on the renewal variance. Key next steps in DTSC's review process include finalizing the ecological and health risk assessments, working on the California Environmental Quality Act documents, drafting of the renewal variance, and allowing adequate time for a public notice period for the renewal variance.

This letter hereby extends the effective date of Variance No. V09HQSCD006 to December 31, 2014. If you have any questions regarding this extension, please contact Mr. Bob Gipson of my staff at (916) 327-4061 or via email at [Bob.Gipson@dtsc.ca.gov](mailto:Bob.Gipson@dtsc.ca.gov).

Sincerely,

Pauline Batarseh, Chief  
Policy Implementation and Support Branch  
Policy and Program Support Division  
Hazardous Waste Management Program

cc: See next page.



*California Environmental Protection Agency  
Department of Toxic Substances Control*

**VARIANCE**

Applicant Names:

Variance No. V09HQSCD006

State of California  
Department of Transportation  
(Caltrans)  
1120 N Street  
Sacramento, California 95814

Effective Date: July 1, 2009

Expiration Date: July 1, 2014

Modification History:

Pursuant to California Health and Safety Code, Section 25143, the Department of Toxic Substances Control hereby issues the attached Variance consisting of 9 pages to the Department of Transportation.

Beverly Rikala  
Team Leader, Operating Facilities Team  
Department of Toxic Substances Control

Date: 6/30/09

**VARIANCE**

1. INTRODUCTION.

a) Pursuant to Health and Safety Code, section 25143, the California Department of Toxic Substances Control (DTSC) grants this variance to the applicant below for waste considered to be hazardous solely because of its lead concentrations and as further specified herein.

b) DTSC hereby grants this variance only from the requirements specified herein and only in accordance with all terms and conditions specified herein.

2. IDENTIFYING INFORMATION.

APPLICANT/OWNER/OPERATOR

State of California  
Department of Transportation, (Caltrans)  
All Districts

3. TYPE OF VARIANCE.

Generation, Manifest, Transportation, Storage and Disposal.

4. ISSUANCE AND EXPIRATION DATES.

DATE ISSUED: July 1, 2009      EXPIRATION DATE: July 1, 2014

5. APPLICABLE STATUTES AND REGULATIONS. The hazardous waste that is the subject of this variance is fully regulated under Health and Safety Code, section 25100, et seq. and California Code of Regulations, title 22, division 4.5 except as specifically identified in Section 8 of this variance.

6. DEFINITION. For purposes of this variance, "lead-contaminated soil(s)" shall mean soil that meets the criteria for hazardous waste but contains less than 3397 mg/kg total lead and is hazardous primarily because of aeriially-deposited lead contamination associated with exhaust emissions from the operation of motor vehicles.

7. FINDINGS/DETERMINATIONS. DTSC has determined that the variance applicant meets the requirements set forth in Health and Safety Code, section 25143 for a variance from specific regulatory requirements as outlined in Section 8 of this variance. The specific determinations and findings made by DTSC are as follows:

a) Caltrans intends to excavate, stockpile, transport, bury and cover large volumes of soil associated with highway construction projects. In the more urbanized highway corridors around the State this soil is contaminated with lead, primarily due to historic emissions from automobile exhausts. In situ sampling and laboratory testing has shown that some of the soil contains concentrations of lead in excess of State regulatory thresholds, and thus any generated waste from disturbance of the soil

would be regulated as hazardous waste. Such soil contains a Total Threshold Limit Concentration (TTLC) of 1000 milligrams per kilogram (mg/kg) or more lead and/or it meets or exceeds the Soluble Threshold Limit Concentration (STLC) for lead of 5 milligrams per liter (mg/l). A Human Health Risk Assessment prepared for this variance concludes that soil contaminated with elevated concentrations of lead can be managed in a way that presents no significant risk to human health.

b) The lead-contaminated soil will be placed only in Caltrans' right-of-way. Depending on concentration levels, the wastes will be covered with a minimum thickness of one (1) foot of non-hazardous soil or asphalt/concrete cover and will always be at least five (5) feet above the highest groundwater elevation. Caltrans will assure that proper health and safety procedures will be followed for workers, including any persons engaged in maintenance work in areas where the waste has been buried and covered.

c) DTSC finds and requires that the lead-contaminated soil excavated, stockpiled, transported, buried and covered pursuant to this variance is a non-RCRA hazardous waste, and that the waste management activity is insignificant as a potential hazard to human health and safety and the environment, when managed in accordance with the conditions, limitations and other requirements specified in this variance.

8. PROVISIONS WAIVED.

Provided Caltrans meets the terms and conditions of this variance, DTSC waives the hazardous waste management requirements of Health and Safety Code, Chapter 6.5 and California Code of Regulations, title 22 for the lead-contaminated soil that Caltrans reuses in projects that would require Caltrans to obtain a permit for a disposal facility and any other generator requirements that concern the transportation, manifesting, storage and land disposal of hazardous waste.

9. SPECIFIC CONDITIONS, LIMITATIONS AND OTHER REQUIREMENTS.

In order for the provisions discussed in section 8 to be waived, lead-contaminated soil must not exceed the contaminant concentrations discussed below and Caltrans management practices must meet all the following conditions:

a) Caltrans implementation of this variance shall comply with all applicable state laws and regulations for water quality control, water quality control plans, waste discharge requirements (including storm water permits), and others issued by the State Water Resources Control Board (SWRCB) and/or a California Regional Water Quality Control Board (RWQCB). Caltrans shall provide written notification to the appropriate RWQCB at least 30 days prior to advertisement for bids of projects that involve invocation of this variance, or as otherwise negotiated with the SWRCB or appropriate RWQCB.

b) The waivers in this variance shall only be applied to lead-contaminated soil that is not a RCRA hazardous waste and is hazardous primarily because of aerially-

deposited lead contamination associated with exhaust emissions from the operation of motor vehicles. The variance is not applicable to any other hazardous waste.

c) Soil containing 1.5 mg/l extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 1411 mg/kg or less total lead may be used as fill provided that the lead-contaminated soil is placed a minimum of five (5) feet above the maximum historic water table elevation and covered with at least one (1) foot of nonhazardous soil that will be maintained by Caltrans to prevent future erosion.

d) Soil containing 150 mg/L extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 3397 mg/kg or less total lead may be used as fill provided that the lead-contaminated soils are placed a minimum of five (5) feet above the maximum historic water table elevation and protected from infiltration by a pavement structure which will be maintained by Caltrans.

e) Lead-contaminated soil with a pH less than 5.5 but greater than 5.0 shall only be used as fill material under the paved portion of the roadway. Lead-contaminated soil with a pH at or less than 5.0 shall be managed as a hazardous waste.

f) For each project that has the potential to generate waste by disturbing lead-contaminated soil (as defined in 6), Caltrans shall conduct sampling and analysis to adequately characterize the soils containing aerially deposited lead in the areas of planned excavation along the project route. Such sampling and analysis shall include the Toxicity Characteristic Leaching Procedure (TCLP) as prescribed by the United States Environmental Protection Agency to determine whether concentrations of contaminants in soil exceed federal criteria for classification as a hazardous waste.

g) Lead-contaminated soil managed pursuant to this variance shall not be moved outside the designated corridor boundaries (see paragraph t) below. All lead-contaminated soil not buried and covered within the same Caltrans corridor where it originated is not eligible for management under this variance and shall be managed as a hazardous waste.

h) Lead-contaminated soil managed pursuant to this variance shall not be placed in areas where it would become in contact with groundwater or surface water (such as streams and rivers).

i) Lead-contaminated soil managed pursuant to this variance shall be buried and covered only in locations that are protected from erosion that may result from storm water run-on and run-off.

j) The lead-contaminated soil shall be buried and covered in a manner that will prevent accidental or deliberate breach of the asphalt, concrete, and/or cover soil.

k) The presence of lead-contaminated soil shall be incorporated into the projects' as-built drawings. The as-built drawings shall be annotated with the location, representative analytical data, and volume of lead-contaminated soil. The as-built drawings shall also state the depth of the cover. These as-built drawings shall be retained by Caltrans.

l) Caltrans shall ensure that no other hazardous wastes, other than the lead-contaminated hazardous waste soil, are placed in the burial areas.

m) Lead-contaminated soil shall not be buried within ten (10) feet of culverts or locations subject to frequent worker exposure.

n) Excavated lead-contaminated soil not placed into the designated area (fill area, roadbed area) by the end of the working day shall be stockpiled and covered with sheets of polyethylene or at least one foot of non-hazardous soil. The lead-contaminated soil, while stockpiled or under transport, shall be protected from contacting surface water and from being dislodged or transported by wind or storm water. The stockpile covers shall be inspected at least once a week and within 24 hours after rainstorms. If the lead-contaminated soil is stockpiled for more than 4 days from the time of excavation, Caltrans shall restrict public access to the stockpile by using barriers that meet the safety requirements of the construction zone. The lead-contaminated soil shall be stockpiled for no more than 90 days from the time the soil is first excavated. If the contaminated soil is stockpiled beyond the 90 day limit Caltrans shall:

1. notify DTSC in writing of the 90 day exceedance and expected date of removal;
2. perform weekly inspections of the stockpiled material to ensure that there is adequate protection from run-on, runoff, public access, and wind dispersion; and
3. notify DTSC on weekly basis of the stockpile status until the stockpile is removed.

The lead-contaminated soil shall be stockpiled for no more than 180 days from the time the soil is first excavated.

o) Caltrans shall ensure that all stockpiling of lead-contaminated soil remains within the project area of the specified corridor. Stockpiling of lead-contaminated soil within the specified corridor, but outside the project area, is prohibited.

p) Caltrans shall conduct confirmatory sampling of any stockpile area in areas not known or expected to contain lead-contaminated soil after removal of the lead-contaminated soil to ensure that contamination has not been left behind or has not migrated from the stockpiled material to the surrounding soils.

q) Caltrans shall stockpile lead-contaminated soil only on high ground (i.e. no sump areas or low points) so that stockpiled soil will not come in contact with surface

water run-on or run-off.

r) Caltrans shall not stockpile lead-contaminated soil in environmentally and ecologically sensitive areas.

s) Caltrans shall ensure that storm/rain run-off that has come into contact with stockpiled lead-contaminated soil will not flow to storm drains, inlets, or waters of the State.

t) Caltrans may dispose of the lead-contaminated soil only within the operating right-of-way of an existing highway, as defined in Streets and Highways Code, section 23. Caltrans may move lead-contaminated soil from one Caltrans project to another Caltrans project only if the lead-contaminated soil remains within the same designated corridor.

Caltrans shall record any movement of lead-contaminated soil by using a bill of lading. The bill of lading must contain: 1) the US DOT description including shipping name, hazard class and ID number; 2) handling codes; 3) quantity of material; 4) volume of material; 5) date of shipment; 6) origin and destination of shipment; and 7) any specific handling instructions. The bill of lading shall be referenced in and kept on file with the project's as-built drawings. The lead-contaminated soil must be kept covered during transportation.

u) For each specific corridor where this variance is to be implemented, all of the following information shall be submitted in writing to DTSC at least five (5) days before construction of any project begins:

1. plan drawing designating the boundaries of the corridor where lead-contaminated soils will be excavated, stockpiled, buried and covered;
2. a list of the Caltrans projects that the corridor encompasses;
3. a list of Caltrans contractors that will be conducting any phase of work on any project affected by this variance;
4. duration of corridor construction;
5. location where sampling and analytical data used to make lead concentration level determinations are kept (e.g. a particular Caltrans project file);
6. name and phone number (including area code) of project resident engineer and project manager;
7. location where Caltrans and contractor health and safety plan and records are kept;

8. location of project special provisions (including page or section number) for soil excavation, transportation, stockpile, burial and placement of cover material;

9. location of project drawings (including drawing page number) for soil excavation, burial and placement of cover in plan and cross section (for example, "The project plans are located at the resident engineer's office located at 5th and Main Streets, City of Fresno, See pages xxxxx of contract xxx");

10. updated information if a Caltrans project within the corridor is added, changed or deleted; and

11. type of environmental document prepared for each project, date of adoption, document title, Clearing House number and where the document is available for review. A copy of the Caltrans Categorical Exemption, Categorical Exclusion Form, or if filed, the Notice of Exemption for any project shall be submitted to the DTSC Headquarters Project Manager.

v) Changes in location of lead-contaminated soil placement, quantities or protection measures (field changes) shall be noted in the resident engineer's project log within five (5) days of the field change.

w) Caltrans shall ensure that field changes are in compliance with the requirements of this variance.

x) Operational procedures described in the California Environmental Quality Act (CEQA) Special Initial Study shall be followed by Caltrans for activities conducted under this variance.

y) Caltrans shall implement appropriate health and safety procedures to protect its employees and the public, and to prevent or minimize exposure to potentially hazardous wastes. A project-specific health and safety plan must be prepared and implemented. The monitoring and exposure standards shall be based on construction standards for exposure to lead in California Code of Regulations, title 8, section 1532.1.

z) Caltrans shall provide a district Coordinator for this variance. This Coordinator will be the primary point of contact for information flowing to, or received from, DTSC regarding any matter or submission under this variance. Caltrans shall promptly notify DTSC of the name of Coordinator and any change in the Coordinator.

aa) Caltrans shall conduct regular inspections, consistent with Caltrans' Maintenance Division's current Pavement Inspection and Slope Inspection programs, of the locations where lead-contaminated soil has been buried and/or covered pursuant to this variance. If site inspection reveals deterioration of cover so that conditions in the variance are not met, Caltrans shall repair or replace the cover.

bb) Caltrans shall develop and implement a record keeping mechanisms to record and retain permanent records of all locations where lead-contaminated soil has been buried per this variance. The records shall be made available to DTSC.

cc) If areas subject to the terms of this variance are sold, relinquished or abandoned (including roadways), all future property owners shall be notified in writing in advance by Caltrans of the requirements of this variance, and Caltrans shall provide the owner with a copy of the variance. A copy of such a notice shall be sent to DTSC and contain the corridor location and project. Caltrans shall also disclose to DTSC and the new owner the location of areas where lead-contaminated soil has been buried. Future property owners shall be subject to the same requirements as Caltrans.

dd) For the purposes of informing the public about instances where the variance is implemented, Caltrans shall:

1. maintain current fact sheets at all Caltrans resident engineer offices and the Caltrans District office. Caltrans shall make the fact sheets available to anyone expressing an interest in variance-related work.
2. maintain a binder(s) containing copies of all reports submitted to DTSC at the District office. Caltrans shall ensure that the binders are readily accessible to the public.
3. carry out the following actions when it identifies additional projects:
  - (A) notify the public via a display advertisement in a newspaper of general circulation in that area.
  - (B) update and distribute the fact sheet to the mailing list and repository locations.

ee) Lead-contaminated soil may be buried only in areas where access is limited or where lead-contaminated soil is covered and contained by a pavement structure.

ff) Dust containing lead-contaminated soil must be controlled. Water or dust palliative may be applied to control dust. If visible dust migration occurs, all excavation, stockpiling and truck loading and burying must be stopped. The granting of this variance confers no relief on Caltrans from compliance with the laws, regulations and requirements enforced by any local air district or the California Air Resources Board.

gg) Sampling and analysis is required to show the lead-contaminated soil meets the variance criteria. All sampling and analysis must be conducted in accordance with the appropriate methods specified in U.S. EPA SW-846.

hh) DTSC retains the right to require Caltrans or any future owner to remove, and properly dispose of, lead-contaminated soil in the event DTSC determines it is necessary for protection of public health, safety or the environment.

ii) DTSC finds that some projects involving lead-contaminated soil are joint projects between Caltrans and other government entities. In these joint projects, Caltrans may not be the lead agency implementing the project although Caltrans is still involved if the project occurs on its right-of-way.

Caltrans may invoke this variance for joint projects where Caltrans and local government entity are involved provided that 1) the project is within the Caltrans Right-of-Way; 2) Caltrans reviews/ oversees all phases of the project including design, contracting, environmental assessment, construction, operation, and maintenance; and 3) Caltrans oversees the project to verify all variance conditions are complied with. Caltrans will be fully responsible for the variance notification and implementation in these joint projects.

jj) All correspondence shall be directed to the following office:

Hazardous Waste Permitting  
Department of Toxic Substances Control  
8800 Cal Center Drive  
Sacramento, CA 95826

Attn: Caltrans Lead Variance Notification Unit

10. DISCLAIMER.

a) The issuance of this variance does not relieve Caltrans of the responsibility for compliance with Health and Safety Code, chapter 6.5, or the regulations adopted thereunder, and any other laws and regulations other than those specifically identified in Section 8 of this variance. Caltrans is subject to all terms and conditions herein. The granting of this variance confers no relief from compliance with any federal, State or local requirements other than those specifically provided herein.

b) The issuance of this variance does not release Caltrans from any liability associated with the handling of hazardous waste, except as specifically provided herein and subject to all terms and conditions of this variance.

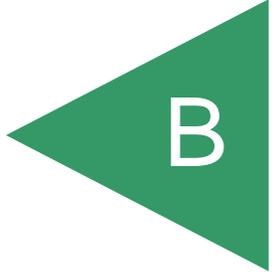
11. VARIANCE MODIFICATION OR REVOCATION. This variance is subject to review at the discretion of DTSC and may be modified or revoked by DTSC upon change of ownership and at any other time pursuant to Health and Safety Code, section 25143.
12. CEQA DETERMINATION. DTSC adopted a Negative Declaration on June 30, 2009.

Approved:

6/30/09  
Date

Beverly Rikala  
Beverly Rikala  
Operating Facilities Team  
Department of Toxic Substances Control

APPENDIX



ORDINANCE: 04023

**ENVIRONMENTAL HEALTH**  
SAN MATEO COUNTY

**PERMIT 15- 2459**



*Protecting Our Health and Environment*

**P/E: 2010 MONITORING WELLS - INSTALLATION/DESTRUCTION**

**FACILITY:**

S EL CAMINO RAMP TO HWY 92 W SAN MATEO

**OWNER:**

CALTRANS  
111 GRAND AVE  
OAKLAND

WP0010620 FA0059266  
NO APN LISTED  
AMOUNT PAID: 629.00

**CONTRACTOR:**

GEOCON CONSULTANTS INC

**TERMS & CONDITIONS:**

CONSTRUCT SOIL BORINGS (1)  
CONSULTANT: GEOCON CONSULTANTS INC  
PROJECT MGR: LUANN BEADLE

**DATE ISSUED:** 12/17/2015

CYNTHIA FRICKLE

ENVIRONMENTAL HEALTH SPECIALIST

**EXPIRATION DATE:** 4/17/2016

**THIS PERMIT IS NONTRANSFERABLE AND MUST BE POSTED ON-SITE IN A CONSPICUOUS PLACE**

CK# 82097

**PAID**  
629.00

# 2015 SUBSURFACE DRILLING PERMIT APPLICATION - REVISED AUGUST 2015

SAN MATEO COUNTY ENVIRONMENTAL HEALTH

SAN MATEO COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION  
2000 ALAMEDA DE LAS PULGAS, SUITE 100, SAN MATEO, CA 94403  
VOICE (650) 372-6200 FAX (650) 627-8244 WWW.SMCEALTH.ORG

DEC 14 2015

RECEIVED

REVISED FEES (8/1/15): ALLOW 3 FULL WORKING DAYS FOR PROCESSING PERMIT. DRILLING START DATE & TIME MUST BE SCHEDULED WITH COUNTY STAFF OR AT [drilling@smcgov.org](mailto:drilling@smcgov.org) AT LEAST 2 FULL WORKING DAYS IN ADVANCE BUT AT LEAST 1 FULL WORKING DAY AFTER APPLICATION SUBMITTAL

|                        |   |  |
|------------------------|---|--|
| PURPOSE OF APPLICATION | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Installation | <input checked="" type="checkbox"/> Construct Soil Borings (variance request if to be left open >24 hours) |
|                        | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Destruction  | Extension of Permit # _____  |
| No. of Wells           | 0   | No. of Borings   |
|                        |   | Well/Boring Names  |
|                        |   | -B4, B5, B10, B25, B42, and B67  |

|                     |   |             |  |
|---------------------|---|-------------|--|
| PURPOSE OF DRILLING | <input checked="" type="checkbox"/> Environmental | LEAD AGENCY | <input type="checkbox"/> County GPP (permit approval is not to be considered work plan approval)                   |
|                     | <input type="checkbox"/> Geotechnical             |             | <input type="checkbox"/> RWQCB/DTSC/USEPA (Provide approval letter) <input type="checkbox"/> None (i.e. voluntary) |

### SITE/ DRILLING INFORMATION

Agency Case # \_\_\_\_\_ Assessor's Parcel # (Required) NA - Caltrans ROW (one per permit)

Drilling Location Address SR-92/SR-92 Interchange South El Camino Ramp to Highway 92 W City San Mateo Zip 94402

To Be Constructed In:  Public Property  Private Property  Refuse

Maximum Proposed Depth (wells/borings) 25 feet (feet) Drilling Method Direct-push

Boring Diameter 2 inches Casing Diameter \_\_\_\_\_ Filter Pack Interval \_\_\_\_\_ Screen Interval \_\_\_\_\_

Destruction Method (6 gallons water max/94 lb cement, up to 5% bentonite):  Pressure Grouting (provide well construction logs and grout calcs)  Overdrilling (guide rods for total depth prior to starting required)

### WELL/BORING OWNER (Well/boring owner name or contact person should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8C City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

It is my responsibility to notify the County of any known changes in the purpose of this well/boring from that which is indicated on this application, to submit indication of annual usage of wells to the County, and to maintain the well in good condition. (Letter signed by well/boring owner/contact person, containing above language and attesting to knowledge of all permit requirements and conditions, may be substituted for signature.)

Well/Boring Owner's/Contact Person's Signature: [Signature] (KEITH FANG) Date: 12/7/2015

### PROPERTY OWNER (Name as appears on assessor's roles should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8c City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

I understand that a well/boring is being installed on my property. I agree to notify the County and Well Owner of any known damage or future access issues to the well (Letter signed by property owner, containing above language, or encroachment permit may be substituted for signature.)

Property Owner's Signature: [Signature] (KEITH FANG) Date: 12/7/2015

### DRILLING COMPANY

Drilling Company Geocon Consultants, Inc. Contact Person Luann Beadle

Address 6671 Brisa St. City, State, Zip Livermore, CA 94550

Telephone 925-371-5900 Email beadle@geoconinc.com C57 Drillers License # 716050

I certify that the well/boring will be constructed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards, and that the license listed above is considered current and active by the Contractors State License Board.

Driller's Signature: [Signature] Date: 12/10/15

### CONSULTANT COMPANY

Consultant Company Geocon Consultants, Inc. Project Manager Luann Beadle

Address 6671 Brisa St. Telephone 925-371-5900

City, State, Zip Livermore, CA 94550 Email beadle@geoconinc.com

Field Contact and Cell # (if known) Chris Merritt 510-750-3369

I certify that this application is correct to the best of my knowledge and the well/boring will be constructed/destroyed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards. I understand that I am responsible for General Conditions "D and E" of this permit and if I indicated the purpose of drilling is geotechnical, then no one will use the boring to collect any samples for environmental analyses. If there is a change in Responsible Professional, I will notify San Mateo County GPP staff.

Responsible Professional's Name (Please print legibly) Richard Day

Responsible Professional's Signature: [Signature] Date: 12/10/15

California Professional Geologist (PG) No. 5479 or Civil Engineer (PE) No. \_\_\_\_\_

Please see additional pages of application for requirements, general permit conditions, instructions, and fees.

FA59266

REQUIREMENTS:

An accurate and correct map **must** be submitted with the application and include the following: north arrow, existing and historic site features, existing and proposed well/boring locations to scale, property lines and any other pertinent information.

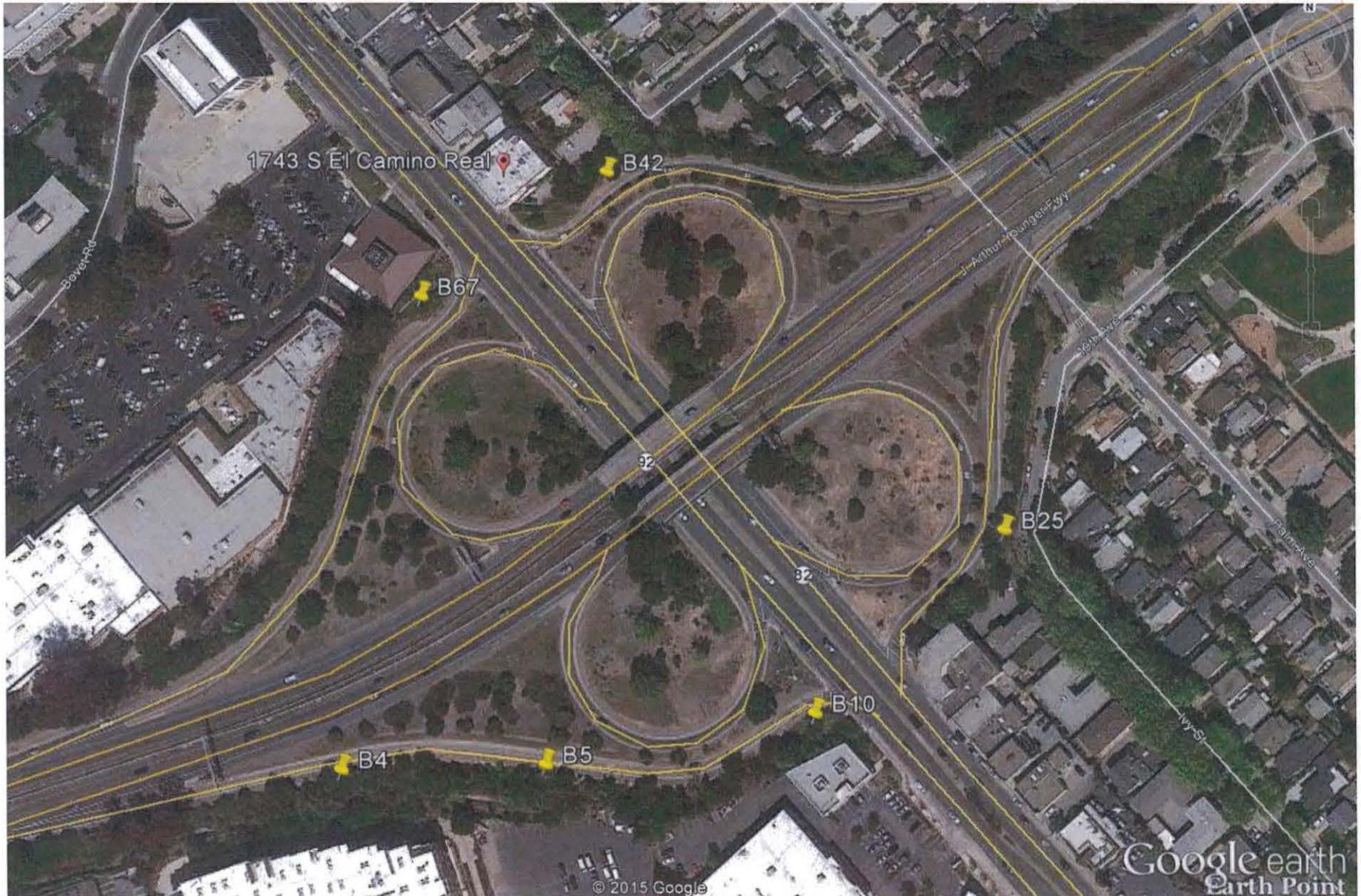
A work plan describing the drilling and construction/destruction methodology may be requested by County staff. Upon review of information on this application, and subject to approval noted below, a permit will be issued allowing the well/boring owner, driller, and responsible professional to perform the specified work. The permit is subject to both General and Special Conditions stated below. A copy of the approved Subsurface Drilling Permit **must** be available on site while work related to the permit is being performed. Drilling may begin at the notified date and time whether County staff is present or not.

GENERAL CONDITIONS:

- A. Field notification must be provided to GPP drilling inspection staff at least 2 full days prior to the start of drilling.
- B. Well and boring construction and destruction under this permit is subject to the Standards for the Construction of Wells in San Mateo County, County Groundwater Protection Program (GPP) Guidelines, Policies & Procedures, the State Water Well Standards, and any instructions by a Health Department representative.
- C. Well/Boring Owner, Driller, and Responsible Professional assume responsibility for all activities and uses under the permit, including compliance with Workmen's Compensation Laws, and indemnify, defend and save the County of San Mateo, its officers, agents and employees, free and harmless from any and all expense, cost, or liability in connection with or resulting from work or stopped-work associated with the permit, including, but not limited to, property damage, personal injury, wrongful death, and loss of income.
- D. All borings **must** be properly destroyed (grouted/sealed) within 24 hours of drilling, unless special conditions are approved in writing as part of this permit, and must be continuously protected and stabilized. Temporary soil vapor wells may remain in place up to 7 days with just an additional notification for removal.
- E. Analytical results of all soil, vapor, and groundwater samples collected during the execution of drilling under this permit **must** be submitted to County GPP staff by the Responsible Professional within 60 days of sample collection. If contamination is discovered during drilling, verbal notification to County GPP by the Responsible Professional is **required** within 72 hours of discovery. Proper storage, labeling & disposal of investigation-derived residual wastes are the responsibility of the consultant unless stated otherwise contractually.
- F. A copy of the State DWR Form 188, boring logs, well construction details, and finalized as-built locations for all borings/wells (except geotechnical borings) signed by a Responsible Professional, **must** be submitted to County GPP by the Responsible Professional within 60 days of drilling/construction/destruction.
- G. Permit is valid only for the purpose specified herein. No change in purpose or required procedures, as described on this permit application, in the associated workplan, or in the special conditions below, will be allowed except upon written permission from the County. Construction aspects can be changed based on conditions encountered in the field.
- H. Permit is valid for **one** mobilization associated with originally permitted boring/well locations only, including contingency locations, and is automatically canceled if not exercised, or if an extension is not applied for and granted within 120 days of the original permit issuance date. Failure to notify staff of cancellation or delay in start time will result in the Consultant being billed an Inspection Cancellation fee of \$264 for 2015 if GPP staff attempted to perform an inspection.
- I. Wells installed under this permit may not be used for domestic, municipal, agricultural, or irrigation water supply.
- J. All work performed **must** conform to Business and Profession Codes and State Water Well Standards.
- K. Top-of-casing elevation of all wells **must** be surveyed to the nearest 0.01-foot relative to Mean Sea Level or NAVD88 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate. Geotechnical wells are exempt from this requirement if a written variance from GPP is obtained prior to drilling.
- L. Latitude and longitude of all wells **must** be surveyed with sub-meter accuracy relative to NAD83 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate.
- M. Violation of any requirement or general or special permit condition may result in an order by GPP staff to cease work under this permit, correct the violation, potentially re-permit the work as a new mobilization, and potential actions may be taken against the Well Owner, Property Owner, or Responsible Professional by GPP.

SPECIAL CONDITIONS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

|                     |  |           |                       |
|---------------------|--|-----------|-----------------------|
| For Agency Use Only | County Approval: <u><i>Cynthia Frick</i></u> | FA# _____ | Date: <u>12/15/15</u> |
|---------------------|--|-----------|-----------------------|



Site is SR-92/SR-82 Interchange

Borings will be drilled using DP in unpaved shoulder to a maximum depth of 25 ft for GW sample collection

Drilling date not established yet. I am tentatively planning  
week of Dec. 28 to 31. 100 ft

ORDINANCE: 04023

ENVIRONMENTAL HEALTH  
SAN MATEO COUNTY

PERMIT 15- 2460



Protecting Our Health and Environment

P/E: 2010 MONITORING WELLS - INSTALLATION/DESTRUCTION

**FACILITY:**

S EL CAMINO RAMP FR HWY 92 E SAN MATEO

**OWNER:**

CALTRANS  
111 GRAND AVE  
OAKLAND

WP0010621 FA0059267  
NO APN LISTED  
AMOUNT PAID: 0.00

**CONTRACTOR:**

GEOCON CONSULTANTS INC

**TERMS & CONDITIONS:**

CONSTRUCT SOIL BORINGS (3)  
CONSULTANT: GEOCON CONSULTANTS INC  
PROJECT MGR: LUANN BEADLE

**DATE ISSUED:** 12/17/2015

CYNTHIA FRICKLE

ENVIRONMENTAL HEALTH SPECIALIST

**EXPIRATION DATE:** 4/17/2016

**THIS PERMIT IS NONTRANSFERABLE AND MUST BE POSTED ON-SITE IN A CONSPICUOUS PLACE**

CL# 82097

**PAID**  
629.00

**2015 SUBSURFACE DRILLING PERMIT APPLICATION - REVISED** SAN MATEO COUNTY ENVIRONMENTAL HEALTH

SAN MATEO COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION  
2000 ALAMEDA DE LAS PULGAS, SUITE 100, SAN MATEO, CA 94403  
VOICE (650) 372-6200 FAX (650) 627-8244 WWW.SMCHEALTH.ORG

DEC 14 2015

RECEIVED

REVISED FEES (8/1/15): ALLOW 3 FULL WORKING DAYS FOR PROCESSING PERMIT. DRILLING START DATE & TIME MUST BE SCHEDULED WITH COUNTY STAFF OR AT [drilling@smcgov.org](mailto:drilling@smcgov.org) AT LEAST 2 FULL WORKING DAYS IN ADVANCE BUT AT LEAST 1 FULL WORKING DAY AFTER APPLICATION SUBMITTAL

|  |   |  |
|--|---|--|
| PURPOSE OF APPLICATION                           | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Installation | <input checked="" type="checkbox"/> Construct Soil Borings (variance request if to be left open >24 hours) |
|  | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Destruction  | <input type="checkbox"/> Extension of Permit # _____   |
| No. of Wells                                     | 0   | No. of Borings   |
|  |   | 3  |
| Well/Boring Names B4, B5, B10, B25, B42, and B67 |   |  |

|                     |   |             |  |
|---------------------|---|-------------|--|
| PURPOSE OF DRILLING | <input checked="" type="checkbox"/> Environmental | LEAD AGENCY | <input type="checkbox"/> County GPP (permit approval is not to be considered work plan approval)                   |
|                     | <input type="checkbox"/> Geotechnical             |             | <input type="checkbox"/> RWQCB/DTSC/USEPA (Provide approval letter) <input type="checkbox"/> None (i.e. voluntary) |

**SITE/ DRILLING INFORMATION**

Agency Case # \_\_\_\_\_ Assessor's Parcel # (Required) NA - Caltrans ROW (one per permit)

Drilling Location Address SR 82/SR 92 Interchange South El Camino Real ramp from Highway 92 E City San Mateo Zip 94402

To Be Constructed In:  Public Property  Private Property  Refuse

Maximum Proposed Depth (wells/borings) 25 feet (feet) Drilling Method Direct-push

Boring Diameter 2 inches Casing Diameter \_\_\_\_\_ Filter Pack Interval \_\_\_\_\_ Screen Interval \_\_\_\_\_

Destruction Method (6 gallons water max/94 lb cement, up to 5% bentonite):  Pressure Grouting (provide well construction logs and grout calcs)  Overdrilling (guide rods for total depth prior to starting required)

**WELL/BORING OWNER** (Well/boring owner name or contact person should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8C City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

It is my responsibility to notify the County of any known changes in the purpose of this well/boring from that which is indicated on this application, to submit indication of annual usage of wells to the County, and to maintain the well in good condition. (Letter signed by well/boring owner/contact person, containing above language and attesting to knowledge of all permit requirements and conditions, may be substituted for signature.)

Well/Boring Owner's/Contact Person's Signature: Keith Fang (KEITH FANG) Date: 12/7/2015

**PROPERTY OWNER** (Name as appears on assessor's roles should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8c City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

I understand that a well/boring is being installed on my property. I agree to notify the County and Well Owner of any known damage or future access issues to the well (Letter signed by property owner, containing above language, or encroachment permit may be substituted for signature.)

Property Owner's Signature: Keith Fang (KEITH FANG) Date: 12/7/2015

**DRILLING COMPANY**

Drilling Company Geocon Consultants, Inc. Contact Person Luann Beadle

Address 6671 Brisa St. City, State, Zip Livermore, CA 94550

Telephone 925-371-5900 Email beadle@geoconinc.com C57 Drillers License # 716050

I certify that the well/boring will be constructed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards, and that the license listed above is considered current and active by the Contractors State License Board.

Driller's Signature: Luann Beadle Date: 12/10/15

**CONSULTANT COMPANY**

Consultant Company Geocon Consultants, Inc. Project Manager Luann Beadle

Address 6671 Brisa St. Telephone 925-371-5900

City, State, Zip Livermore, CA 94550 Email beadle@geoconinc.com

Field Contact and Cell # (if known) Chris Merritt 510-750-3369

I certify that this application is correct to the best of my knowledge and the well/boring will be constructed/destroyed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards. I understand that I am responsible for General Conditions "D and E" of this permit and if I indicated the purpose of drilling is geotechnical, then no one will use the boring to collect any samples for environmental analyses. If there is a change in Responsible Professional, I will notify San Mateo County GPP staff.

Responsible Professional's Name (Please print legibly) Richard D...

Responsible Professional's Signature: Richard D... Date: 12/10/15

California Professional Geologist (PG) No. 5479 or Civil Engineer (PE) No. \_\_\_\_\_

Please see additional pages of application for requirements, general permit conditions, instructions, and fees.

FA 59207

**REQUIREMENTS:**

An accurate and correct map **must** be submitted with the application and include the following: north arrow, existing and historic site features, existing and proposed well/boring locations to scale, property lines and any other pertinent information.

A work plan describing the drilling and construction/destruction methodology may be requested by County staff. Upon review of information on this application, and subject to approval noted below, a permit will be issued allowing the well/boring owner, driller, and responsible professional to perform the specified work. The permit is subject to both General and Special Conditions stated below. A copy of the approved Subsurface Drilling Permit **must** be available on site while work related to the permit is being performed. Drilling may begin at the notified date and time whether County staff is present or not.

**GENERAL CONDITIONS:**

- A. Field notification must be provided to GPP drilling inspection staff at least 2 full days prior to the start of drilling.
- B. Well and boring construction and destruction under this permit is subject to the Standards for the Construction of Wells in San Mateo County, County Groundwater Protection Program (GPP) Guidelines, Policies & Procedures, the State Water Well Standards, and any instructions by a Health Department representative.
- C. Well/Boring Owner, Driller, and Responsible Professional assume responsibility for all activities and uses under the permit, including compliance with Workmen's Compensation Laws, and indemnify, defend and save the County of San Mateo, its officers, agents and employees, free and harmless from any and all expense, cost, or liability in connection with or resulting from work or stopped-work associated with the permit, including, but not limited to, property damage, personal injury, wrongful death, and loss of income.
- D. All borings **must** be properly destroyed (grouted/sealed) within 24 hours of drilling, unless special conditions are approved in writing as part of this permit, and must be continuously protected and stabilized. Temporary soil vapor wells may remain in place up to 7 days with just an additional notification for removal.
- E. Analytical results of all soil, vapor, and groundwater samples collected during the execution of drilling under this permit **must** be submitted to County GPP staff by the Responsible Professional within 60 days of sample collection. If contamination is discovered during drilling, verbal notification to County GPP by the Responsible Professional is **required** within 72 hours of discovery. Proper storage, labeling & disposal of investigation-derived residual wastes are the responsibility of the consultant unless stated otherwise contractually.
- F. A copy of the State DWR Form 188, boring logs, well construction details, and finalized as-built locations for all borings/wells (except geotechnical borings) signed by a Responsible Professional, **must** be submitted to County GPP by the Responsible Professional within 60 days of drilling/construction/destruction.
- G. Permit is valid only for the purpose specified herein. No change in purpose or required procedures, as described on this permit application, in the associated workplan, or in the special conditions below, will be allowed except upon written permission from the County. Construction aspects can be changed based on conditions encountered in the field.
- H. Permit is valid for **one** mobilization associated with originally permitted boring/well locations only, including contingency locations, and is automatically canceled if not exercised, or if an extension is not applied for and granted within 120 days of the original permit issuance date. Failure to notify staff of cancellation or delay in start time will result in the Consultant being billed an Inspection Cancellation fee of \$264 for 2015 if GPP staff attempted to perform an inspection.
- I. Wells installed under this permit may not be used for domestic, municipal, agricultural, or irrigation water supply.
- J. All work performed **must** conform to Business and Profession Codes and State Water Well Standards.
- K. Top-of-casing elevation of all wells **must** be surveyed to the nearest 0.01-foot relative to Mean Sea Level or NAVD88 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate. Geotechnical wells are exempt from this requirement if a written variance from GPP is obtained prior to drilling.
- L. Latitude and longitude of all wells **must** be surveyed with sub-meter accuracy relative to NAD83 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate.
- M. Violation of any requirement or general or special permit condition may result in an order by GPP staff to cease work under this permit, correct the violation, potentially re-permit the work as a new mobilization, and potential actions may be taken against the Well Owner, Property Owner, or Responsible Professional by GPP.

**SPECIAL CONDITIONS:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

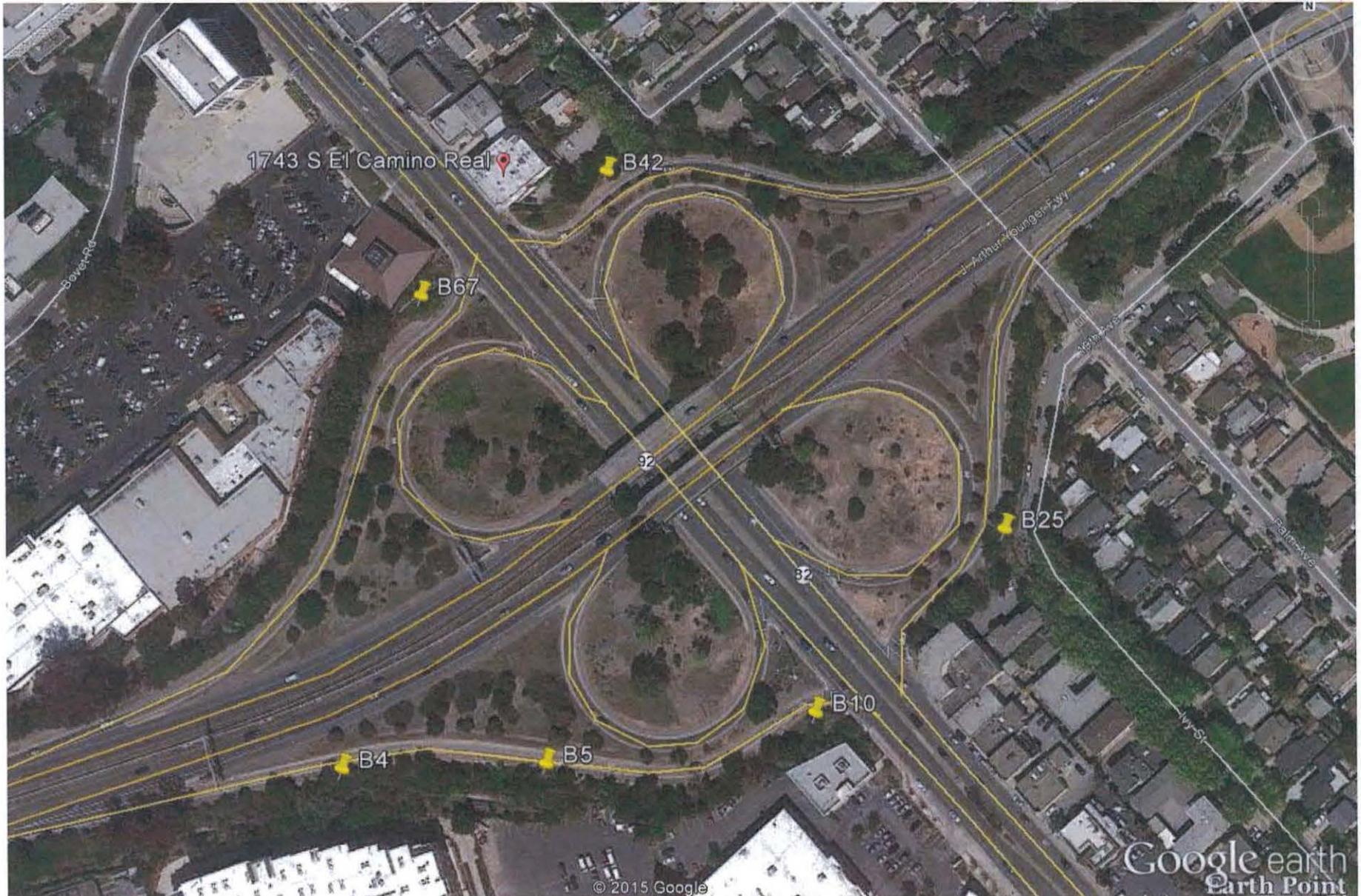
For Agency Use Only  
County Approval:

*Cynthia Frick*

FA# \_\_\_\_\_

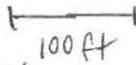
Date:

12/15/15



Site is SR-92/SR-82 Interchange

Borings will be drilled using DP in unpaved shoulder to a maximum depth of 25 ft for GW sample collection

Drilling date not established yet. I am tentatively planning  
week of Dec. 28 to 31. 

ORDINANCE: 04023

**ENVIRONMENTAL HEALTH**  
SAN MATEO COUNTY

**PERMIT 15- 2474**



*Protecting Our Health and Environment*

**P/E: 2010 MONITORING WELLS - INSTALLATION/DESTRUCTION**

**FACILITY:**

N EL CAMINO RAMP FR HWY 92 W SAN MATEO

**OWNER:**

CALTRANS  
111 GRAND AVE  
OAKLAND

WP0010622 FA0059268

NO APN LISTED

AMOUNT PAID: 0.00

**CONTRACTOR:**

GEOCON CONSULTANTS INC

**TERMS & CONDITIONS:**

CONSTRUCT SOIL BORINGS (1)  
CONSULTANT: GEOCON CONSULTANTS INC  
PROJECT MGR: LUANN BEADLE

**DATE ISSUED:** 12/17/2015

CYNTHIA FRICKLE

ENVIRONMENTAL HEALTH SPECIALIST

**EXPIRATION DATE:** 4/17/2016

**THIS PERMIT IS NONTRANSFERABLE AND MUST BE POSTED ON-SITE IN A CONSPICUOUS PLACE**

CL# 82097

PAID  
629.00

2015 SUBSURFACE DRILLING PERMIT APPLICATION - REVISED APPROVAL SAN MATEO COUNTY ENVIRONMENTAL HEALTH

SAN MATEO COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION  
2000 ALAMEDA DE LAS PULGAS, SUITE 100, SAN MATEO, CA 94403  
VOICE (650) 372-6200 FAX (650) 627-8244 WWW.SMCHEALTH.ORG

DEC 14 2015

RECEIVED

REVISED FEES (8/1/15): ALLOW 3 FULL WORKING DAYS FOR PROCESSING PERMIT. DRILLING START DATE & TIME MUST BE SCHEDULED WITH COUNTY STAFF OR AT drilling@smcgov.org AT LEAST 2 FULL WORKING DAYS IN ADVANCE BUT AT LEAST 1 FULL WORKING DAY AFTER APPLICATION SUBMITTAL  
\$629.00 (env. borings or any wells)  
\$393.00 (geotechnical borings only)

|   |   |  |
|---|---|--|
| PURPOSE OF APPLICATION                                  | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Installation | <input checked="" type="checkbox"/> Construct Soil Borings (variance request if to be left open >24 hours) |
|   | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Destruction  | <input type="checkbox"/> Extension of Permit #   |
| No. of Wells  | 0   | No. of Borings 6   |
| Well/Boring Names <u>B4, B5, B10, B25, B42, and B67</u> |   |  |

|                     |   |             |  |
|---------------------|---|-------------|--|
| PURPOSE OF DRILLING | <input checked="" type="checkbox"/> Environmental | LEAD AGENCY | <input type="checkbox"/> County GPP (permit approval is not to be considered work plan approval)                   |
|                     | <input type="checkbox"/> Geotechnical             |             | <input type="checkbox"/> RWQCB/DTSC/USEPA (Provide approval letter) <input type="checkbox"/> None (i.e. voluntary) |

**SITE/ DRILLING INFORMATION**

Agency Case # \_\_\_\_\_ Assessor's Parcel # (Required) NA - Caltrans ROW (one per permit)

Drilling Location Address SR-82/SR-92 Interchange North El Camino Real ramp from Highway 92 W City San Mateo Zip 94402

To Be Constructed In:  Public Property  Private Property  Refuse

Maximum Proposed Depth (wells/borings) 25 feet (feet) Drilling Method Direct-push

Boring Diameter 2 inches Casing Diameter \_\_\_\_\_ Filter Pack Interval \_\_\_\_\_ Screen Interval \_\_\_\_\_

Destruction Method (6 gallons water max/94 lb cement, up to 5% bentonite):  Pressure Grouting (provide well construction logs and grout calcs)  Overdrilling (guide rods for total depth prior to starting required)

**WELL/BORING OWNER** (Well/boring owner name or contact person should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8C City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

It is my responsibility to notify the County of any known changes in the purpose of this well/boring from that which is indicated on this application, to submit indication of annual usage of wells to the County, and to maintain the well in good condition. (Letter signed by well/boring owner/contact person, containing above language and attesting to knowledge of all permit requirements and conditions, may be substituted for signature.)

Well/Boring Owner's/Contact Person's Signature: [Signature] (KEITH FANG) Date: 12/7/2015

**PROPERTY OWNER** (Name as appears on assessor's roles should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8c City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

I understand that a well/boring is being installed on my property. I agree to notify the County and Well Owner of any known damage or future access issues to the well (Letter signed by property owner, containing above language, or encroachment permit may be substituted for signature.)

Property Owner's Signature: [Signature] (KEITH FANG) Date: 12/7/2015

**DRILLING COMPANY**

Drilling Company Geocon Consultants, Inc. Contact Person Luann Beadle

Address 6671 Brisa St. City, State, Zip Livermore, CA 94550

Telephone 925-371-5900 Email beadle@geoconinc.com C57 Drillers License # 716050

I certify that the well/boring will be constructed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards, and that the license listed above is considered current and active by the Contractors State License Board.

Driller's Signature: [Signature] Date: 12/10/15

**CONSULTANT COMPANY**

Consultant Company Geocon Consultants, Inc. Project Manager Luann Beadle

Address 6671 Brisa St. Telephone 925-371-5900

City, State, Zip Livermore, CA 94550 Email beadle@geoconinc.com

Field Contact and Cell # (if known) Chris Merritt 510-750-3369

I certify that this application is correct to the best of my knowledge and the well/boring will be constructed/destroyed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards. I understand that I am responsible for General Conditions "D and E" of this permit and if I indicated the purpose of drilling is geotechnical, then no one will use the boring to collect any samples for environmental analyses. If there is a change in Responsible Professional, I will notify San Mateo County GPP staff.

Responsible Professional's Name (Please print legibly) Richard D. [Signature]

Responsible Professional's Signature [Signature] Date: 12/10/15

California Professional Geologist (PG) No. 5479 or Civil Engineer (PE) No. \_\_\_\_\_

Please see additional pages of application for requirements, general permit conditions, instructions, and fees.

FA59268

**REQUIREMENTS:**

An accurate and correct map **must** be submitted with the application and include the following: north arrow, existing and historic site features, existing and proposed well/boring locations to scale, property lines and any other pertinent information.

A work plan describing the drilling and construction/destruction methodology may be requested by County staff. Upon review of information on this application, and subject to approval noted below, a permit will be issued allowing the well/boring owner, driller, and responsible professional to perform the specified work. The permit is subject to both General and Special Conditions stated below. A copy of the approved Subsurface Drilling Permit **must** be available on site while work related to the permit is being performed. Drilling may begin at the notified date and time whether County staff is present or not.

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- A. Field notification must be provided to GPP drilling inspection staff at least 2 full days prior to the start of drilling.
- B. Well and boring construction and destruction under this permit is subject to the Standards for the Construction of Wells in San Mateo County, County Groundwater Protection Program (GPP) Guidelines, Policies & Procedures, the State Water Well Standards, and any instructions by a Health Department representative.
- C. Well/Boring Owner, Driller, and Responsible Professional assume responsibility for all activities and uses under the permit, including compliance with Workmen's Compensation Laws, and indemnify, defend and save the County of San Mateo, its officers, agents and employees, free and harmless from any and all expense, cost, or liability in connection with or resulting from work or stopped-work associated with the permit, including, but not limited to, property damage, personal injury, wrongful death, and loss of income.
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- I. Wells installed under this permit may not be used for domestic, municipal, agricultural, or irrigation water supply.
- J. All work performed **must** conform to Business and Profession Codes and State Water Well Standards.
- K. Top-of-casing elevation of all wells **must** be surveyed to the nearest 0.01-foot relative to Mean Sea Level or NAVD88 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate. Geotechnical wells are exempt from this requirement if a written variance from GPP is obtained prior to drilling.
- L. Latitude and longitude of all wells **must** be surveyed with sub-meter accuracy relative to NAD83 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate.
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**SPECIAL CONDITIONS:**

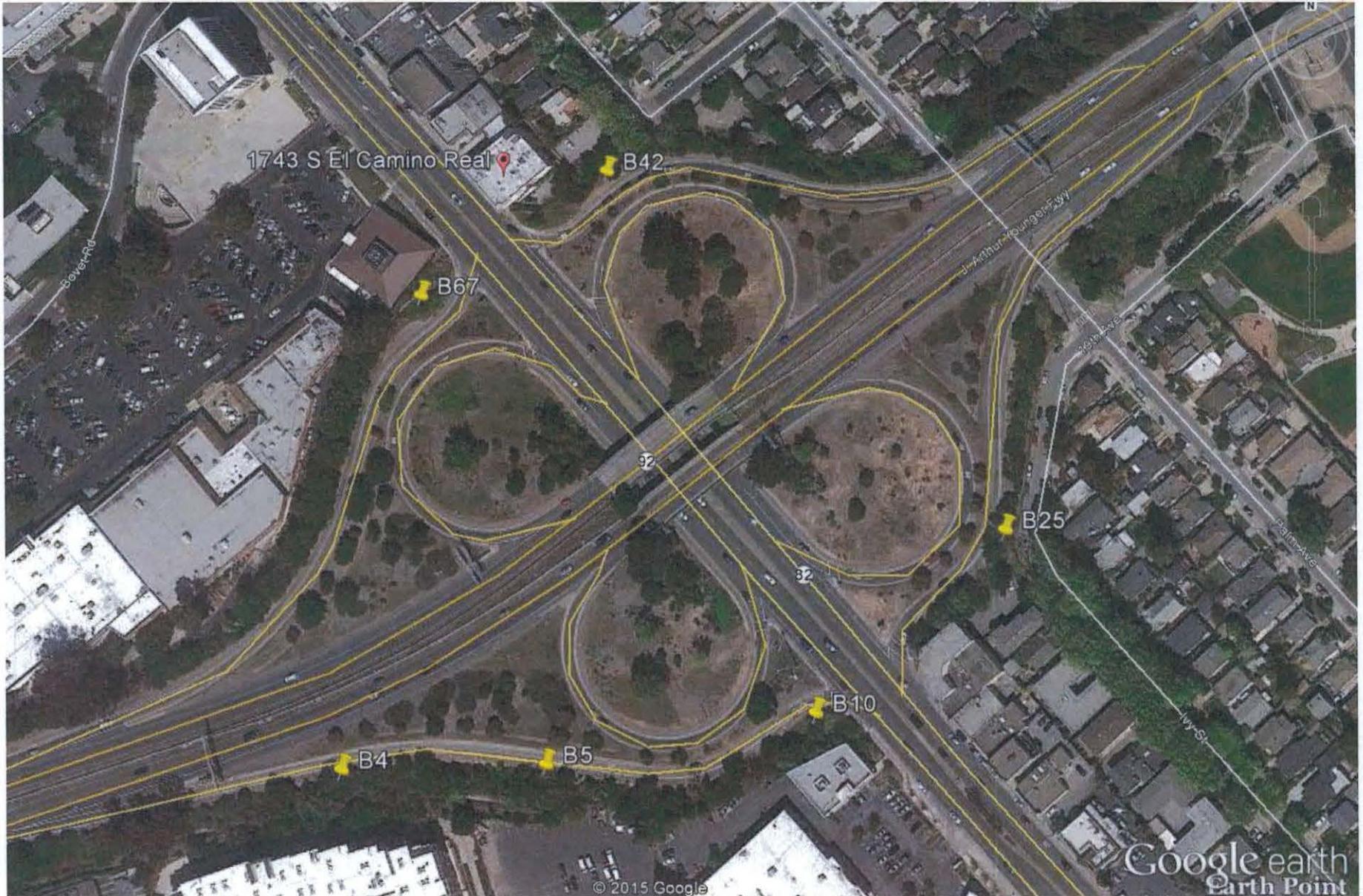
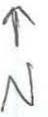
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

|                     |  |           |                       |
|---------------------|--|-----------|-----------------------|
| For Agency Use Only | County Approval: <u><i>Cynthia Frick</i></u> | FA# _____ | Date: <u>12/15/15</u> |
|---------------------|--|-----------|-----------------------|



Site is SR-92/SR-82 Interchange

Borings will be drilled using DP in unpaved shoulder to a maximum depth of 25 ft for GW sample collection

Drilling date not established yet. I am tentatively planning  
week of Dec. 28 to 31.

ORDINANCE: 04023

ENVIRONMENTAL HEALTH  
SAN MATEO COUNTY

PERMIT 15- 2475



Protecting Our Health and Environment

P/E: 2010 MONITORING WELLS - INSTALLATION/DESTRUCTION

**FACILITY:**

N EL CAMINO RAMP TO HWY 92 E SAN MATEO

**OWNER:**

CALTRANS  
111 GRAND AVE  
OAKLAND

WP0010623 FA0059269  
NO APN LISTED  
AMOUNT PAID: 0.00

**CONTRACTOR:**

GEOCON CONSULTANTS INC

**TERMS & CONDITIONS:**

CONSTRUCT SOIL BORINGS (1)  
CONSULTANT: GEOCON CONSULTANTS INC  
PROJECT MGR: LUANN BEADLE

DATE ISSUED: 12/17/2015

CYNTHIA FRICKLE

ENVIRONMENTAL HEALTH SPECIALIST

EXPIRATION DATE: 4/17/2016

THIS PERMIT IS NONTRANSFERABLE AND MUST BE POSTED ON-SITE IN A CONSPICUOUS PLACE

CL# 82097

PAID  
629.00

# 2015 SUBSURFACE DRILLING PERMIT APPLICATION - REVISED

SAN MATEO COUNTY ENVIRONMENTAL HEALTH

SAN MATEO COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION  
2000 ALAMEDA DE LAS PULGAS, SUITE 100, SAN MATEO, CA 94403  
VOICE (650) 372-6200 FAX (650) 627-8244 WWW.SMCHEALTH.ORG

DEC 14 2015

RECEIVED

REVISED FEES (8/1/15): ALLOW 3 FULL WORKING DAYS FOR PROCESSING PERMIT. DRILLING START DATE & TIME MUST BE SCHEDULED WITH COUNTY STAFF OR AT [drilling@smcgov.org](mailto:drilling@smcgov.org) AT LEAST 2 FULL WORKING DAYS IN ADVANCE BUT AT LEAST 1 FULL WORKING DAY AFTER APPLICATION SUBMITTAL

|                                  |   |  |
|----------------------------------|---|--|
| PURPOSE OF APPLICATION           | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Installation | <input checked="" type="checkbox"/> Construct Soil Borings (variance request if to be left open >24 hours) |
|                                  | <input type="checkbox"/> Groundwater Monitoring/Vapor Well Destruction  | <input type="checkbox"/> Extension of Permit # _____   |
| No. of Wells                     | 0   | No. of Borings   |
|                                  |   | Well/Boring Names  |
| -B4, B5, B10, B25, B42, and B67- |   |  |

|                     |   |             |  |
|---------------------|---|-------------|--|
| PURPOSE OF DRILLING | <input checked="" type="checkbox"/> Environmental | LEAD AGENCY | <input type="checkbox"/> County GPP (permit approval is not to be considered work plan approval)                   |
|                     | <input type="checkbox"/> Geotechnical             |             | <input type="checkbox"/> RWQCB/DTSC/USEPA (Provide approval letter) <input type="checkbox"/> None (i.e. voluntary) |

### SITE/ DRILLING INFORMATION

Agency Case # \_\_\_\_\_ Assessor's Parcel # (Required) NA - Caltrans ROW (one per permit)

Drilling Location Address SR-82/SR-92 Interchange North El Camino Real ramp to highway 92 E City San Mateo Zip 94402

To Be Constructed In:  Public Property  Private Property  Refuse

Maximum Proposed Depth (wells/borings) 25 feet (feet) Drilling Method Direct-push

Boring Diameter 2 inches Casing Diameter \_\_\_\_\_ Filter Pack Interval \_\_\_\_\_ Screen Interval \_\_\_\_\_

Destruction Method (6 gallons water max/94 lb cement, up to 5% bentonite):  Pressure Grouting (provide well construction logs and grout calcs)  Overdrilling (guide rods for total depth prior to starting required)

### WELL/BORING OWNER (Well/boring owner name or contact person should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8C City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

It is my responsibility to notify the County of any known changes in the purpose of this well/boring from that which is indicated on this application, to submit indication of annual usage of wells to the County, and to maintain the well in good condition. (Letter signed by well/boring owner/contact person, containing above language and attesting to knowledge of all permit requirements and conditions, may be substituted for signature.)

Well/Boring Owner's/Contact Person's Signature: [Signature] (KEITH FANG) Date: 12/7/2015

### PROPERTY OWNER (Name as appears on assessor's roles should match signature)

Name Caltrans Contact Person Keith Fang

Address 111 Grand Ave., MS8c City, State, Zip Oakland, CA 94612

Telephone 510-622-8795 Email keith.fang@dot.ca.gov

I understand that a well/boring is being installed on my property. I agree to notify the County and Well Owner of any known damage or future access issues to the well (Letter signed by property owner, containing above language, or encroachment permit may be substituted for signature.)

Property Owner's Signature: [Signature] (KEITH FANG) Date: 12/7/2015

### DRILLING COMPANY

Drilling Company Geocon Consultants, Inc. Contact Person Luann Beadle

Address 6671 Brisa St. City, State, Zip Livermore, CA 94550

Telephone 925-371-5900 Email beadle@geoconinc.com C57 Drillers License # 716050

I certify that the well/boring will be constructed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards, and that the license listed above is considered current and active by the Contractors State License Board.

Driller's Signature: [Signature] Date: 12/10/15

### CONSULTANT COMPANY

Consultant Company Geocon Consultants, Inc. Project Manager Luann Beadle

Address 6671 Brisa St. Telephone 925-371-5900

City, State, Zip Livermore, CA 94550 Email beadle@geoconinc.com

Field Contact and Cell # (if known) Chris Merritt 510-750-3369

I certify that this application is correct to the best of my knowledge and the well/boring will be constructed/destroyed in compliance with the conditions of this permit (see reverse), the San Mateo County Well Ordinance, and the State Water Well Standards. I understand that I am responsible for General Conditions "D and E" of this permit and if I indicated the purpose of drilling is geotechnical, then no one will use the boring to collect any samples for environmental analyses. If there is a change in Responsible Professional, I will notify San Mateo County GPP staff.

Responsible Professional's Name (Please print legibly) Richard Day

Responsible Professional's Signature: [Signature] Date: 12/10/15

California Professional Geologist (PG) No. 5479 or Civil Engineer (PE) No. \_\_\_\_\_

Please see additional pages of application for requirements, general permit conditions, instructions, and fees.

Revised every January 1

FA 59269

**REQUIREMENTS:**

An accurate and correct map **must** be submitted with the application and include the following: north arrow, existing and historic site features, existing and proposed well/boring locations to scale, property lines and any other pertinent information.

A work plan describing the drilling and construction/destruction methodology may be requested by County staff. Upon review of information on this application, and subject to approval noted below, a permit will be issued allowing the well/boring owner, driller, and responsible professional to perform the specified work. The permit is subject to both General and Special Conditions stated below. A copy of the approved Subsurface Drilling Permit **must** be available on site while work related to the permit is being performed. Drilling may begin at the notified date and time whether County staff is present or not.

**GENERAL CONDITIONS:**

- A. Field notification must be provided to GPP drilling inspection staff at least 2 full days prior to the start of drilling.
- B. Well and boring construction and destruction under this permit is subject to the Standards for the Construction of Wells in San Mateo County, County Groundwater Protection Program (GPP) Guidelines, Policies & Procedures, the State Water Well Standards, and any instructions by a Health Department representative.
- C. Well/Boring Owner, Driller, and Responsible Professional assume responsibility for all activities and uses under the permit, including compliance with Workmen's Compensation Laws, and indemnify, defend and save the County of San Mateo, its officers, agents and employees, free and harmless from any and all expense, cost, or liability in connection with or resulting from work or stopped-work associated with the permit, including, but not limited to, property damage, personal injury, wrongful death, and loss of income.
- D. All borings **must** be properly destroyed (grouted/sealed) within 24 hours of drilling, unless special conditions are approved in writing as part of this permit, and must be continuously protected and stabilized. Temporary soil vapor wells may remain in place up to 7 days with just an additional notification for removal.
- E. Analytical results of all soil, vapor, and groundwater samples collected during the execution of drilling under this permit **must** be submitted to County GPP staff by the Responsible Professional within 60 days of sample collection. If contamination is discovered during drilling, verbal notification to County GPP by the Responsible Professional is **required** within 72 hours of discovery. Proper storage, labeling & disposal of investigation-derived residual wastes are the responsibility of the consultant unless stated otherwise contractually.
- F. A copy of the State DWR Form 188, boring logs, well construction details, and finalized as-built locations for all borings/wells (except geotechnical borings) signed by a Responsible Professional, **must** be submitted to County GPP by the Responsible Professional within 60 days of drilling/construction/destruction.
- G. Permit is valid only for the purpose specified herein. No change in purpose or required procedures, as described on this permit application, in the associated workplan, or in the special conditions below, will be allowed except upon written permission from the County. Construction aspects can be changed based on conditions encountered in the field.
- H. Permit is valid for **one** mobilization associated with originally permitted boring/well locations only, including contingency locations, and is automatically canceled if not exercised, or if an extension is not applied for and granted within 120 days of the original permit issuance date. Failure to notify staff of cancellation or delay in start time will result in the Consultant being billed an Inspection Cancellation fee of \$264 for 2015 if GPP staff attempted to perform an inspection.
- I. Wells installed under this permit may not be used for domestic, municipal, agricultural, or irrigation water supply.
- J. All work performed **must** conform to Business and Profession Codes and State Water Well Standards.
- K. Top-of-casing elevation of all wells **must** be surveyed to the nearest 0.01-foot relative to Mean Sea Level or NAVD88 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate. Geotechnical wells are exempt from this requirement if a written variance from GPP is obtained prior to drilling.
- L. Latitude and longitude of all wells **must** be surveyed with sub-meter accuracy relative to NAD83 and submitted to County GPP within 60 days of drilling, and to State GeoTracker as appropriate.
- M. Violation of any requirement or general or special permit condition may result in an order by GPP staff to cease work under this permit, correct the violation, potentially re-permit the work as a new mobilization, and potential actions may be taken against the Well Owner, Property Owner, or Responsible Professional by GPP.

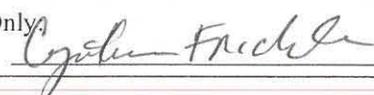
**SPECIAL CONDITIONS:**

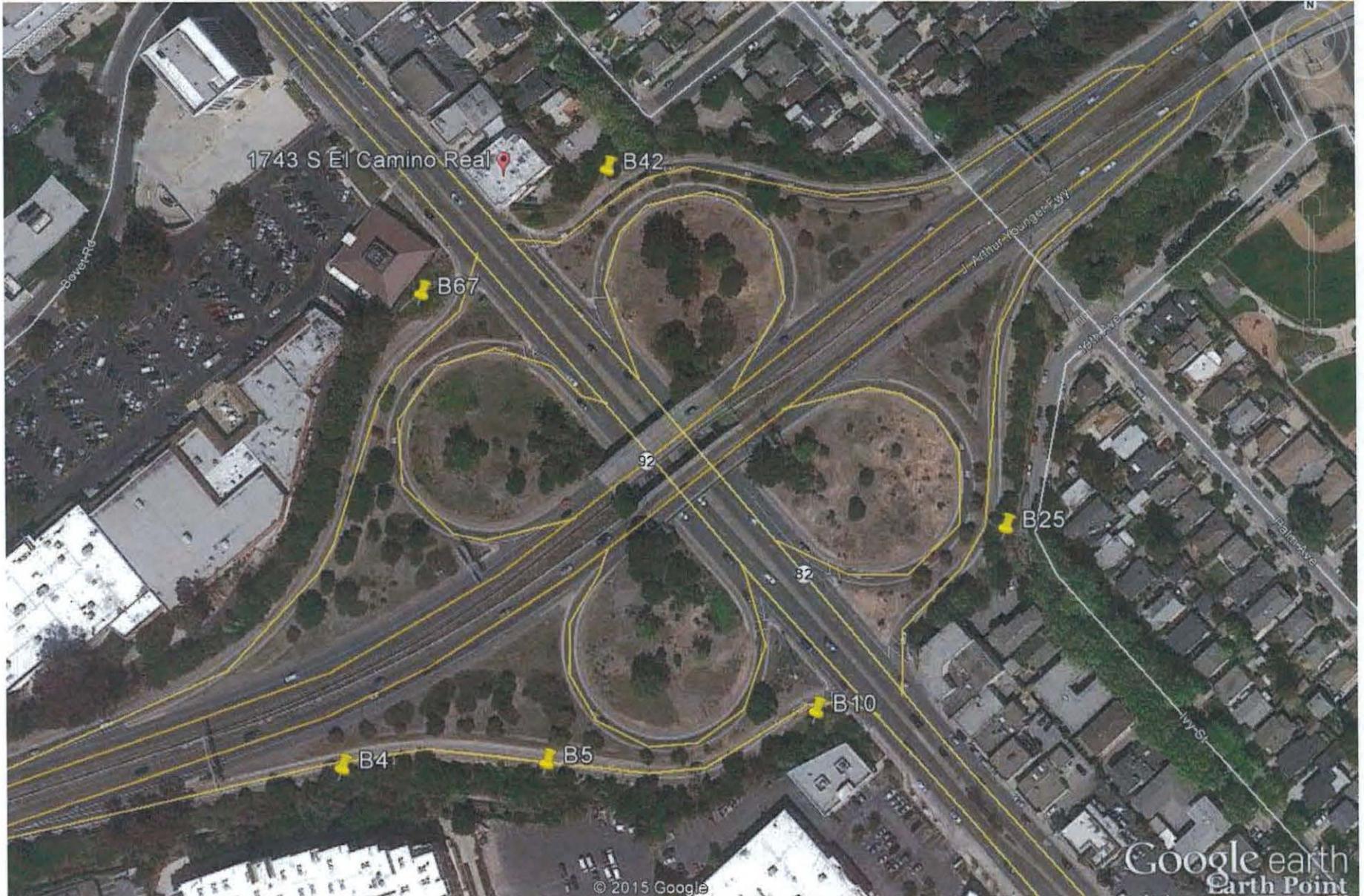
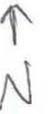
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

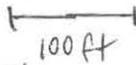
\_\_\_\_\_

|                     |  |           |                       |
|---------------------|--|-----------|-----------------------|
| For Agency Use Only | County Approval:  | FA# _____ | Date: <u>12/15/15</u> |
|---------------------|--|-----------|-----------------------|

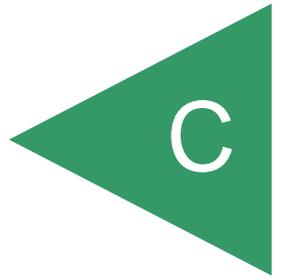


Site is SR-92/SR-82 Interchange

Borings will be drilled using DP in unpaved shoulder to a maximum depth of 25 ft for GW sample collection

Drilling date not established yet. I am tentatively planning  
week of Dec. 28 to 31. 

APPENDIX



January 18, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600174  
Client Reference : SR-92 / SR-82 1C, E8721-02-36

Enclosed are the results for sample(s) received on January 09, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.

Project Number : SR-92 / SR-82 1C, E8721-02-36

6671 Brisa Street

Report To : Luann Beadle

Livermore , CA 94550

Reported : 01/18/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B17-0     | 1600174-01    | Soil   | 1/08/16 8:55  | 1/09/16 10:00 |
| B17-1     | 1600174-02    | Soil   | 1/08/16 8:55  | 1/09/16 10:00 |
| B17-2     | 1600174-03    | Soil   | 1/08/16 8:55  | 1/09/16 10:00 |
| B18-0     | 1600174-04    | Soil   | 1/08/16 9:00  | 1/09/16 10:00 |
| B18-1     | 1600174-05    | Soil   | 1/08/16 9:00  | 1/09/16 10:00 |
| B18-2     | 1600174-06    | Soil   | 1/08/16 9:00  | 1/09/16 10:00 |
| B19-0     | 1600174-07    | Soil   | 1/08/16 9:05  | 1/09/16 10:00 |
| B19-1     | 1600174-08    | Soil   | 1/08/16 9:05  | 1/09/16 10:00 |
| B19-2     | 1600174-09    | Soil   | 1/08/16 9:05  | 1/09/16 10:00 |
| B20-0     | 1600174-10    | Soil   | 1/08/16 9:10  | 1/09/16 10:00 |
| B20-1     | 1600174-11    | Soil   | 1/08/16 9:10  | 1/09/16 10:00 |
| B20-2     | 1600174-12    | Soil   | 1/08/16 9:10  | 1/09/16 10:00 |
| B21-0     | 1600174-13    | Soil   | 1/08/16 9:15  | 1/09/16 10:00 |
| B21-1     | 1600174-14    | Soil   | 1/08/16 9:15  | 1/09/16 10:00 |
| B21-2     | 1600174-15    | Soil   | 1/08/16 9:15  | 1/09/16 10:00 |
| B32-0     | 1600174-16    | Soil   | 1/08/16 10:48 | 1/09/16 10:00 |
| B32-1     | 1600174-17    | Soil   | 1/08/16 10:50 | 1/09/16 10:00 |
| B32-2     | 1600174-18    | Soil   | 1/08/16 10:54 | 1/09/16 10:00 |
| B33-0     | 1600174-19    | Soil   | 1/08/16 10:56 | 1/09/16 10:00 |
| B33-1     | 1600174-20    | Soil   | 1/08/16 10:58 | 1/09/16 10:00 |
| B33-2     | 1600174-21    | Soil   | 1/08/16 11:00 | 1/09/16 10:00 |
| B34-0     | 1600174-22    | Soil   | 1/08/16 11:00 | 1/09/16 10:00 |
| B34-1     | 1600174-23    | Soil   | 1/08/16 11:03 | 1/09/16 10:00 |
| B34-2     | 1600174-24    | Soil   | 1/08/16 11:07 | 1/09/16 10:00 |
| B35-0     | 1600174-25    | Soil   | 1/08/16 11:15 | 1/09/16 10:00 |
| B35-1     | 1600174-26    | Soil   | 1/08/16 11:20 | 1/09/16 10:00 |
| B35-2     | 1600174-27    | Soil   | 1/08/16 11:30 | 1/09/16 10:00 |
| B36-0     | 1600174-28    | Soil   | 1/08/16 11:16 | 1/09/16 10:00 |
| B36-1     | 1600174-29    | Soil   | 1/08/16 11:20 | 1/09/16 10:00 |
| B36-2     | 1600174-30    | Soil   | 1/08/16 11:30 | 1/09/16 10:00 |
| B37-0     | 1600174-31    | Soil   | 1/08/16 11:38 | 1/09/16 10:00 |
| B37-1     | 1600174-32    | Soil   | 1/08/16 11:42 | 1/09/16 10:00 |
| B37-2     | 1600174-33    | Soil   | 1/08/16 11:46 | 1/09/16 10:00 |
| B38-0     | 1600174-34    | Soil   | 1/08/16 11:40 | 1/09/16 10:00 |
| B38-1     | 1600174-35    | Soil   | 1/08/16 11:45 | 1/09/16 10:00 |
| B38-2     | 1600174-36    | Soil   | 1/08/16 11:50 | 1/09/16 10:00 |
| B39-0     | 1600174-37    | Soil   | 1/08/16 12:10 | 1/09/16 10:00 |



## Certificate of Analysis

Geocon Consultants, Inc.

Project Number : SR-92 / SR-82 1C, E8721-02-36

6671 Brisa Street

Report To : Luann Beadle

Livermore , CA 94550

Reported : 01/18/2016

|       |            |      |               |               |
|-------|------------|------|---------------|---------------|
| B39-1 | 1600174-38 | Soil | 1/08/16 12:10 | 1/09/16 10:00 |
| B39-2 | 1600174-39 | Soil | 1/08/16 12:10 | 1/09/16 10:00 |
| B40-0 | 1600174-40 | Soil | 1/08/16 12:05 | 1/09/16 10:00 |
| B40-1 | 1600174-41 | Soil | 1/08/16 12:05 | 1/09/16 10:00 |
| B40-2 | 1600174-42 | Soil | 1/08/16 12:05 | 1/09/16 10:00 |
| B41-0 | 1600174-43 | Soil | 1/08/16 12:15 | 1/09/16 10:00 |
| B41-1 | 1600174-44 | Soil | 1/08/16 12:15 | 1/09/16 10:00 |
| B41-2 | 1600174-45 | Soil | 1/08/16 12:15 | 1/09/16 10:00 |
| B43-0 | 1600174-46 | Soil | 1/08/16 9:25  | 1/09/16 10:00 |
| B43-1 | 1600174-47 | Soil | 1/08/16 9:25  | 1/09/16 10:00 |
| B43-2 | 1600174-48 | Soil | 1/08/16 9:25  | 1/09/16 10:00 |
| B44-0 | 1600174-49 | Soil | 1/08/16 9:30  | 1/09/16 10:00 |
| B44-1 | 1600174-50 | Soil | 1/08/16 9:30  | 1/09/16 10:00 |
| B44-2 | 1600174-51 | Soil | 1/08/16 9:30  | 1/09/16 10:00 |
| B45-0 | 1600174-52 | Soil | 1/08/16 9:40  | 1/09/16 10:00 |
| B45-1 | 1600174-53 | Soil | 1/08/16 9:40  | 1/09/16 10:00 |
| B45-2 | 1600174-54 | Soil | 1/08/16 9:40  | 1/09/16 10:00 |
| B46-0 | 1600174-55 | Soil | 1/08/16 9:35  | 1/09/16 10:00 |
| B46-1 | 1600174-56 | Soil | 1/08/16 9:35  | 1/09/16 10:00 |
| B46-2 | 1600174-57 | Soil | 1/08/16 9:35  | 1/09/16 10:00 |
| B47-0 | 1600174-58 | Soil | 1/08/16 9:45  | 1/09/16 10:00 |
| B47-1 | 1600174-59 | Soil | 1/08/16 9:45  | 1/09/16 10:00 |
| B47-2 | 1600174-60 | Soil | 1/08/16 9:45  | 1/09/16 10:00 |
| B48-0 | 1600174-61 | Soil | 1/08/16 9:50  | 1/09/16 10:00 |
| B48-1 | 1600174-62 | Soil | 1/08/16 9:50  | 1/09/16 10:00 |
| B48-2 | 1600174-63 | Soil | 1/08/16 9:50  | 1/09/16 10:00 |
| B49-0 | 1600174-64 | Soil | 1/08/16 10:00 | 1/09/16 10:00 |
| B49-1 | 1600174-65 | Soil | 1/08/16 10:00 | 1/09/16 10:00 |
| B49-2 | 1600174-66 | Soil | 1/08/16 10:00 | 1/09/16 10:00 |
| B50-0 | 1600174-67 | Soil | 1/08/16 10:05 | 1/09/16 10:00 |
| B50-1 | 1600174-68 | Soil | 1/08/16 10:05 | 1/09/16 10:00 |
| B50-2 | 1600174-69 | Soil | 1/08/16 10:05 | 1/09/16 10:00 |
| B51-0 | 1600174-70 | Soil | 1/08/16 10:15 | 1/09/16 10:00 |
| B51-1 | 1600174-71 | Soil | 1/08/16 10:15 | 1/09/16 10:00 |
| B51-2 | 1600174-72 | Soil | 1/08/16 10:15 | 1/09/16 10:00 |
| B52-0 | 1600174-73 | Soil | 1/08/16 10:25 | 1/09/16 10:00 |
| B52-1 | 1600174-74 | Soil | 1/08/16 10:25 | 1/09/16 10:00 |
| B52-2 | 1600174-75 | Soil | 1/08/16 10:25 | 1/09/16 10:00 |
| B53-0 | 1600174-76 | Soil | 1/08/16 13:00 | 1/09/16 10:00 |
| B53-1 | 1600174-77 | Soil | 1/08/16 13:00 | 1/09/16 10:00 |
| B53-2 | 1600174-78 | Soil | 1/08/16 13:00 | 1/09/16 10:00 |



## Certificate of Analysis

Geocon Consultants, Inc.

Project Number : SR-92 / SR-82 1C, E8721-02-36

6671 Brisa Street

Report To : Luann Beadle

Livermore , CA 94550

Reported : 01/18/2016

|       |            |      |               |               |
|-------|------------|------|---------------|---------------|
| B54-0 | 1600174-79 | Soil | 1/08/16 13:05 | 1/09/16 10:00 |
| B54-1 | 1600174-80 | Soil | 1/08/16 13:05 | 1/09/16 10:00 |
| B54-2 | 1600174-81 | Soil | 1/08/16 13:05 | 1/09/16 10:00 |
| B55-0 | 1600174-82 | Soil | 1/08/16 12:55 | 1/09/16 10:00 |
| B55-1 | 1600174-83 | Soil | 1/08/16 12:55 | 1/09/16 10:00 |
| B55-2 | 1600174-84 | Soil | 1/08/16 12:55 | 1/09/16 10:00 |
| B56-0 | 1600174-85 | Soil | 1/08/16 12:50 | 1/09/16 10:00 |
| B56-1 | 1600174-86 | Soil | 1/08/16 12:50 | 1/09/16 10:00 |
| B56-2 | 1600174-87 | Soil | 1/08/16 12:50 | 1/09/16 10:00 |
| B57-0 | 1600174-88 | Soil | 1/08/16 13:45 | 1/09/16 10:00 |
| B57-1 | 1600174-89 | Soil | 1/08/16 13:48 | 1/09/16 10:00 |
| B57-2 | 1600174-90 | Soil | 1/08/16 13:51 | 1/09/16 10:00 |
| B58-0 | 1600174-91 | Soil | 1/08/16 13:15 | 1/09/16 10:00 |
| B58-1 | 1600174-92 | Soil | 1/08/16 13:15 | 1/09/16 10:00 |
| B58-2 | 1600174-93 | Soil | 1/08/16 13:15 | 1/09/16 10:00 |
| B59-0 | 1600174-94 | Soil | 1/08/16 13:20 | 1/09/16 10:00 |
| B59-1 | 1600174-95 | Soil | 1/08/16 13:20 | 1/09/16 10:00 |
| B59-2 | 1600174-96 | Soil | 1/08/16 13:20 | 1/09/16 10:00 |
| B60-0 | 1600174-97 | Soil | 1/08/16 13:25 | 1/09/16 10:00 |
| B60-1 | 1600174-98 | Soil | 1/08/16 13:25 | 1/09/16 10:00 |
| B60-2 | 1600174-99 | Soil | 1/08/16 13:25 | 1/09/16 10:00 |
| B61-0 | 1600174-AA | Soil | 1/08/16 13:30 | 1/09/16 10:00 |
| B61-1 | 1600174-AB | Soil | 1/08/16 13:30 | 1/09/16 10:00 |
| B61-2 | 1600174-AC | Soil | 1/08/16 13:30 | 1/09/16 10:00 |
| B62-0 | 1600174-AD | Soil | 1/08/16 13:35 | 1/09/16 10:00 |
| B62-1 | 1600174-AE | Soil | 1/08/16 13:35 | 1/09/16 10:00 |
| B62-2 | 1600174-AF | Soil | 1/08/16 13:35 | 1/09/16 10:00 |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B17-0**

**Lab ID: 1600174-01**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 68                | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:37        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

**Client Sample ID B17-1**

**Lab ID: 1600174-02**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|-----------------|----------------|-------------|----------|---------|------------|--------------------|-------|
| <b>Antimony</b> | <b>3.4</b>     | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| <b>Arsenic</b>  | <b>4.2</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| <b>Barium</b>   | <b>160</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| Beryllium       | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:24     |       |
| Cadmium         | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| <b>Chromium</b> | <b>170</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| <b>Cobalt</b>   | <b>23</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| <b>Copper</b>   | <b>34</b>      | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| <b>Lead</b>     | <b>4.7</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| Molybdenum      | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| <b>Nickel</b>   | <b>270</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| Selenium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| Silver          | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| Thallium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| <b>Vanadium</b> | <b>46</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |
| <b>Zinc</b>     | <b>44</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 11:25     |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Mercury | ND             | 0.10        | 1        | B6A0309 | 01/15/2016 | 01/15/16 12:46     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B17-2**

**Lab ID: 1600174-03**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.0               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:44        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B18-0**

**Lab ID: 1600174-04**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 130               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:45        |       |



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Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B18-1**

**Lab ID: 1600174-05**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.2               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:47        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B18-2**

**Lab ID: 1600174-06**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 16                | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:49        |       |



### Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B19-0**

**Lab ID: 1600174-07**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>67</b>         | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:54        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>41</b>         | 2.0             | 2        | B6A0256 | 01/13/2016 | 01/13/16 14:10        |       |
| <b>ORO</b>                    | <b>59</b>         | 2.0             | 2        | B6A0256 | 01/13/2016 | 01/13/16 14:10        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>111 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 14:10</i> |       |



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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B19-1**

**Lab ID: 1600174-08**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.8               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:56        |       |



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Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B19-2**

**Lab ID: 1600174-09**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 5.3               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 08:58        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>7.4</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 12:42        |       |
| <b>ORO</b>                    | <b>5.2</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 12:42        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>110 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 12:42</i> |       |



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Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B20-0**

**Lab ID: 1600174-10**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 100               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 09:00        |       |



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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B20-1**

**Lab ID: 1600174-11**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.7               | 1.0            | 1        | B6A0296 | 01/14/2016 | 01/15/16 09:02        |       |



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Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B20-2**

**Lab ID: 1600174-12**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Antimony</b> | <b>4.5</b>        | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Arsenic</b>  | <b>3.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Barium</b>   | <b>89</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Chromium</b> | <b>230</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Cobalt</b>   | <b>27</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Copper</b>   | <b>39</b>         | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Lead</b>     | <b>4.0</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Nickel</b>   | <b>320</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| Silver          | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Vanadium</b> | <b>60</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |
| <b>Zinc</b>     | <b>48</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:06        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | 4.4               | 1.0            | 10       | B6A0309 | 01/15/2016 | 01/15/16 14:59        | D6    |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B21-0**

**Lab ID: 1600174-13**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 62                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:09        |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B21-1**

**Lab ID: 1600174-14**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 14                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:21        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B21-2**

**Lab ID: 1600174-15**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 26                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:22        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B32-0**  
**Lab ID: 1600174-16**

#### Total Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>320</b>        | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:24        |       |

#### Diesel Range Organics by EPA 8015B

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>44</b>         | 5.0             | 5        | B6A0256 | 01/13/2016 | 01/13/16 14:20        |       |
| <b>ORO</b>                    | <b>140</b>        | 5.0             | 5        | B6A0256 | 01/13/2016 | 01/13/16 14:20        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>62.0 %</i>     | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 14:20</i> |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B32-1**

**Lab ID: 1600174-17**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 21                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:26        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B32-2**

**Lab ID: 1600174-18**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>56</b>         | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:28        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>2.9</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 12:51        |       |
| <b>ORO</b>                    | <b>4.9</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 12:51        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>102 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 12:51</i> |       |



### Certificate of Analysis

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Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B33-0**

**Lab ID: 1600174-19**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 140               | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:29        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B33-1**

**Lab ID: 1600174-20**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 10                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:31        |       |



## Certificate of Analysis

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Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B33-2**

**Lab ID: 1600174-21**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 13                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:33        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B34-0**

**Lab ID: 1600174-22**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 95                | 1.0            | 1        | B6A0297 | 01/14/2016 | 01/15/16 09:34        |       |



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 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

**Client Sample ID B34-1**

**Lab ID: 1600174-23**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|-----------------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Antimony        | ND             | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| <b>Arsenic</b>  | <b>3.7</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| <b>Barium</b>   | <b>130</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| Beryllium       | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| Cadmium         | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| <b>Chromium</b> | <b>19</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| <b>Cobalt</b>   | <b>7.2</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| <b>Copper</b>   | <b>15</b>      | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| <b>Lead</b>     | <b>38</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| Molybdenum      | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| <b>Nickel</b>   | <b>23</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| Selenium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| Silver          | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| Thallium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:11     |       |
| <b>Vanadium</b> | <b>27</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |
| <b>Zinc</b>     | <b>44</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:10     |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Mercury | ND             | 0.10        | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:03     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B34-2**

**Lab ID: 1600174-24**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 09:44        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B35-0**

**Lab ID: 1600174-25**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 68                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 09:51        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B35-1**

**Lab ID: 1600174-26**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 74                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 09:53        |       |



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Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B35-2**

**Lab ID: 1600174-27**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 42                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 09:54        |       |



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Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B36-0**

**Lab ID: 1600174-28**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 41                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 09:56        |       |



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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B36-1**

**Lab ID: 1600174-29**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 10:02        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B36-2**

**Lab ID: 1600174-30**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 24                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 10:03        |       |



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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B37-0**

**Lab ID: 1600174-31**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 10:05        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>5.2</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:50        |       |
| <b>ORO</b>                    | <b>11</b>         | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:50        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>109 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 13:50</i> |       |



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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B37-1**

**Lab ID: 1600174-32**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 10                | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 10:07        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/18/2016

**Client Sample ID B37-2**

**Lab ID: 1600174-33**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| <b>Arsenic</b>  | <b>3.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| <b>Barium</b>   | <b>150</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| <b>Chromium</b> | <b>28</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| <b>Cobalt</b>   | <b>9.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| <b>Copper</b>   | <b>18</b>         | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| <b>Lead</b>     | <b>12</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| <b>Nickel</b>   | <b>38</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| Silver          | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:15        |       |
| <b>Vanadium</b> | <b>30</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |
| <b>Zinc</b>     | <b>53</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:14        |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:05        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>2.6</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:01        |       |
| <b>ORO</b>                    | <b>4.3</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:01        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>109 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 13:01</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B38-0**

**Lab ID: 1600174-34**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 130               | 1.0            | 1        | B6A0298 | 01/14/2016 | 01/15/16 10:09        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B38-1**

**Lab ID: 1600174-35**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 62                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:14        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B38-2**

**Lab ID: 1600174-36**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:25        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B39-0**

**Lab ID: 1600174-37**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 55                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:27        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B39-1**

**Lab ID: 1600174-38**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 16                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:29        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B39-2**

**Lab ID: 1600174-39**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 10                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:30        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B40-0**

**Lab ID: 1600174-40**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 930               | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:32        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B40-1**

**Lab ID: 1600174-41**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 66                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:34        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B40-2**

**Lab ID: 1600174-42**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 59                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:35        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B41-0**

**Lab ID: 1600174-43**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:37        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>3.2</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:11        |       |
| <b>ORO</b>                    | <b>4.8</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:11        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>115 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 13:11</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B41-1**

**Lab ID: 1600174-44**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 93                | 1.0            | 1        | B6A0299 | 01/14/2016 | 01/15/16 10:39        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B41-2**  
**Lab ID: 1600174-45**

### Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19        |       |
| <b>Arsenic</b>  | <b>3.2</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19        |       |
| <b>Barium</b>   | <b>140</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19        |       |
| <b>Chromium</b> | <b>21</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18        |       |
| <b>Cobalt</b>   | <b>7.8</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19        |       |
| <b>Copper</b>   | <b>15</b>         | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18        |       |
| <b>Lead</b>     | <b>13</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18        |       |
| <b>Nickel</b>   | <b>28</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19        |       |
| Silver          | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:19        |       |
| <b>Vanadium</b> | <b>29</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18        |       |
| <b>Zinc</b>     | <b>33</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:18        |       |

### Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:07        |       |

### Diesel Range Organics by EPA 8015B

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>12</b>         | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:40        |       |
| <b>ORO</b>                    | <b>14</b>         | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 13:40        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>103 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 13:40</i> |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B43-0**  
**Lab ID: 1600174-46**

#### Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|-----------------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Antimony        | ND             | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Arsenic</b>  | <b>3.1</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Barium</b>   | <b>110</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| Beryllium       | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:21     |       |
| Cadmium         | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Chromium</b> | <b>23</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Cobalt</b>   | <b>7.2</b>     | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Copper</b>   | <b>15</b>      | 2.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Lead</b>     | <b>69</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| Molybdenum      | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Nickel</b>   | <b>30</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| Selenium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| Silver          | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| Thallium        | ND             | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Vanadium</b> | <b>24</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |
| <b>Zinc</b>     | <b>63</b>      | 1.0         | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:22     |       |

#### Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Mercury | ND             | 0.10        | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:09     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B43-1**

**Lab ID: 1600174-47**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.1               | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 10:48        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B43-2**

**Lab ID: 1600174-48**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.6               | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 10:55        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B44-0**

**Lab ID: 1600174-49**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 92                | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 10:56        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>13</b>         | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 14:00        |       |
| <b>ORO</b>                    | <b>22</b>         | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 14:00        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>122 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 14:00</i> |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

**Client Sample ID B44-1**  
**Lab ID: 1600174-50**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| <b>Arsenic</b>  | <b>2.6</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| <b>Barium</b>   | <b>160</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:25        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| <b>Chromium</b> | <b>26</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| <b>Cobalt</b>   | <b>5.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| <b>Copper</b>   | <b>13</b>         | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| <b>Lead</b>     | <b>4.0</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| <b>Nickel</b>   | <b>28</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| Silver          | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:27        |       |
| <b>Vanadium</b> | <b>34</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |
| <b>Zinc</b>     | <b>32</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:26        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:11        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B44-2**

**Lab ID: 1600174-51**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 20                | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 10:58        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>6.1</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 12:32        |       |
| <b>ORO</b>                    | <b>4.7</b>        | 1.0             | 1        | B6A0256 | 01/13/2016 | 01/13/16 12:32        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>107 %</i>      | <i>26 - 123</i> |          | B6A0256 | 01/13/2016 | <i>01/13/16 12:32</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B45-0**

**Lab ID: 1600174-52**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 46                | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 11:00        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B45-1**

**Lab ID: 1600174-53**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 24                | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 11:05        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B45-2**

**Lab ID: 1600174-54**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 13                | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 11:07        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B46-0**

**Lab ID: 1600174-55**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Arsenic</b>  | <b>4.0</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Barium</b>   | <b>140</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:29        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Chromium</b> | <b>23</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Cobalt</b>   | <b>8.7</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Copper</b>   | <b>17</b>         | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Lead</b>     | <b>34</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Nickel</b>   | <b>30</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| Silver          | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Vanadium</b> | <b>29</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |
| <b>Zinc</b>     | <b>46</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:30        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:18        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B46-1**

**Lab ID: 1600174-56**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.5               | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 11:09        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B46-2**

**Lab ID: 1600174-57**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.6               | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 11:11        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B47-0**

**Lab ID: 1600174-58**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 37                | 1.0            | 1        | B6A0300 | 01/14/2016 | 01/15/16 11:12        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B47-1**

**Lab ID: 1600174-59**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 29                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:18        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B47-2**

**Lab ID: 1600174-60**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:29        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B48-0**

**Lab ID: 1600174-61**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 38                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:30        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>21</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 09:19        |       |
| <b>ORO</b>                    | <b>40</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 09:19        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>103 %</i>      | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 09:19</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B48-1**

**Lab ID: 1600174-62**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 15                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:32        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B48-2**

**Lab ID: 1600174-63**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Arsenic</b>  | <b>3.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Barium</b>   | <b>140</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:33        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Chromium</b> | <b>20</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Cobalt</b>   | <b>8.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Copper</b>   | <b>13</b>         | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Lead</b>     | <b>7.9</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Nickel</b>   | <b>24</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| Silver          | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Vanadium</b> | <b>29</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |
| <b>Zinc</b>     | <b>29</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:34        |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:20        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>4.8</b>        | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:03        |       |
| <b>ORO</b>                    | <b>3.7</b>        | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:03        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>109 %</i>      | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 08:03</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B49-0**

**Lab ID: 1600174-64**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.8               | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:34        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B49-1**

**Lab ID: 1600174-65**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 54                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:35        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B49-2**

**Lab ID: 1600174-66**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.7               | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:37        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B50-0**

**Lab ID: 1600174-67**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 43                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:39        |       |



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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B50-1**

**Lab ID: 1600174-68**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 10                | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:41        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B50-2**

**Lab ID: 1600174-69**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.1               | 1.0            | 1        | B6A0301 | 01/14/2016 | 01/15/16 11:42        |       |



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Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B51-0**

**Lab ID: 1600174-70**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>64</b>         | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 11:52        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>15</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:50        |       |
| <b>ORO</b>                    | <b>22</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:50        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>101 %</i>      | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | 01/14/16 08:50        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B51-1**

**Lab ID: 1600174-71**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.4               | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 11:58        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
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Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B51-2**

**Lab ID: 1600174-72**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.9               | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:00        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>17</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 09:10        |       |
| <b>ORO</b>                    | <b>23</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 09:10        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>101 %</i>      | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 09:10</i> |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B52-0**

**Lab ID: 1600174-73**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 23                | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:02        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B52-1**

**Lab ID: 1600174-74**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:03        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B52-2**

**Lab ID: 1600174-75**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.1               | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:09        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B53-0**

**Lab ID: 1600174-76**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 120               | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:11        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B53-1**

**Lab ID: 1600174-77**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 260               | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:12        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B53-2**

**Lab ID: 1600174-78**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.1               | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:14        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B54-0**

**Lab ID: 1600174-79**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 67                | 1.0            | 1        | B6A0303 | 01/14/2016 | 01/15/16 12:16        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B54-1**

**Lab ID: 1600174-80**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 560               | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:21        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B54-2**

**Lab ID: 1600174-81**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.6               | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:32        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B55-0**

**Lab ID: 1600174-82**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>690</b>        | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:34        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes     |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-----------|
| <b>DRO</b>                    | <b>1200</b>       | 40              | 20       | B6A0264 | 01/13/2016 | 01/14/16 10:55        |           |
| <b>ORO</b>                    | <b>3300</b>       | 40              | 20       | B6A0264 | 01/13/2016 | 01/14/16 10:55        |           |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 10:55</i> | <i>S4</i> |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B55-1**

**Lab ID: 1600174-83**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| <b>Arsenic</b>  | <b>4.6</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| <b>Barium</b>   | <b>130</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:44        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| <b>Chromium</b> | <b>25</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| <b>Cobalt</b>   | <b>10</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| <b>Copper</b>   | <b>24</b>         | 2.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| <b>Lead</b>     | <b>8.2</b>        | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| <b>Nickel</b>   | <b>39</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| Silver          | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| <b>Vanadium</b> | <b>30</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |
| <b>Zinc</b>     | <b>45</b>         | 1.0            | 1        | B6A0291 | 01/14/2016 | 01/15/16 13:45        |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0309 | 01/15/2016 | 01/15/16 13:22        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B55-2**

**Lab ID: 1600174-84**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>14</b>         | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:36        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>13</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:41        |       |
| <b>ORO</b>                    | <b>14</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:41        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>111 %</i>      | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 08:41</i> |       |



## Certificate of Analysis

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Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B56-0**

**Lab ID: 1600174-85**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 38                | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:38        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B56-1**

**Lab ID: 1600174-86**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:39        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B56-2**

**Lab ID: 1600174-87**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 160               | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:41        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B57-0**

**Lab ID: 1600174-88**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 54                | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:43        |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B57-1**

**Lab ID: 1600174-89**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 15                | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:44        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B57-2**

**Lab ID: 1600174-90**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.1               | 1.0            | 1        | B6A0304 | 01/14/2016 | 01/15/16 12:46        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B58-0**

**Lab ID: 1600174-91**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 12:56        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>11</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:31        |       |
| <b>ORO</b>                    | <b>15</b>         | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 08:31        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>108 %</i>      | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 08:31</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B58-1**

**Lab ID: 1600174-92**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.5               | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:03        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/18/2016

**Client Sample ID B58-2**

**Lab ID: 1600174-93**

**Title 22 Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Arsenic</b>  | <b>3.4</b>        | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Barium</b>   | <b>150</b>        | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:55        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Chromium</b> | <b>21</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Cobalt</b>   | <b>5.0</b>        | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Copper</b>   | <b>11</b>         | 2.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Lead</b>     | <b>5.7</b>        | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Nickel</b>   | <b>22</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| Silver          | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Vanadium</b> | <b>28</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |
| <b>Zinc</b>     | <b>35</b>         | 1.0            | 1        | B6A0292 | 01/14/2016 | 01/15/16 13:56        |       |

**Mercury by AA (Cold Vapor) EPA 7471A**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0310 | 01/15/2016 | 01/15/16 13:28        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>7.3</b>        | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 07:53        |       |
| <b>ORO</b>                    | <b>4.5</b>        | 1.0             | 1        | B6A0264 | 01/13/2016 | 01/14/16 07:53        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>61.8 %</i>     | <i>26 - 123</i> |          | B6A0264 | 01/13/2016 | <i>01/14/16 07:53</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B59-0**

**Lab ID: 1600174-94**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 240               | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:04        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B59-1**

**Lab ID: 1600174-95**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.9               | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:06        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B59-2**

**Lab ID: 1600174-96**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 10                | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:08        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B60-0**

**Lab ID: 1600174-97**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 470               | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:13        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B60-1**

**Lab ID: 1600174-98**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:15        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B60-2**

**Lab ID: 1600174-99**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.5               | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:17        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B61-0**  
**Lab ID: 1600174-AA**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>280</b>        | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:19        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>32</b>         | 1.0             | 1        | B6A0329 | 01/14/2016 | 01/14/16 20:56        |       |
| <b>ORO</b>                    | <b>83</b>         | 1.0             | 1        | B6A0329 | 01/14/2016 | 01/14/16 20:56        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>99.6 %</i>     | <i>26 - 123</i> |          | B6A0329 | 01/14/2016 | <i>01/14/16 20:56</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B61-1**

**Lab ID: 1600174-AB**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 18                | 1.0            | 1        | B6A0305 | 01/14/2016 | 01/15/16 13:20        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

**Client Sample ID B61-2**  
**Lab ID: 1600174-AC**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>7.0</b>        | 1.0            | 1        | B6A0306 | 01/14/2016 | 01/15/16 13:45        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>8.2</b>        | 1.0             | 1        | B6A0329 | 01/14/2016 | 01/14/16 19:08        |       |
| <b>ORO</b>                    | <b>6.6</b>        | 1.0             | 1        | B6A0329 | 01/14/2016 | 01/14/16 19:08        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>114 %</i>      | <i>26 - 123</i> |          | B6A0329 | 01/14/2016 | 01/14/16 19:08        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B62-0**

**Lab ID: 1600174-AD**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 300               | 1.0            | 1        | B6A0306 | 01/14/2016 | 01/15/16 13:46        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

**Client Sample ID B62-1**

**Lab ID: 1600174-AE**

**Total Metals by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.8               | 1.0            | 1        | B6A0306 | 01/14/2016 | 01/15/16 13:48        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

**Client Sample ID B62-2**  
**Lab ID: 1600174-AF**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|-----------------|----------------|-------------|----------|---------|------------|--------------------|-------|
| <b>Antimony</b> | <b>2.2</b>     | 2.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| <b>Arsenic</b>  | <b>5.0</b>     | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| <b>Barium</b>   | <b>75</b>      | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| Beryllium       | ND             | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:08     |       |
| Cadmium         | ND             | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| <b>Chromium</b> | <b>45</b>      | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| <b>Cobalt</b>   | <b>12</b>      | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| <b>Copper</b>   | <b>27</b>      | 2.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| <b>Lead</b>     | <b>5.8</b>     | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| Molybdenum      | ND             | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| <b>Nickel</b>   | <b>73</b>      | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| Selenium        | ND             | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| Silver          | ND             | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| Thallium        | ND             | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| <b>Vanadium</b> | <b>35</b>      | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |
| <b>Zinc</b>     | <b>47</b>      | 1.0         | 1        | B6A0292 | 01/14/2016 | 01/15/16 14:09     |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result (mg/kg) | PQL (mg/kg) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------|----------------|-------------|----------|---------|------------|--------------------|-------|
| Mercury | ND             | 0.10        | 1        | B6A0310 | 01/15/2016 | 01/15/16 13:42     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### QUALITY CONTROL SECTION

#### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0296 - EPA 3050B_S</b>     |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6A0296-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6A0296-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | 45.0884           | 1.0            | 50.0000        |   | 90.2  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0296-DUP1)</b>        |                   |                |                | <b>Source: 1600174-01</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 62.3231           | 1.0            |                | 68.1484   | NR    |                 | 8.93 | 20           |       |
| <b>Matrix Spike (B6A0296-MS1)</b>      |                   |                |                | <b>Source: 1600174-01</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 180.270           | 1.0            | 125.000        | 68.1484   | 89.7  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0296-MSD1)</b> |                   |                |                | <b>Source: 1600174-01</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 152.488           | 1.0            | 125.000        | 68.1484   | 67.5  | 35 - 129        | 16.7 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0297 - EPA 3050B_S</b>     |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0297-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0297-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | 47.7711           | 1.0            | 50.0000        |  | 95.5  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0297-DUP1)</b>        |                   |                |                | Source: 1600174-13 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 69.4240           | 1.0            |                | 62.3208  | NR    |                 | 10.8 | 20           |       |
| <b>Matrix Spike (B6A0297-MS1)</b>      |                   |                |                | Source: 1600174-13 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 149.339           | 1.0            | 125.000        | 62.3208  | 69.6  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0297-MSD1)</b> |                   |                |                | Source: 1600174-13 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 166.867           | 1.0            | 125.000        | 62.3208  | 83.6  | 35 - 129        | 11.1 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0298 - EPA 3050B_S</b>     |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6A0298-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6A0298-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | 47.2824           | 1.0            | 50.0000        |   | 94.6  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0298-DUP1)</b>        |                   |                |                | <b>Source: 1600174-24</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 11.3132           | 1.0            |                | 11.9410   | NR    |                 | 5.40 | 20           |       |
| <b>Matrix Spike (B6A0298-MS1)</b>      |                   |                |                | <b>Source: 1600174-24</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 115.306           | 1.0            | 125.000        | 11.9410   | 82.7  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0298-MSD1)</b> |                   |                |                | <b>Source: 1600174-24</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 106.637           | 1.0            | 125.000        | 11.9410   | 75.8  | 35 - 129        | 7.81 | 20           |       |



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 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0299 - EPA 3050B_S</b>     |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0299-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0299-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | 49.6644           | 1.0            | 50.0000        |  | 99.3  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0299-DUP1)</b>        |                   |                |                | Source: 1600174-35 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 39.9424           | 1.0            |                | 62.4146  | NR    |                 | 43.9 | 20           | R     |
| <b>Matrix Spike (B6A0299-MS1)</b>      |                   |                |                | Source: 1600174-35 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 144.528           | 1.0            | 125.000        | 62.4146  | 65.7  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0299-MSD1)</b> |                   |                |                | Source: 1600174-35 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 146.553           | 1.0            | 125.000        | 62.4146  | 67.3  | 35 - 129        | 1.39 | 20           |       |



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Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0300 - EPA 3050B_S</b>     |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0300-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0300-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | 46.9622           | 1.0            | 50.0000        |  | 93.9  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0300-DUP1)</b>        |                   |                |                | Source: 1600174-47 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 7.28979           | 1.0            |                | 7.05886  | NR    |                 | 3.22 | 20           |       |
| <b>Matrix Spike (B6A0300-MS1)</b>      |                   |                |                | Source: 1600174-47 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 96.6969           | 1.0            | 125.000        | 7.05886  | 71.7  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0300-MSD1)</b> |                   |                |                | Source: 1600174-47 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 92.6999           | 1.0            | 125.000        | 7.05886  | 68.5  | 35 - 129        | 4.22 | 20           |       |



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 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0301 - EPA 3050B_S</b>     |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0301-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0301-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | 48.4559           | 1.0            | 50.0000        |  | 96.9  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0301-DUP1)</b>        |                   |                |                | Source: 1600174-59 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 26.6737           | 1.0            |                | 28.7461  | NR    |                 | 7.48 | 20           |       |
| <b>Matrix Spike (B6A0301-MS1)</b>      |                   |                |                | Source: 1600174-59 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 123.291           | 1.0            | 125.000        | 28.7461  | 75.6  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0301-MSD1)</b> |                   |                |                | Source: 1600174-59 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 119.111           | 1.0            | 125.000        | 28.7461  | 72.3  | 35 - 129        | 3.45 | 20           |       |



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Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0303 - EPA 3050B_S</b>     |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6A0303-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6A0303-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | 45.3731           | 1.0            | 50.0000        |   | 90.7  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0303-DUP1)</b>        |                   |                |                | <b>Source: 1600174-70</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 70.0058           | 1.0            |                | 63.7116   | NR    |                 | 9.41 | 20           |       |
| <b>Matrix Spike (B6A0303-MS1)</b>      |                   |                |                | <b>Source: 1600174-70</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 161.058           | 1.0            | 125.000        | 63.7116   | 77.9  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0303-MSD1)</b> |                   |                |                | <b>Source: 1600174-70</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 168.767           | 1.0            | 125.000        | 63.7116   | 84.0  | 35 - 129        | 4.67 | 20           |       |



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Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0304 - EPA 3050B_S</b>     |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6A0304-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6A0304-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Lead                                   | 47.4280           | 1.0            | 50.0000        |   | 94.9  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0304-DUP1)</b>        |                   |                |                | <b>Source: 1600174-80</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 690.673           | 1.0            |                | 562.930   | NR    |                 | 20.4 | 20           | R     |
| <b>Matrix Spike (B6A0304-MS1)</b>      |                   |                |                | <b>Source: 1600174-80</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 708.333           | 1.0            | 125.000        | 562.930   | 116   | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0304-MSD1)</b> |                   |                |                | <b>Source: 1600174-80</b> Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 660.288           | 1.0            | 125.000        | 562.930   | 77.9  | 35 - 129        | 7.02 | 20           |       |



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 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0305 - EPA 3050B_S</b>     |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0305-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0305-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | 46.5886           | 1.0            | 50.0000        |  | 93.2  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0305-DUP1)</b>        |                   |                |                | Source: 1600174-91 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 11.6037           | 1.0            |                | 12.1519  | NR    |                 | 4.62 | 20           |       |
| <b>Matrix Spike (B6A0305-MS1)</b>      |                   |                |                | Source: 1600174-91 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 106.249           | 1.0            | 125.628        | 12.1519  | 74.9  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0305-MSD1)</b> |                   |                |                | Source: 1600174-91 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 103.299           | 1.0            | 125.000        | 12.1519  | 72.9  | 35 - 129        | 2.82 | 20           |       |



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 Report To : Luann Beadle  
 Reported : 01/18/2016

### Total Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0306 - EPA 3050B_S</b>     |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0306-BLK1)</b>            |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0306-BS1)</b>               |                   |                |                | Prepared: 1/14/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Lead                                   | 47.8807           | 1.0            | 50.0000        |  | 95.8  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0306-DUP1)</b>        |                   |                |                | Source: 1504447-01 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 3.69417           | 1.0            |                | 3.48094  | NR    |                 | 5.94 | 20           |       |
| <b>Matrix Spike (B6A0306-MS1)</b>      |                   |                |                | Source: 1504447-01 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 80.3503           | 1.0            | 125.000        | 3.48094  | 61.5  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0306-MSD1)</b> |                   |                |                | Source: 1504447-01 Prepared: 1/14/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Lead                                   | 72.3505           | 1.0            | 125.000        | 3.48094  | 55.1  | 35 - 129        | 10.5 | 20           |       |



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Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|------------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|------------------|------------|--------------|-------|

**Batch B6A0291 - EPA 3050B\_S**

**Blank (B6A0291-BLK1)**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |    |     |  |  |    |
|------------|----|-----|--|--|----|
| Antimony   | ND | 2.0 |  |  | NR |
| Arsenic    | ND | 1.0 |  |  | NR |
| Barium     | ND | 1.0 |  |  | NR |
| Beryllium  | ND | 1.0 |  |  | NR |
| Cadmium    | ND | 1.0 |  |  | NR |
| Chromium   | ND | 1.0 |  |  | NR |
| Cobalt     | ND | 1.0 |  |  | NR |
| Copper     | ND | 2.0 |  |  | NR |
| Lead       | ND | 1.0 |  |  | NR |
| Molybdenum | ND | 1.0 |  |  | NR |
| Nickel     | ND | 1.0 |  |  | NR |
| Selenium   | ND | 1.0 |  |  | NR |
| Silver     | ND | 1.0 |  |  | NR |
| Thallium   | ND | 1.0 |  |  | NR |
| Vanadium   | ND | 1.0 |  |  | NR |
| Zinc       | ND | 1.0 |  |  | NR |

**LCS (B6A0291-BS1)**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |         |  |      |          |
|------------|---------|-----|---------|--|------|----------|
| Antimony   | 45.6020 | 2.0 | 50.0000 |  | 91.2 | 80 - 120 |
| Arsenic    | 43.3948 | 1.0 | 50.0000 |  | 86.8 | 80 - 120 |
| Barium     | 48.0324 | 1.0 | 50.0000 |  | 96.1 | 80 - 120 |
| Beryllium  | 48.4965 | 1.0 | 50.0000 |  | 97.0 | 80 - 120 |
| Cadmium    | 44.9885 | 1.0 | 50.0000 |  | 90.0 | 80 - 120 |
| Chromium   | 45.5042 | 1.0 | 50.0000 |  | 91.0 | 80 - 120 |
| Cobalt     | 46.7857 | 1.0 | 50.0000 |  | 93.6 | 80 - 120 |
| Copper     | 47.4248 | 2.0 | 50.0000 |  | 94.8 | 80 - 120 |
| Lead       | 46.0400 | 1.0 | 50.0000 |  | 92.1 | 80 - 120 |
| Molybdenum | 46.9000 | 1.0 | 50.0000 |  | 93.8 | 80 - 120 |
| Nickel     | 45.9726 | 1.0 | 50.0000 |  | 91.9 | 80 - 120 |
| Selenium   | 42.2972 | 1.0 | 50.0000 |  | 84.6 | 80 - 120 |
| Silver     | 45.8679 | 1.0 | 50.0000 |  | 91.7 | 80 - 120 |
| Thallium   | 43.8376 | 1.0 | 50.0000 |  | 87.7 | 80 - 120 |
| Vanadium   | 47.0714 | 1.0 | 50.0000 |  | 94.1 | 80 - 120 |
| Zinc       | 43.7888 | 1.0 | 50.0000 |  | 87.6 | 80 - 120 |

**Duplicate (B6A0291-DUP1)**

Source: 1600174-02

Prepared: 1/14/2016 Analyzed: 1/15/2016

|           |          |     |          |    |      |    |   |
|-----------|----------|-----|----------|----|------|----|---|
| Antimony  | 4.37428  | 2.0 | 3.43135  | NR | 24.2 | 20 | R |
| Arsenic   | 3.67808  | 1.0 | 4.16819  | NR | 12.5 | 20 |   |
| Barium    | 129.522  | 1.0 | 157.552  | NR | 19.5 | 20 |   |
| Beryllium | 0.732396 | 1.0 | 0.703256 | NR | 4.06 | 20 |   |
| Cadmium   | ND       | 1.0 | ND       | NR |      | 20 |   |
| Chromium  | 181.089  | 1.0 | 172.335  | NR | 4.95 | 20 |   |



## Certificate of Analysis

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Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/18/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0291 - EPA 3050B\_S (continued)**

**Duplicate (B6A0291-DUP1) - Continued**

**Source: 1600174-02**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |  |         |    |  |       |    |  |
|------------|---------|-----|--|---------|----|--|-------|----|--|
| Cobalt     | 22.8796 | 1.0 |  | 22.6944 | NR |  | 0.813 | 20 |  |
| Copper     | 34.4844 | 2.0 |  | 33.6912 | NR |  | 2.33  | 20 |  |
| Lead       | 4.94538 | 1.0 |  | 4.69445 | NR |  | 5.21  | 20 |  |
| Molybdenum | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Nickel     | 279.708 | 1.0 |  | 267.631 | NR |  | 4.41  | 20 |  |
| Selenium   | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Silver     | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Thallium   | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Vanadium   | 48.2638 | 1.0 |  | 46.0948 | NR |  | 4.60  | 20 |  |
| Zinc       | 51.8958 | 1.0 |  | 44.3569 | NR |  | 15.7  | 20 |  |

**Matrix Spike (B6A0291-MS1)**

**Source: 1600174-02**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |         |          |       |          |  |  |    |
|------------|---------|-----|---------|----------|-------|----------|--|--|----|
| Antimony   | 84.1402 | 2.0 | 125.000 | 3.43135  | 64.6  | 28 - 106 |  |  |    |
| Arsenic    | 104.259 | 1.0 | 125.000 | 4.16819  | 80.1  | 57 - 109 |  |  |    |
| Barium     | 359.541 | 1.0 | 125.000 | 157.552  | 162   | 18 - 159 |  |  | M1 |
| Beryllium  | 103.582 | 1.0 | 125.000 | 0.703256 | 82.3  | 61 - 107 |  |  |    |
| Cadmium    | 89.6580 | 1.0 | 125.000 | ND       | 71.7  | 53 - 104 |  |  |    |
| Chromium   | 208.174 | 1.0 | 125.000 | 172.335  | 28.7  | 53 - 121 |  |  | M1 |
| Cobalt     | 109.971 | 1.0 | 125.000 | 22.6944  | 69.8  | 55 - 109 |  |  |    |
| Copper     | 154.287 | 2.0 | 125.000 | 33.6912  | 96.5  | 58 - 124 |  |  |    |
| Lead       | 97.2546 | 1.0 | 125.000 | 4.69445  | 74.0  | 35 - 129 |  |  |    |
| Molybdenum | 95.7166 | 1.0 | 125.000 | ND       | 76.6  | 57 - 108 |  |  |    |
| Nickel     | 267.973 | 1.0 | 125.000 | 267.631  | 0.274 | 44 - 122 |  |  | M1 |
| Selenium   | 95.0814 | 1.0 | 125.000 | ND       | 76.1  | 54 - 104 |  |  |    |
| Silver     | 111.526 | 1.0 | 125.000 | ND       | 89.2  | 60 - 112 |  |  |    |
| Thallium   | 85.5652 | 1.0 | 125.000 | ND       | 68.5  | 50 - 103 |  |  |    |
| Vanadium   | 144.652 | 1.0 | 125.000 | 46.0948  | 78.8  | 54 - 123 |  |  |    |
| Zinc       | 133.650 | 1.0 | 125.000 | 44.3569  | 71.4  | 29 - 132 |  |  |    |

**Matrix Spike Dup (B6A0291-MSD1)**

**Source: 1600174-02**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |         |          |      |          |       |    |    |
|------------|---------|-----|---------|----------|------|----------|-------|----|----|
| Antimony   | 77.5280 | 2.0 | 125.000 | 3.43135  | 59.3 | 28 - 106 | 8.18  | 20 |    |
| Arsenic    | 102.918 | 1.0 | 125.000 | 4.16819  | 79.0 | 57 - 109 | 1.29  | 20 |    |
| Barium     | 249.610 | 1.0 | 125.000 | 157.552  | 73.6 | 18 - 159 | 36.1  | 20 | R  |
| Beryllium  | 100.709 | 1.0 | 125.000 | 0.703256 | 80.0 | 61 - 107 | 2.81  | 20 |    |
| Cadmium    | 86.0514 | 1.0 | 125.000 | ND       | 68.8 | 53 - 104 | 4.11  | 20 |    |
| Chromium   | 218.346 | 1.0 | 125.000 | 172.335  | 36.8 | 53 - 121 | 4.77  | 20 | M1 |
| Cobalt     | 107.665 | 1.0 | 125.000 | 22.6944  | 68.0 | 55 - 109 | 2.12  | 20 |    |
| Copper     | 146.460 | 2.0 | 125.000 | 33.6912  | 90.2 | 58 - 124 | 5.21  | 20 |    |
| Lead       | 95.3322 | 1.0 | 125.000 | 4.69445  | 72.5 | 35 - 129 | 2.00  | 20 |    |
| Molybdenum | 92.9952 | 1.0 | 125.000 | ND       | 74.4 | 57 - 108 | 2.88  | 20 |    |
| Nickel     | 283.293 | 1.0 | 125.000 | 267.631  | 12.5 | 44 - 122 | 5.56  | 20 | M1 |
| Selenium   | 94.2200 | 1.0 | 125.000 | ND       | 75.4 | 54 - 104 | 0.910 | 20 |    |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0291 - EPA 3050B\_S (continued)**

**Matrix Spike Dup (B6A0291-MSD1) - Continued**

**Source: 1600174-02**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|          |         |     |         |         |      |          |       |    |  |
|----------|---------|-----|---------|---------|------|----------|-------|----|--|
| Silver   | 109.195 | 1.0 | 125.000 | ND      | 87.4 | 60 - 112 | 2.11  | 20 |  |
| Thallium | 83.1352 | 1.0 | 125.000 | ND      | 66.5 | 50 - 103 | 2.88  | 20 |  |
| Vanadium | 146.104 | 1.0 | 125.000 | 46.0948 | 80.0 | 54 - 123 | 0.999 | 20 |  |
| Zinc     | 128.447 | 1.0 | 125.000 | 44.3569 | 67.3 | 29 - 132 | 3.97  | 20 |  |



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Report To : Luann Beadle  
Reported : 01/18/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0292 - EPA 3050B\_S**

**Blank (B6A0292-BLK1)**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |    |     |  |  |    |
|------------|----|-----|--|--|----|
| Antimony   | ND | 2.0 |  |  | NR |
| Arsenic    | ND | 1.0 |  |  | NR |
| Barium     | ND | 1.0 |  |  | NR |
| Beryllium  | ND | 1.0 |  |  | NR |
| Cadmium    | ND | 1.0 |  |  | NR |
| Chromium   | ND | 1.0 |  |  | NR |
| Cobalt     | ND | 1.0 |  |  | NR |
| Copper     | ND | 2.0 |  |  | NR |
| Lead       | ND | 1.0 |  |  | NR |
| Molybdenum | ND | 1.0 |  |  | NR |
| Nickel     | ND | 1.0 |  |  | NR |
| Selenium   | ND | 1.0 |  |  | NR |
| Silver     | ND | 1.0 |  |  | NR |
| Thallium   | ND | 1.0 |  |  | NR |
| Vanadium   | ND | 1.0 |  |  | NR |
| Zinc       | ND | 1.0 |  |  | NR |

**LCS (B6A0292-BS1)**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |         |  |      |          |
|------------|---------|-----|---------|--|------|----------|
| Antimony   | 44.3898 | 2.0 | 50.0000 |  | 88.8 | 80 - 120 |
| Arsenic    | 42.7132 | 1.0 | 50.0000 |  | 85.4 | 80 - 120 |
| Barium     | 47.5112 | 1.0 | 50.0000 |  | 95.0 | 80 - 120 |
| Beryllium  | 47.4493 | 1.0 | 50.0000 |  | 94.9 | 80 - 120 |
| Cadmium    | 44.1855 | 1.0 | 50.0000 |  | 88.4 | 80 - 120 |
| Chromium   | 45.1795 | 1.0 | 50.0000 |  | 90.4 | 80 - 120 |
| Cobalt     | 46.1606 | 1.0 | 50.0000 |  | 92.3 | 80 - 120 |
| Copper     | 46.0923 | 2.0 | 50.0000 |  | 92.2 | 80 - 120 |
| Lead       | 45.4740 | 1.0 | 50.0000 |  | 90.9 | 80 - 120 |
| Molybdenum | 45.0625 | 1.0 | 50.0000 |  | 90.1 | 80 - 120 |
| Nickel     | 45.6462 | 1.0 | 50.0000 |  | 91.3 | 80 - 120 |
| Selenium   | 40.8742 | 1.0 | 50.0000 |  | 81.7 | 80 - 120 |
| Silver     | 44.5964 | 1.0 | 50.0000 |  | 89.2 | 80 - 120 |
| Thallium   | 42.5012 | 1.0 | 50.0000 |  | 85.0 | 80 - 120 |
| Vanadium   | 46.7833 | 1.0 | 50.0000 |  | 93.6 | 80 - 120 |
| Zinc       | 42.5961 | 1.0 | 50.0000 |  | 85.2 | 80 - 120 |

**Duplicate (B6A0292-DUP1)**

**Source: 1600174-93**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|           |          |     |  |          |    |       |    |
|-----------|----------|-----|--|----------|----|-------|----|
| Antimony  | ND       | 2.0 |  | ND       | NR |       | 20 |
| Arsenic   | 3.18669  | 1.0 |  | 3.43624  | NR | 7.54  | 20 |
| Barium    | 145.911  | 1.0 |  | 146.868  | NR | 0.654 | 20 |
| Beryllium | 0.591004 | 1.0 |  | 0.610490 | NR | 3.24  | 20 |
| Cadmium   | ND       | 1.0 |  | ND       | NR |       | 20 |
| Chromium  | 22.9194  | 1.0 |  | 21.2777  | NR | 7.43  | 20 |



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Report To : Luann Beadle

Reported : 01/18/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6A0292 - EPA 3050B\_S (continued)**

**Duplicate (B6A0292-DUP1) - Continued**

**Source: 1600174-93**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |  |         |    |  |       |    |  |
|------------|---------|-----|--|---------|----|--|-------|----|--|
| Cobalt     | 5.17064 | 1.0 |  | 5.04189 | NR |  | 2.52  | 20 |  |
| Copper     | 10.5507 | 2.0 |  | 10.7492 | NR |  | 1.86  | 20 |  |
| Lead       | 5.39228 | 1.0 |  | 5.69986 | NR |  | 5.55  | 20 |  |
| Molybdenum | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Nickel     | 21.7686 | 1.0 |  | 21.9749 | NR |  | 0.943 | 20 |  |
| Selenium   | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Silver     | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Thallium   | ND      | 1.0 |  | ND      | NR |  |       | 20 |  |
| Vanadium   | 26.7933 | 1.0 |  | 27.9715 | NR |  | 4.30  | 20 |  |
| Zinc       | 34.0056 | 1.0 |  | 35.1621 | NR |  | 3.34  | 20 |  |

**Matrix Spike (B6A0292-MS1)**

**Source: 1600174-93**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |         |          |      |          |  |  |  |
|------------|---------|-----|---------|----------|------|----------|--|--|--|
| Antimony   | 82.9958 | 2.0 | 125.000 | ND       | 66.4 | 28 - 106 |  |  |  |
| Arsenic    | 94.0504 | 1.0 | 125.000 | 3.43624  | 72.5 | 57 - 109 |  |  |  |
| Barium     | 252.728 | 1.0 | 125.000 | 146.868  | 84.7 | 18 - 159 |  |  |  |
| Beryllium  | 102.117 | 1.0 | 125.000 | 0.610490 | 81.2 | 61 - 107 |  |  |  |
| Cadmium    | 90.2234 | 1.0 | 125.000 | ND       | 72.2 | 53 - 104 |  |  |  |
| Chromium   | 117.219 | 1.0 | 125.000 | 21.2777  | 76.8 | 53 - 121 |  |  |  |
| Cobalt     | 100.587 | 1.0 | 125.000 | 5.04189  | 76.4 | 55 - 109 |  |  |  |
| Copper     | 118.904 | 2.0 | 125.000 | 10.7492  | 86.5 | 58 - 124 |  |  |  |
| Lead       | 100.577 | 1.0 | 125.000 | 5.69986  | 75.9 | 35 - 129 |  |  |  |
| Molybdenum | 93.2192 | 1.0 | 125.000 | ND       | 74.6 | 57 - 108 |  |  |  |
| Nickel     | 116.923 | 1.0 | 125.000 | 21.9749  | 76.0 | 44 - 122 |  |  |  |
| Selenium   | 87.8866 | 1.0 | 125.000 | ND       | 70.3 | 54 - 104 |  |  |  |
| Silver     | 104.241 | 1.0 | 125.000 | ND       | 83.4 | 60 - 112 |  |  |  |
| Thallium   | 88.5022 | 1.0 | 125.000 | ND       | 70.8 | 50 - 103 |  |  |  |
| Vanadium   | 131.978 | 1.0 | 125.000 | 27.9715  | 83.2 | 54 - 123 |  |  |  |
| Zinc       | 133.336 | 1.0 | 125.000 | 35.1621  | 78.5 | 29 - 132 |  |  |  |

**Matrix Spike Dup (B6A0292-MSD1)**

**Source: 1600174-93**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|            |         |     |         |          |      |          |       |    |  |
|------------|---------|-----|---------|----------|------|----------|-------|----|--|
| Antimony   | 87.5088 | 2.0 | 125.000 | ND       | 70.0 | 28 - 106 | 5.29  | 20 |  |
| Arsenic    | 97.3127 | 1.0 | 125.000 | 3.43624  | 75.1 | 57 - 109 | 3.41  | 20 |  |
| Barium     | 254.329 | 1.0 | 125.000 | 146.868  | 86.0 | 18 - 159 | 0.632 | 20 |  |
| Beryllium  | 103.097 | 1.0 | 125.000 | 0.610490 | 82.0 | 61 - 107 | 0.955 | 20 |  |
| Cadmium    | 92.2930 | 1.0 | 125.000 | ND       | 73.8 | 53 - 104 | 2.27  | 20 |  |
| Chromium   | 119.063 | 1.0 | 125.000 | 21.2777  | 78.2 | 53 - 121 | 1.56  | 20 |  |
| Cobalt     | 103.454 | 1.0 | 125.000 | 5.04189  | 78.7 | 55 - 109 | 2.81  | 20 |  |
| Copper     | 121.485 | 2.0 | 125.000 | 10.7492  | 88.6 | 58 - 124 | 2.15  | 20 |  |
| Lead       | 104.347 | 1.0 | 125.000 | 5.69986  | 78.9 | 35 - 129 | 3.68  | 20 |  |
| Molybdenum | 95.5371 | 1.0 | 125.000 | ND       | 76.4 | 57 - 108 | 2.46  | 20 |  |
| Nickel     | 119.847 | 1.0 | 125.000 | 21.9749  | 78.3 | 44 - 122 | 2.47  | 20 |  |
| Selenium   | 90.5066 | 1.0 | 125.000 | ND       | 72.4 | 54 - 104 | 2.94  | 20 |  |



## Certificate of Analysis

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 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0292 - EPA 3050B\_S (continued)**

**Matrix Spike Dup (B6A0292-MSD1) - Continued**

**Source: 1600174-93**

Prepared: 1/14/2016 Analyzed: 1/15/2016

|          |         |     |         |         |      |          |      |    |  |
|----------|---------|-----|---------|---------|------|----------|------|----|--|
| Silver   | 105.659 | 1.0 | 125.000 | ND      | 84.5 | 60 - 112 | 1.35 | 20 |  |
| Thallium | 90.5951 | 1.0 | 125.000 | ND      | 72.5 | 50 - 103 | 2.34 | 20 |  |
| Vanadium | 133.910 | 1.0 | 125.000 | 27.9715 | 84.8 | 54 - 123 | 1.45 | 20 |  |
| Zinc     | 144.671 | 1.0 | 125.000 | 35.1621 | 87.6 | 29 - 132 | 8.15 | 20 |  |



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 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0309 - EPA 7471_S</b>      |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6A0309-BLK1)</b>            |                   |                |                | Prepared: 1/15/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Mercury                                | ND                | 0.10           |                |   | NR    |                 |      |              |       |
| <b>LCS (B6A0309-BS1)</b>               |                   |                |                | Prepared: 1/15/2016 Analyzed: 1/15/2016                           |       |                 |      |              |       |
| Mercury                                | 0.810693          | 0.10           | 0.833333       |   | 97.3  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0309-DUP1)</b>        |                   |                |                | <b>Source: 1600174-02</b> Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.048903          | 0.10           |                | 0.080207  | NR    |                 | 48.5 | 20           | R     |
| <b>Matrix Spike (B6A0309-MS1)</b>      |                   |                |                | <b>Source: 1600174-02</b> Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.904898          | 0.10           | 0.833333       | 0.080207  | 99.0  | 70 - 130        |      |              |       |
| <b>Matrix Spike Dup (B6A0309-MSD1)</b> |                   |                |                | <b>Source: 1600174-02</b> Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.926062          | 0.10           | 0.833333       | 0.080207  | 102   | 70 - 130        | 2.31 | 20           |       |
| <b>Post Spike (B6A0309-PS1)</b>        |                   |                |                | <b>Source: 1600174-02</b> Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.006588          |                | 5.00000E-3     | 9.625E-4  | 113   | 85 - 115        |      |              |       |



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Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0310 - EPA 7471_S</b>      |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0310-BLK1)</b>            |                   |                |                | Prepared: 1/15/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Mercury                                | ND                | 0.10           |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0310-BS1)</b>               |                   |                |                | Prepared: 1/15/2016 Analyzed: 1/15/2016                    |       |                 |      |              |       |
| Mercury                                | 0.789313          | 0.10           | 0.833333       |  | 94.7  | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0310-DUP1)</b>        |                   |                |                | Source: 1600174-93 Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.141125          | 0.10           |                | 0.046979   | NR    |                 | 100  | 20           | R     |
| <b>Matrix Spike (B6A0310-MS1)</b>      |                   |                |                | Source: 1600174-93 Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.838308          | 0.10           | 0.833333       | 0.046979   | 95.0  | 70 - 130        |      |              |       |
| <b>Matrix Spike Dup (B6A0310-MSD1)</b> |                   |                |                | Source: 1600174-93 Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.866257          | 0.10           | 0.833333       | 0.046979   | 98.3  | 70 - 130        | 3.28 | 20           |       |
| <b>Post Spike (B6A0310-PS1)</b>        |                   |                |                | Source: 1600174-93 Prepared: 1/15/2016 Analyzed: 1/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.005909          |                | 5.00000E-3     | 0.000564   | 107   | 85 - 115        |      |              |       |



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Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

### Diesel Range Organics by EPA 8015B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec                          | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|------------------|---|-----------------|------------|--------------|-------|
| <b>Batch B6A0256 - GCSEMI_DRO_LL_S</b> |                   |                |                |                  |   |                 |            |              |       |
| <b>Blank (B6A0256-BLK1)</b>            |                   |                |                |                  | Prepared: 1/13/2016 Analyzed: 1/13/2016 |                 |            |              |       |
| DRO                                    | ND                | 1.0            |                |                  | NR                                      |                 |            |              |       |
| ORO                                    | ND                | 1.0            |                |                  | NR                                      |                 |            |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.805             |                | 2.66667        |                  | 105                                     | 26 - 123        |            |              |       |
| <b>LCS (B6A0256-BS1)</b>               |                   |                |                |                  | Prepared: 1/13/2016 Analyzed: 1/13/2016 |                 |            |              |       |
| DRO                                    | 32.7640           | 1.0            | 33.3333        |                  | 98.3                                    | 47 - 127        |            |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.740             |                | 2.66667        |                  | 103                                     | 26 - 123        |            |              |       |
| <b>Matrix Spike (B6A0256-MS1)</b>      |                   |                |                |                  | Prepared: 1/13/2016 Analyzed: 1/13/2016 |                 |            |              |       |
| DRO                                    | 33.4160           | 1.0            | 33.3333        | 2.91767          | 91.5                                    | 16 - 123        |            |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.805             |                | 2.66667        |                  | 105                                     | 26 - 123        |            |              |       |
| <b>Matrix Spike Dup (B6A0256-MSD1)</b> |                   |                |                |                  | Prepared: 1/13/2016 Analyzed: 1/13/2016 |                 |            |              |       |
| DRO                                    | 30.9620           | 1.0            | 33.3333        | 2.91767          | 84.1                                    | 16 - 123        | 7.62       | 20           |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.704             |                | 2.66667        |                  | 101                                     | 26 - 123        |            |              |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/18/2016

### Diesel Range Organics by EPA 8015B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level            | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|---------------------------|------------------|---|-----------------|------|--------------|-------|
| <b>Batch B6A0264 - GCSEMI_DRO_LL_S</b> |                   |                |                           |                  |   |                 |      |              |       |
| <b>Blank (B6A0264-BLK1)</b>            |                   |                |                           |                  | Prepared: 1/13/2016 Analyzed: 1/14/2016 |                 |      |              |       |
| DRO                                    | ND                | 1.0            |                           |                  |   | NR              |      |              |       |
| ORO                                    | ND                | 1.0            |                           |                  |   | NR              |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.615             |                | 2.66667                   |                  | 98.1                                    | 26 - 123        |      |              |       |
| <b>LCS (B6A0264-BS1)</b>               |                   |                |                           |                  | Prepared: 1/13/2016 Analyzed: 1/14/2016 |                 |      |              |       |
| DRO                                    | 31.8157           | 1.0            | 33.3333                   |                  | 95.4                                    | 47 - 127        |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.789             |                | 2.66667                   |                  | 105                                     | 26 - 123        |      |              |       |
| <b>Matrix Spike (B6A0264-MS1)</b>      |                   |                | <b>Source: 1600174-63</b> |                  | Prepared: 1/13/2016 Analyzed: 1/14/2016 |                 |      |              |       |
| DRO                                    | 41.0580           | 1.0            | 33.3333                   | 4.80833          | 109                                     | 16 - 123        |      |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.847             |                | 2.66667                   |                  | 107                                     | 26 - 123        |      |              |       |
| <b>Matrix Spike Dup (B6A0264-MSD1)</b> |                   |                | <b>Source: 1600174-63</b> |                  | Prepared: 1/13/2016 Analyzed: 1/14/2016 |                 |      |              |       |
| DRO                                    | 50.0347           | 1.0            | 33.3333                   | 4.80833          | 136                                     | 16 - 123        | 19.7 | 20           | M2    |
| <i>Surrogate: p-Terphenyl</i>          | 2.886             |                | 2.66667                   |                  | 108                                     | 26 - 123        |      |              |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

### Diesel Range Organics by EPA 8015B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec                          | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|------------------|---|-----------------|------------|--------------|-------|
| <b>Batch B6A0329 - GCSEMI_DRO_LL_S</b> |                   |                |                |                  |   |                 |            |              |       |
| <b>Blank (B6A0329-BLK1)</b>            |                   |                |                |                  | Prepared: 1/14/2016 Analyzed: 1/14/2016 |                 |            |              |       |
| DRO                                    | ND                | 1.0            |                |                  | NR                                      |                 |            |              |       |
| ORO                                    | ND                | 1.0            |                |                  | NR                                      |                 |            |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.919             |                | 2.66667        |                  | 109                                     | 26 - 123        |            |              |       |
| <b>LCS (B6A0329-BS1)</b>               |                   |                |                |                  | Prepared: 1/14/2016 Analyzed: 1/14/2016 |                 |            |              |       |
| DRO                                    | 30.5283           | 1.0            | 33.3333        |                  | 91.6                                    | 47 - 127        |            |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.953             |                | 2.66667        |                  | 111                                     | 26 - 123        |            |              |       |
| <b>Matrix Spike (B6A0329-MS1)</b>      |                   |                |                |                  | Prepared: 1/14/2016 Analyzed: 1/14/2016 |                 |            |              |       |
| DRO                                    | 39.7367           | 1.0            | 33.3333        | 8.21333          | 94.6                                    | 16 - 123        |            |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.919             |                | 2.66667        |                  | 109                                     | 26 - 123        |            |              |       |
| <b>Matrix Spike Dup (B6A0329-MSD1)</b> |                   |                |                |                  | Prepared: 1/14/2016 Analyzed: 1/14/2016 |                 |            |              |       |
| DRO                                    | 31.1723           | 1.0            | 33.3333        | 8.21333          | 68.9                                    | 16 - 123        | 24.2       | 20           | R     |
| <i>Surrogate: p-Terphenyl</i>          | 2.721             |                | 2.66667        |                  | 102                                     | 26 - 123        |            |              |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/18/2016

### Notes and Definitions

|     |   |
|-----|---|
| S4  | Surrogate was diluted out.  |
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| M2  | Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.                                     |
| M1  | Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.   |
| D6  | Sample required dilution due to high concentration of target analyte.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

- Notes:
- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
  - (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
  - (3) Results are wet unless otherwise specified.



# CHAIN OF CUSTODY RECORD

|   |   |  |  |
|---|---|--|--|
| <br><b>ADVANCED TECHNOLOGY</b><br>LABORATORIES<br><br>3275 Walnut Ave., Signal Hill, CA 90755<br>Tel: (562) 989-4045 • Fax: (562) 989-4040 | P.O.#: _____ Quote #: _____<br><br>Logged By: _____ Date: _____               | <b>FOR LABORATORY USE ONLY:</b><br><br>Method of Transport<br><input type="checkbox"/> Client <input type="checkbox"/> ATL<br><input type="checkbox"/> FedEx <input type="checkbox"/> OnTrac<br><input checked="" type="checkbox"/> GSO<br><input type="checkbox"/> Other: _____ | Sample Condition Upon Receipt<br>1. CHILLED    Y <input type="checkbox"/> N <input type="checkbox"/> 4. CUSTODY SEAL    Y <input type="checkbox"/> N <input type="checkbox"/><br>2. HEADSPACE (VOA)    Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC    Y <input type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT    Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED    Y <input type="checkbox"/> N <input type="checkbox"/> |
|   | NOTE: Please include your Quote No. to ensure proper pricing of your project. |  |  |

|   |  |  |
|---|--|--|
| Client: <b>Geocon Consultants, Inc.</b><br>Attn: <u>LANN BEADLE</u> | Address: 6671 Brisa Street<br>City: <u>Livmore</u> State: <u>CA</u> Zip Code: <u>94550</u> | TEL: (925) 371-5900<br>FAX: (925) 371-5915 |
|---|--|--|

|  |                               |   |             |   |                   |  |                     |                   |
|--|-------------------------------|---|-------------|---|-------------------|--|---------------------|-------------------|
| Project Name: <u>SR-92/SR-82 IC</u>                              | Project #: <u>E8721-02-36</u> | Sampler: <u>CGIUNTOI</u> (Printed Name) | (Signature) | Date: <u>1/8/16</u>                             | Time: <u>1700</u> | Received by: <u>[Signature]</u> (Signature and Printed Name) | Date: <u>1/9/16</u> | Time: <u>1000</u> |
| Relinquished by: <u>[Signature]</u> (Signature and Printed Name) |                               | Date: _____ Time: _____                 |             | Received by: _____ (Signature and Printed Name) |                   | Date: _____ Time: _____                                      |                     |                   |
| Relinquished by: _____ (Signature and Printed Name)              |                               | Date: _____ Time: _____                 |             | Received by: _____ (Signature and Printed Name) |                   | Date: _____ Time: _____                                      |                     |                   |
| Relinquished by: _____ (Signature and Printed Name)              |                               | Date: _____ Time: _____                 |             | Received by: _____ (Signature and Printed Name) |                   | Date: _____ Time: _____                                      |                     |                   |

|  |  |   |                                |
|--|--|---|--------------------------------|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr /Submitter: <u>[Signature]</u> <u>1/8/16</u> (Date) | Send Report To:<br>Attn: <u>SEE ABOVE</u><br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Bill To:<br>Attn: <u>SAUPE</u><br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Special Instructions/Comments: |
|--|--|---|--------------------------------|

**Sample/Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 • Sample : \$2.00 / sample / mo (after 45 days)  
 • Records : \$1.00 / ATL workorder / mo (after 1 year)

| ITEM | LAB USE ONLY: |                 | Sample Description     |               |              |                    | SPECIFY APPROPRIATE MATRIX |                  |             |                     |                          |                          |                                 |            |          |       | PRESERVATION | QA/QC |      |                |              |            |            |         |     |   |      |       |
|------|---------------|-----------------|------------------------|---------------|--------------|--------------------|----------------------------|------------------|-------------|---------------------|--------------------------|--------------------------|---------------------------------|------------|----------|-------|--------------|-------|------|----------------|--------------|------------|------------|---------|-----|---|------|-------|
|      | Batch #:      | Lab No.         | Sample I.D. / Location | Date          | Time         | 8081A (Pesticides) | 8082 (PCB)                 | 8088 (Volatiles) | 8070C (BNV) | 8010B (Total Metal) | 8015B (GRO) / 8021 (BTX) | 8015B (DRO) / 8021 (BTX) | TITLE 22 (CAM 17 (8010 / 7000)) | TOTAL LEAD | SEDIMENT | SOLID |              |       | SOIL | DRINKING WATER | GROUND WATER | WASTEWATER | STORMWATER | AQUEOUS | TAT | # | Type | OTHER |
|      |               | <u>600174-6</u> | <u>B20-0</u>           | <u>1/8/16</u> | <u>0910</u>  |                    |                            |                  |             |                     |                          |                          |                                 |            |          |       |              |       |      |                |              |            |            |         |     |   |      |       |
|      |               |                 | <u>B20-1</u>           |               |              |                    |                            |                  |             |                     |                          |                          |                                 |            |          |       |              |       |      |                |              |            |            |         |     |   |      |       |
|      |               |                 | <u>B20-2</u>           |               |              |                    |                            |                  |             |                     |                          |                          |                                 |            |          |       |              |       |      |                |              |            |            |         |     |   |      |       |
|      |               |                 | <u>B21-0</u>           |               | <u>0915</u>  |                    |                            |                  |             |                     |                          |                          |                                 |            |          |       |              |       |      |                |              |            |            |         |     |   |      |       |
|      |               |                 | <u>B21-1</u>           |               |              |                    |                            |                  |             |                     |                          |                          |                                 |            |          |       |              |       |      |                |              |            |            |         |     |   |      |       |
|      |               |                 | <u>B21-2</u>           |               |              |                    |                            |                  |             |                     |                          |                          |                                 |            |          |       |              |       |      |                |              |            |            |         |     |   |      |       |
|      |               |                 | <u>B32-0</u>           |               | <u>10/18</u> |                    |                            |                  |             |                     |                          |                          |                                 |            |          |       |              |       |      |                |              |            |            |         |     |   |      |       |
|      |               |                 | <u>B32-1</u>           |               | <u>10/20</u> |                    |                            |                  |             |                     |                          |                          |                                 |            |          |       |              |       |      |                |              |            |            |         |     |   |      |       |
|      |               |                 | <u>B32-2</u>           |               | <u>10/21</u> |                    |                            |                  |             |                     |                          |                          |                                 |            |          |       |              |       |      |                |              |            |            |         |     |   |      |       |

|   |   |   |
|---|---|---|
| • TAT starts 8 a.m. following day if samples received after 5 p.m.                    | TAT: <input type="checkbox"/> A= Overnight ≤ 24 hrs <input type="checkbox"/> B= Emergency Next workday <input type="checkbox"/> C= Critical 2 Workdays <input type="checkbox"/> D= Urgent 3 Workdays <input type="checkbox"/> E= Routine 7 Workdays | Preservatives: H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |
| Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal |   |   |

Page 133 of 143





# CHAIN OF CUSTODY RECORD

|  |   |  |  |
|--|---|--|--|
| <br><b>ADVANCED TECHNOLOGY</b><br>LABORATORIES<br>3275 Walnut Ave., Signal Hill, CA 90755<br>Tel: (562) 989-4045 • Fax: (562) 989-4040 | P.O.#: _____ Quote #: _____<br>Logged By: _____ Date: _____                   | <b>FOR LABORATORY USE ONLY:</b><br>Method of Transport<br><input type="checkbox"/> Client <input type="checkbox"/> ATL<br><input type="checkbox"/> FedEx <input type="checkbox"/> OnTrac<br><input checked="" type="checkbox"/> GSO<br><input type="checkbox"/> Other: _____ | Sample Condition Upon Receipt<br>1. CHILLED    Y <input type="checkbox"/> N <input type="checkbox"/> 4. CUSTODY SEAL    Y <input type="checkbox"/> N <input type="checkbox"/><br>2. HEADSPACE (VOA)    Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC    Y <input type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT    Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED    Y <input type="checkbox"/> N <input type="checkbox"/> |
|  | NOTE: Please include your Quote No. to ensure proper pricing of your project. |  |  |

|  |  |  |
|--|--|--|
| Client: <b>Geocon Consultants, Inc.</b><br>Attn: <u>LIAND BEADLE</u> | Address: 6671 Brisa Street<br>City: <u>Livmore</u> State: <u>CA</u> Zip Code: <u>94550</u> | TEL: (925) 371-5900<br>FAX: (925) 371-5915 |
|--|--|--|

|   |   |  |  |
|---|---|--|--|
| Project Name: <u>SR-92/SR-82 IC</u>                                       | Project #: <u>ES721-02-36</u>   | Sampler: <u>CGIVINTON</u> (Printed Name)             | (Signature) <u>[Signature]</u>                   |
| Relinquished by: <u>[Signature]</u> Date: <u>1/8/16</u> Time: <u>1700</u> | Received by: <u>[Signature]</u> Date: <u>1/9/16</u> Time: <u>1000</u> | Relinquished by: _____    Date: _____    Time: _____ | Received by: _____    Date: _____    Time: _____ |
| Relinquished by: _____    Date: _____    Time: _____                      | Received by: _____    Date: _____    Time: _____                      | Relinquished by: _____    Date: _____    Time: _____ | Received by: _____    Date: _____    Time: _____ |

|   |  |  |                                |
|---|--|--|--------------------------------|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr /Submitter: <u>CG</u> <u>1/8/16</u><br>Print Name    Date<br><u>[Signature]</u><br>Signature | Send Report To:<br>Attn: <u>SEE ABOVE</u><br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Bill To:<br>Attn: <u>SAME</u><br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Special Instructions/Comments: |
|---|--|--|--------------------------------|

**Sample/Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 • Sample : \$2.00 / sample / mo (after 45 days)  
 • Records : \$1.00 / ATL workorder / mo (after 1 year)

| ITEM | LAB USE ONLY: |                  | Sample Description     |               |             |                    | SPECIFY APPROPRIATE MATRIX |                   |             |                     |                           |                           |                   |          |       |      | CONTAINER(S) | PRESERVATION | QA/QC |                |              |            |            |         |     |   |      |                               |  |                                |  |       |
|------|---------------|------------------|------------------------|---------------|-------------|--------------------|----------------------------|-------------------|-------------|---------------------|---------------------------|---------------------------|-------------------|----------|-------|------|--------------|--------------|-------|----------------|--------------|------------|------------|---------|-----|---|------|-------------------------------|--|--------------------------------|--|-------|
|      | Batch #:      | Lab No.          | Sample I.D. / Location | Date          | Time        | 8081A (Pesticides) | 8082 (PCB)                 | 8208B (Volatiles) | 8270C (BNA) | 8010B (Total Metal) | 8015B (GFO) / 8021 (BTEX) | 8015B (IDRO) / 8017 (TOC) | 8017 (TOTAL LEAD) | SEDIMENT | SOLID | SOIL |              |              |       | DRINKING WATER | GROUND WATER | WASTEWATER | STORMWATER | AQUEOUS | TAT | # | Type | RTNE <input type="checkbox"/> | CT <input checked="" type="checkbox"/> | Legal <input type="checkbox"/> | SWRCB Logcode <input type="checkbox"/> | OTHER |
|      |               | <u>160174-37</u> | <u>B39-0</u>           | <u>1/8/16</u> | <u>1210</u> |                    |                            |                   |             |                     |                           |                           |                   |          |       |      |              |              |       |                |              |            |            |         |     |   |      |                               |  |                                |  |       |
|      |               |                  | <u>B39-1</u>           |               |             |                    |                            |                   |             |                     |                           |                           |                   |          |       |      |              |              |       |                |              |            |            |         |     |   |      |                               |  |                                |  |       |
|      |               |                  | <u>B39-2</u>           |               |             |                    |                            |                   |             |                     |                           |                           |                   |          |       |      |              |              |       |                |              |            |            |         |     |   |      |                               |  |                                |  |       |
|      |               |                  | <u>B40-0</u>           |               | <u>1205</u> |                    |                            |                   |             |                     |                           |                           |                   |          |       |      |              |              |       |                |              |            |            |         |     |   |      |                               |  |                                |  |       |
|      |               |                  | <u>B40-1</u>           |               |             |                    |                            |                   |             |                     |                           |                           |                   |          |       |      |              |              |       |                |              |            |            |         |     |   |      |                               |  |                                |  |       |
|      |               |                  | <u>B40-2</u>           |               |             |                    |                            |                   |             |                     |                           |                           |                   |          |       |      |              |              |       |                |              |            |            |         |     |   |      |                               |  |                                |  |       |
|      |               |                  | <u>B41-0</u>           |               | <u>1215</u> |                    |                            |                   |             |                     |                           |                           |                   |          |       |      |              |              |       |                |              |            |            |         |     |   |      |                               |  |                                |  |       |
|      |               |                  | <u>B41-1</u>           |               |             |                    |                            |                   |             |                     |                           |                           |                   |          |       |      |              |              |       |                |              |            |            |         |     |   |      |                               |  |                                |  |       |
|      |               |                  | <u>B41-2</u>           |               |             |                    |                            |                   |             |                     |                           |                           |                   |          |       |      |              |              |       |                |              |            |            |         |     |   |      |                               |  |                                |  |       |

|   |   |   |
|---|---|---|
| • TAT starts 8 a.m. following day if samples received after 5 p.m.                    | TAT: <input type="checkbox"/> A= Overnight ≤ 24 hrs <input type="checkbox"/> B= Emergency Next workday <input type="checkbox"/> C= Critical 2 Workdays <input type="checkbox"/> D= Urgent 3 Workdays <input type="checkbox"/> E= Routine 7 Workdays | Preservatives: H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub> |
| Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal |   |   |

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# CHAIN OF CUSTODY RECORD

|   |   |  |  |
|---|---|--|--|
|  <p><b>ADVANCED TECHNOLOGY<br/>LABORATORIES</b></p> <p>3275 Walnut Ave., Signal Hill, CA 90755<br/>Tel: (562) 989-4045 • Fax: (562) 989-4040</p> | P.O.#: _____ Quote #: _____<br><br>Logged By: _____ Date: _____               | <b>FOR LABORATORY USE ONLY:</b><br><br>Method of Transport<br><input type="checkbox"/> Client <input type="checkbox"/> ATL<br><input type="checkbox"/> FedEx <input type="checkbox"/> OnTrac<br><input checked="" type="checkbox"/> GSO<br><input type="checkbox"/> Other: _____ | Sample Condition Upon Receipt<br>1. CHILLED    Y <input type="checkbox"/> N <input type="checkbox"/> 4. CUSTODY SEAL    Y <input type="checkbox"/> N <input type="checkbox"/><br>2. HEADSPACE (VOA)    Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC    Y <input type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT    Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED    Y <input type="checkbox"/> N <input type="checkbox"/> |
|   | NOTE: Please include your Quote No. to ensure proper pricing of your project. |  |  |

|   |  |  |
|---|--|--|
| Client: <b>Geocon Consultants, Inc.</b><br>Attn: <u>LIAN BEADLE</u> | Address: 6671 Brisa Street<br>City: <u>Livmore</u> State: <u>CA</u> Zip Code: <u>94550</u> | TEL: (925) 371-5900<br>FAX: (925) 371-5915 |
|---|--|--|

|                                     |                                       |  |                                       |
|-------------------------------------|---------------------------------------|--|---------------------------------------|
| Project Name: <u>SR-92/SR-82 LC</u> | Project #: <u>E8721-02-36</u>         | Sampler: <u>C. GUNTON</u> (Printed Name) | (Signature) <u>[Signature]</u>        |
| Relinquished by: <u>[Signature]</u> | Date: <u>1/8/16</u> Time: <u>1700</u> | Received by: <u>[Signature]</u>          | Date: <u>1/9/16</u> Time: <u>1000</u> |
| Relinquished by: _____              | Date: _____    Time: _____            | Received by: _____                       | Date: _____    Time: _____            |
| Relinquished by: _____              | Date: _____    Time: _____            | Received by: _____                       | Date: _____    Time: _____            |

|  |  |  |                                |
|--|--|--|--------------------------------|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr /Submitter:<br><u>[Signature]</u> <u>1/8/16</u> (Date)<br>Print Name: _____ | Send Report To:<br>Attn: <u>SEE ABOVE</u><br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Bill To:<br>Attn: <u>SAME</u><br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Special Instructions/Comments: |
|--|--|--|--------------------------------|

**Sample/Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 • Sample : \$2.00 / sample / mo (after 45 days)  
 • Records : \$1.00 / ATL workorder / mo (after 1 year)

|  |  |              |  |
|--|--|--------------|--|
| Circle or Add Analysis(es) Requested   | SPECIFY APPROPRIATE MATRIX   | CONTAINER(S) | <b>QA/QC</b><br>RTNE <input type="checkbox"/><br>CT <input checked="" type="checkbox"/><br>Legal <input type="checkbox"/><br>SWRCB <input type="checkbox"/><br>Logcode _____<br>OTHER _____<br>REMARKS _____ |
| 8081A (Resistidex)<br>8082 (PCB)<br>8268B (Volatiles)<br>8270C (BNA)<br>8010B (Total Metal)<br>8015B (GRO) / 8021 (BTEX)<br>8015B (DRO) / 8021 (BTEX)<br>TITLE 22 (CAM 17 (8010/7000))<br>TOTAL LEAD | SEDIMENT<br>SOLID<br>SOIL<br>DRINKING WATER<br>GROUND WATER<br>WASTEWATER<br>STORMWATER<br>AQUEOUS | TAT # Type   |  |

| ITEM | LAB USE ONLY: |                    | Sample Description     |               |             |  |
|------|---------------|--------------------|------------------------|---------------|-------------|--|
|      | Batch #:      | Lab No.            | Sample I.D. / Location | Date          | Time        |  |
|      |               | <u>160174 - 64</u> | <u>B49-0</u>           | <u>1/8/16</u> | <u>1000</u> |  |
|      |               | <u>65</u>          | <u>B49-1</u>           |               |             |  |
|      |               | <u>66</u>          | <u>B49-2</u>           |               |             |  |
|      |               | <u>67</u>          | <u>B50-0</u>           |               | <u>1005</u> |  |
|      |               | <u>68</u>          | <u>B50-1</u>           |               |             |  |
|      |               | <u>69</u>          | <u>B50-2</u>           |               |             |  |
|      |               | <u>70</u>          | <u>B51-0</u>           |               | <u>1015</u> |  |
|      |               | <u>71</u>          | <u>B51-1</u>           |               |             |  |
|      |               | <u>72</u>          | <u>B51-2</u>           |               |             |  |

|   |   |   |
|---|---|---|
| • TAT starts 8 a.m. following day if samples received after 5 p.m.  | TAT: <input type="checkbox"/> A= Overnight ≤ 24 hrs <input type="checkbox"/> B= Emergency Next workday <input type="checkbox"/> C= Critical 2 Workdays <input type="checkbox"/> D= Urgent 3 Workdays <input type="checkbox"/> E= Routine 7 Workdays | Preservatives:<br>H=HCl    N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C<br>Z=Zn(AC) <sub>2</sub> O=NaOH    T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |
| Container Types: T=Tube    V=VOA    L=Liter    P=Pint    J=Jar    B=Tedlar    G=Glass    P=Plastic    M=Metal |   |   |

# CHAIN OF CUSTODY RECORD

|  |   |  |  |
|--|---|--|--|
|  <p><b>ADVANCED TECHNOLOGY<br/>LABORATORIES</b></p> <p>3275 Walnut Ave., Signal Hill, CA 90755<br/>Tel: (562) 989-4045 • Fax: (562) 989-4040</p> | P.O.#: _____ Quote #: _____<br><br>Logged By: _____ Date: _____               | <b>FOR LABORATORY USE ONLY:</b><br><br>Method of Transport<br><input type="checkbox"/> Client <input type="checkbox"/> ATL<br><input type="checkbox"/> FedEx <input type="checkbox"/> OnTrac<br><input checked="" type="checkbox"/> GSO<br><input type="checkbox"/> Other: _____ | Sample Condition Upon Receipt<br>1. CHILLED    Y <input type="checkbox"/> N <input type="checkbox"/> 4. CUSTODY SEAL    Y <input type="checkbox"/> N <input type="checkbox"/><br>2. HEADSPACE (VOA)    Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC    Y <input type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT    Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED    Y <input type="checkbox"/> N <input type="checkbox"/> |
|  | NOTE: Please include your Quote No. to ensure proper pricing of your project. |  |  |

|  |  |  |
|--|--|--|
| Client: <b>Geocon Consultants, Inc.</b><br>Attn: <b>LIANU BEADLE</b> | Address: 6671 Brisa Street<br>City: <b>Livmore</b> State: <b>CA</b> Zip Code: <b>94550</b> | TEL: (925) 371-5900<br>FAX: (925) 371-5915 |
|--|--|--|

|  |                               |                                       |  |                     |
|--|-------------------------------|---------------------------------------|--|---------------------|
| Project Name: <b>SR-92/SR-82 IC</b>                              | Project #: <b>E0721-02-36</b> | Sampler: <b>CGIWAJ</b> (Printed Name) | (Signature) <i>[Signature]</i>                               |                     |
| Relinquished by: <i>[Signature]</i> (Signature and Printed Name) | Date: <b>1/8/16</b>           | Time: <b>1700</b>                     | Received by: <i>[Signature]</i> (Signature and Printed Name) | Date: <b>1/9/16</b> |
| Relinquished by: _____ (Signature and Printed Name)              | Date: _____                   | Time: _____                           | Received by: _____ (Signature and Printed Name)              | Date: _____         |
| Relinquished by: _____ (Signature and Printed Name)              | Date: _____                   | Time: _____                           | Received by: _____ (Signature and Printed Name)              | Date: _____         |

|   |   |                               |                                |
|---|---|-------------------------------|--------------------------------|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr /Submitter: <i>[Signature]</i> <b>1/8/16</b> | Send Report To:<br>Attn: <b>SEE ABOVE</b>                       | Bill To:<br>Attn: <b>SAFE</b> | Special Instructions/Comments: |
| Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____   | Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ |                               |                                |

**Sample/Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 • Sample : \$2.00 / sample / mo (after 45 days)  
 • Records : \$1.00 / ATL workorder / mo (after 1 year)

| ITEM | LAB USE ONLY: |            | Sample Description     |        |      |  |
|------|---------------|------------|------------------------|--------|------|--|
|      | Batch #:      | Lab No.    | Sample I.D. / Location | Date   | Time |  |
|      |               | 1600174-73 | B52-0                  | 1/8/16 | 1025 |  |
|      |               | 74         | B52-1                  |        |      |  |
|      |               | 75         | B52-2                  |        |      |  |
|      |               | 76         | B53-0                  |        | 1300 |  |
|      |               | 77         | B53-1                  |        |      |  |
|      |               | 78         | B53-2                  |        |      |  |
|      |               | 79         | B54-0                  |        | 1305 |  |
|      |               | 80         | B54-1                  |        |      |  |
|      |               | 81         | B54-2                  |        |      |  |

|   |  |                            |  |
|---|--|----------------------------|--|
| Circle or Add Analysis(es) Requested<br>8081A (Pesticides)<br>8082 (PCB)<br>8080B (Volatiles)<br>8270C (BVA)<br>8010B (Total Metal)<br>8015B (GRO) / 8021 (BTEX)<br>8015B (DRO) / 8021 (BTEX)<br>TITLE 22 / CAM 17 (8010 / 7000)<br><b>TOTAL LEAD</b> | SPECIFY APPROPRIATE MATRIX   | Container(s)<br>TAT # Type | <b>QA/QC</b><br>RTNE <input type="checkbox"/><br>CT <input checked="" type="checkbox"/><br>Legal <input type="checkbox"/><br>SWRCB <input type="checkbox"/><br>Logcode <input type="checkbox"/><br>OTHER <input type="checkbox"/><br>REMARKS |
|   | SEDIMENT<br>SOLID<br>SOIL<br>DRINKING WATER<br>GROUND WATER<br>WASTEWATER<br>STORMWATER<br>AQUEOUS | E I P T C                  |  |

|   |   |   |
|---|---|---|
| • TAT starts 8 a.m. following day if samples received after 5 p.m.                    | TAT: <input type="checkbox"/> A= Overnight ≤ 24 hrs <input type="checkbox"/> B= Emergency Next workday <input type="checkbox"/> C= Critical 2 Workdays <input type="checkbox"/> D= Urgent 3 Workdays <input type="checkbox"/> E= Routine 7 Workdays | Preservatives:<br>H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C<br>Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |
| Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal |   |   |

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# CHAIN OF CUSTODY RECORD

|  |   |  |   |
|--|---|--|---|
|  <p><b>ADVANCED TECHNOLOGY<br/>LABORATORIES</b></p> <p>3275 Walnut Ave., Signal Hill, CA 90755<br/>Tel: (562) 989-4045 • Fax: (562) 989-4040</p> | P.O.#: _____ Quote #: _____<br><br>Logged By: _____ Date: _____               | <b>Method of Transport</b><br><input type="checkbox"/> Client <input type="checkbox"/> ATL<br><input type="checkbox"/> FedEx <input type="checkbox"/> OnTrac<br><input checked="" type="checkbox"/> GSO<br><input type="checkbox"/> Other: _____ | <b>FOR LABORATORY USE ONLY:</b><br><br>Sample Condition Upon Receipt<br>1. CHILLED    Y <input type="checkbox"/> N <input type="checkbox"/> 4. CUSTODY SEAL    Y <input type="checkbox"/> N <input type="checkbox"/><br>2. HEADSPACE (VOA)    Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC    Y <input type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT    Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED    Y <input type="checkbox"/> N <input type="checkbox"/> |
|  | NOTE: Please include your Quote No. to ensure proper pricing of your project. |  |   |

|  |  |  |
|--|--|--|
| Client: <b>Geocon Consultants, Inc.</b><br>Attn: <u>LWANN BEADLE</u> | Address: 6671 Brisa Street<br>City: <u>Livermore</u> State: <u>CA</u> Zip Code: <u>94550</u> | TEL: (925) 371-5900<br>FAX: (925) 371-5915 |
|--|--|--|

|  |                               |  |  |
|--|-------------------------------|--|--|
| Project Name: <u>SR-92/SR-821C</u>                               | Project #: <u>E8721-02-36</u> | Sampler: <u>CGIUNTOZI</u> (Printed Name) | (Signature) <u>[Signature]</u>                               |
| Relinquished by: <u>[Signature]</u> (Signature and Printed Name) | Date: <u>1/8/16</u>           | Time: <u>1700</u>                        | Received by: <u>[Signature]</u> (Signature and Printed Name) |
| Relinquished by: _____ (Signature and Printed Name)              | Date: _____                   | Time: _____                              | Received by: _____ (Signature and Printed Name)              |
| Relinquished by: _____ (Signature and Printed Name)              | Date: _____                   | Time: _____                              | Received by: _____ (Signature and Printed Name)              |

|   |  |   |                                |
|---|--|---|--------------------------------|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr /Submitter: <u>[Signature]</u> <u>1/8/16</u> (Print Name / Date) | Send Report To:<br>Attn: <u>SEE ABOVE</u><br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Bill To:<br>Attn: <u>SRMKE</u><br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Special Instructions/Comments: |
|---|--|---|--------------------------------|

**Sample/Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 • Sample : \$2.00 / sample / mo (after 45 days)  
 • Records : \$1.00 / ATL workorder / mo (after 1 year)

|  |  |              |   |
|--|--|--------------|---|
| Circle or Add Analysis(es) Requested   | SPECIFY APPROPRIATE MATRIX   | Container(s) | <b>Q A / Q C</b><br>RTNE <input type="checkbox"/><br>CT <input checked="" type="checkbox"/><br>Legal <input type="checkbox"/><br>SWRCB Logcode <input type="checkbox"/><br>OTHER _____<br>REMARKS _____ |
| 8091A (Pesticides)<br>8092 (PCB)<br>8098B (Volatiles)<br>8270C (BVA)<br>8010B (Total Metal)<br>8015B (GRO) / 8021 (BTEX)<br>8015B (DRO) / MOTOR OIL<br>TITLE 24 (CAM 17 (8010 / 7000))<br>TOTAL LEAD | SEDIMENT<br>SOLID<br>SOIL<br>DRINKING WATER<br>GROUND WATER<br>WASTEWATER<br>STORMWATER<br>AQUEOUS | TAT # Type   |   |

| ITEM | LAB USE ONLY:<br>Batch #: | Sample Description     |        |      |
|------|---------------------------|------------------------|--------|------|
|      | Lab No.                   | Sample I.D. / Location | Date   | Time |
|      | 160174 - 91               | B58-0                  | 1/8/16 | 1315 |
|      | 92                        | B58-1                  |        |      |
|      | 93                        | B58-2                  |        |      |
|      | 94                        | B59-0                  |        | 1320 |
|      | 95                        | B59-1                  |        |      |
|      | 96                        | B59-2                  |        |      |
|      | 97                        | B60-0                  |        | 1325 |
|      | 98                        | B60-1                  |        |      |
|      | 99                        | B60-2                  |        |      |

|   |   |  |
|---|---|--|
| • TAT starts 8 a.m. following day if samples received after 5 p.m.                    | TAT: <input type="checkbox"/> A= Overnight ≤ 24 hrs <input type="checkbox"/> B= Emergency Next workday <input type="checkbox"/> C= Critical 2 Workdays <input type="checkbox"/> D= Urgent 3 Workdays <input type="checkbox"/> E= Routine 7 Workdays | Preservatives: H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C<br>Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |
| Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal |   |  |

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January 27, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600174  
Client Reference : SR-92 / SR-82 1C, E8721-02-36

Enclosed are the results for sample(s) received on January 09, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.

Project Number : SR-92 / SR-82 1C, E8721-02-36

6671 Brisa Street

Report To : Luann Beadle

Livermore , CA 94550

Reported : 01/27/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B17-0     | 1600174-01    | Soil   | 1/08/16 8:55  | 1/09/16 10:00 |
| B17-1     | 1600174-02    | Soil   | 1/08/16 8:55  | 1/09/16 10:00 |
| B18-0     | 1600174-04    | Soil   | 1/08/16 9:00  | 1/09/16 10:00 |
| B19-0     | 1600174-07    | Soil   | 1/08/16 9:05  | 1/09/16 10:00 |
| B20-0     | 1600174-10    | Soil   | 1/08/16 9:10  | 1/09/16 10:00 |
| B20-2     | 1600174-12    | Soil   | 1/08/16 9:10  | 1/09/16 10:00 |
| B21-0     | 1600174-13    | Soil   | 1/08/16 9:15  | 1/09/16 10:00 |
| B32-0     | 1600174-16    | Soil   | 1/08/16 10:48 | 1/09/16 10:00 |
| B32-2     | 1600174-18    | Soil   | 1/08/16 10:54 | 1/09/16 10:00 |
| B33-0     | 1600174-19    | Soil   | 1/08/16 10:56 | 1/09/16 10:00 |
| B34-0     | 1600174-22    | Soil   | 1/08/16 11:00 | 1/09/16 10:00 |
| B35-0     | 1600174-25    | Soil   | 1/08/16 11:15 | 1/09/16 10:00 |
| B35-1     | 1600174-26    | Soil   | 1/08/16 11:20 | 1/09/16 10:00 |
| B38-0     | 1600174-34    | Soil   | 1/08/16 11:40 | 1/09/16 10:00 |
| B38-1     | 1600174-35    | Soil   | 1/08/16 11:45 | 1/09/16 10:00 |
| B39-0     | 1600174-37    | Soil   | 1/08/16 12:10 | 1/09/16 10:00 |
| B40-0     | 1600174-40    | Soil   | 1/08/16 12:05 | 1/09/16 10:00 |
| B40-1     | 1600174-41    | Soil   | 1/08/16 12:05 | 1/09/16 10:00 |
| B40-2     | 1600174-42    | Soil   | 1/08/16 12:05 | 1/09/16 10:00 |
| B41-1     | 1600174-44    | Soil   | 1/08/16 12:15 | 1/09/16 10:00 |
| B43-0     | 1600174-46    | Soil   | 1/08/16 9:25  | 1/09/16 10:00 |
| B44-0     | 1600174-49    | Soil   | 1/08/16 9:30  | 1/09/16 10:00 |
| B49-1     | 1600174-65    | Soil   | 1/08/16 10:00 | 1/09/16 10:00 |
| B51-0     | 1600174-70    | Soil   | 1/08/16 10:15 | 1/09/16 10:00 |
| B53-0     | 1600174-76    | Soil   | 1/08/16 13:00 | 1/09/16 10:00 |
| B53-1     | 1600174-77    | Soil   | 1/08/16 13:00 | 1/09/16 10:00 |
| B54-0     | 1600174-79    | Soil   | 1/08/16 13:05 | 1/09/16 10:00 |
| B54-1     | 1600174-80    | Soil   | 1/08/16 13:05 | 1/09/16 10:00 |
| B55-0     | 1600174-82    | Soil   | 1/08/16 12:55 | 1/09/16 10:00 |
| B56-2     | 1600174-87    | Soil   | 1/08/16 12:50 | 1/09/16 10:00 |
| B57-0     | 1600174-88    | Soil   | 1/08/16 13:45 | 1/09/16 10:00 |
| B59-0     | 1600174-94    | Soil   | 1/08/16 13:20 | 1/09/16 10:00 |
| B60-0     | 1600174-97    | Soil   | 1/08/16 13:25 | 1/09/16 10:00 |
| B61-0     | 1600174-AA    | Soil   | 1/08/16 13:30 | 1/09/16 10:00 |





# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 01/27/2016

## STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead

Analyst: SB

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600174-01    | B17-0            | 2.6    | mg/L  | 1.0 | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:08     |       |
| 1600174-04    | B18-0            | 5.0    | mg/L  | 1.0 | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:16     |       |
| 1600174-07    | B19-0            | 2.7    | mg/L  | 1.0 | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:19     |       |
| 1600174-10    | B20-0            | 4.6    | mg/L  | 1.0 | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:21     |       |
| 1600174-13    | B21-0            | 2.6    | mg/L  | 1.0 | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:26     |       |
| 1600174-16    | B32-0            | 24     | mg/L  | 1.0 | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:28     |       |
| 1600174-18    | B32-2            | ND     | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 14:46     |       |
| 1600174-19    | B33-0            | 6.0    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 14:49     |       |
| 1600174-22    | B34-0            | 4.3    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 14:51     |       |
| 1600174-25    | B35-0            | 3.4    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 14:53     |       |
| 1600174-26    | B35-1            | 2.2    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 14:56     |       |
| 1600174-34    | B38-0            | 1.3    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 14:58     |       |
| 1600174-35    | B38-1            | 1.1    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:00     |       |
| 1600174-37    | B39-0            | ND     | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:03     |       |
| 1600174-40    | B40-0            | 26     | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:05     |       |
| 1600174-41    | B40-1            | 2.8    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:11     |       |
| 1600174-42    | B40-2            | 1.0    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:21     |       |
| 1600174-44    | B41-1            | 3.9    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:23     |       |
| 1600174-46    | B43-0            | 3.0    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:26     |       |
| 1600174-49    | B44-0            | 2.4    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:28     |       |
| 1600174-65    | B49-1            | ND     | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:30     |       |
| 1600174-70    | B51-0            | 2.8    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:33     |       |
| 1600174-76    | B53-0            | 4.6    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:39     |       |
| 1600174-77    | B53-1            | 8.6    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:41     |       |
| 1600174-79    | B54-0            | 2.4    | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:44     |       |
| 1600174-80    | B54-1            | 14     | mg/L  | 1.0 | 20       | B6A0630 | 01/25/2016 | 01/25/16 15:46     |       |
| 1600174-82    | B55-0            | 19     | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 15:58     |       |
| 1600174-87    | B56-2            | 3.2    | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 16:00     |       |
| 1600174-88    | B57-0            | 1.7    | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 16:06     |       |
| 1600174-94    | B59-0            | 10     | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 16:09     |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/27/2016

#### STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead

Analyst: SB

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600174-97    | B60-0            | 24     | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 16:11     |       |
| 1600174-AA    | B61-0            | 20     | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 16:13     |       |
| 1600174-AD    | B62-0            | 17     | mg/L  | 1.0 | 20       | B6A0631 | 01/25/2016 | 01/25/16 16:16     |       |

#### Client Sample ID B17-1

Lab ID: 1600174-02

#### STLC Metals by ICP-AES by EPA 6010B

Analyst: SB

| Analyte  | Result (mg/L) | PQL (mg/L) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|----------|---------------|------------|----------|---------|------------|--------------------|-------|
| Chromium | ND            | 1.0        | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:10     |       |
| Nickel   | ND            | 1.0        | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:10     |       |

#### Client Sample ID B20-2

Lab ID: 1600174-12

#### STLC Metals by ICP-AES by EPA 6010B

Analyst: SB

| Analyte  | Result (mg/L) | PQL (mg/L) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|----------|---------------|------------|----------|---------|------------|--------------------|-------|
| Chromium | ND            | 1.0        | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:24     |       |
| Nickel   | ND            | 1.0        | 20       | B6A0629 | 01/25/2016 | 01/25/16 14:24     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/27/2016

### QUALITY CONTROL SECTION

#### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result                        | % Rec | % Rec<br>Limits                         | RPD   | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|---|-------|---|-------|--------------|-------|
| <b>Batch B6A0629 - STLC_S Extraction</b> |                  |               |                |   |       |   |       |              |       |
| <b>Blank (B6A0629-BLK1)</b>              |                  |               |                | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |   |       |              |       |
| Chromium                                 | ND               | 1.0           |                |   | NR    |   |       |              |       |
| Lead                                     | ND               | 1.0           |                |   | NR    |   |       |              |       |
| Nickel                                   | ND               | 1.0           |                |   | NR    |   |       |              |       |
| <b>Blank (B6A0629-BLK2)</b>              |                  |               |                | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |   |       |              |       |
| Chromium                                 | ND               | 1.0           |                |   | NR    |   |       |              |       |
| Lead                                     | ND               | 1.0           |                |   | NR    |   |       |              |       |
| Nickel                                   | ND               | 1.0           |                |   | NR    |   |       |              |       |
| <b>LCS (B6A0629-BS1)</b>                 |                  |               |                | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |   |       |              |       |
| Chromium                                 | 1.97409          |               | 2.00000        |   | 98.7  | 80 - 120                                |       |              |       |
| Lead                                     | 1.97679          |               | 2.00000        |   | 98.8  | 80 - 120                                |       |              |       |
| Nickel                                   | 2.07849          |               | 2.00000        |   | 104   | 80 - 120                                |       |              |       |
| <b>Duplicate (B6A0629-DUP1)</b>          |                  |               |                | <b>Source: 1503892-07</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |              |       |
| Chromium                                 | 0.155731         | 1.0           |                | 0.163528                                | NR    |   | 4.88  | 20           |       |
| Lead                                     | 2.69915          | 1.0           |                | 2.83140                                 | NR    |   | 4.78  | 20           |       |
| Nickel                                   | 0.185408         | 1.0           |                | 0.195934                                | NR    |   | 5.52  | 20           |       |
| <b>Duplicate (B6A0629-DUP2)</b>          |                  |               |                | <b>Source: 1600174-16</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |              |       |
| Chromium                                 | 0.256120         | 1.0           |                | 0.208020                                | NR    |   | 20.7  | 20           | R     |
| Lead                                     | 22.7672          | 1.0           |                | 23.6692                                 | NR    |   | 3.88  | 20           |       |
| Nickel                                   | 0.536577         | 1.0           |                | 0.515930                                | NR    |   | 3.92  | 20           |       |
| <b>Matrix Spike (B6A0629-MS1)</b>        |                  |               |                | <b>Source: 1503892-07</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |              |       |
| Chromium                                 | 2.29895          |               | 2.50000        | 0.163528                                | 85.4  | 74 - 121                                |       |              |       |
| Lead                                     | 4.76964          |               | 2.50000        | 2.83140                                 | 77.5  | 44 - 130                                |       |              |       |
| Nickel                                   | 2.26314          |               | 2.50000        | 0.195934                                | 82.7  | 83 - 116                                |       |              | M1    |
| <b>Matrix Spike (B6A0629-MS2)</b>        |                  |               |                | <b>Source: 1600174-16</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |              |       |
| Chromium                                 | 2.46818          |               | 2.50000        | 0.208020                                | 90.4  | 74 - 121                                |       |              |       |
| Lead                                     | 26.3932          |               | 2.50000        | 23.6692                                 | 109   | 44 - 130                                |       |              |       |
| Nickel                                   | 2.85706          |               | 2.50000        | 0.515930                                | 93.6  | 83 - 116                                |       |              |       |
| <b>Matrix Spike Dup (B6A0629-MSD1)</b>   |                  |               |                | <b>Source: 1503892-07</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |              |       |
| Chromium                                 | 2.39799          |               | 2.50000        | 0.163528                                | 89.4  | 74 - 121                                | 4.22  | 20           |       |
| Lead                                     | 4.81381          |               | 2.50000        | 2.83140                                 | 79.3  | 44 - 130                                | 0.922 | 20           |       |
| Nickel                                   | 2.46424          |               | 2.50000        | 0.195934                                | 90.7  | 83 - 116                                | 8.51  | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/27/2016

### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result                        | % Rec | % Rec<br>Limits                         | RPD  | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|---|-------|---|------|--------------|-------|
| <b>Batch B6A0630 - STLC_S Extraction</b> |                  |               |                |   |       |   |      |              |       |
| <b>Blank (B6A0630-BLK1)</b>              |                  |               |                | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |   |      |              |       |
| Chromium                                 | ND               | 1.0           |                |   | NR    |   |      |              |       |
| Lead                                     | ND               | 1.0           |                |   | NR    |   |      |              |       |
| Nickel                                   | ND               | 1.0           |                |   | NR    |   |      |              |       |
| <b>Blank (B6A0630-BLK2)</b>              |                  |               |                | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |   |      |              |       |
| Chromium                                 | ND               | 1.0           |                |   | NR    |   |      |              |       |
| Lead                                     | ND               | 1.0           |                |   | NR    |   |      |              |       |
| Nickel                                   | ND               | 1.0           |                |   | NR    |   |      |              |       |
| <b>LCS (B6A0630-BS1)</b>                 |                  |               |                | Prepared: 1/25/2016 Analyzed: 1/25/2016 |       |   |      |              |       |
| Chromium                                 | 2.04185          |               | 2.00000        |   | 102   | 80 - 120                                |      |              |       |
| Lead                                     | 2.00146          |               | 2.00000        |   | 100   | 80 - 120                                |      |              |       |
| Nickel                                   | 2.11485          |               | 2.00000        |   | 106   | 80 - 120                                |      |              |       |
| <b>Duplicate (B6A0630-DUP1)</b>          |                  |               |                | <b>Source: 1600174-41</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |      |              |       |
| Chromium                                 | 0.154063         | 1.0           |                | 0.164022                                | NR    |   | 6.26 | 20           |       |
| Lead                                     | 2.72101          | 1.0           |                | 2.83312                                 | NR    |   | 4.04 | 20           |       |
| Nickel                                   | 0.564367         | 1.0           |                | 0.593816                                | NR    |   | 5.09 | 20           |       |
| <b>Duplicate (B6A0630-DUP2)</b>          |                  |               |                | <b>Source: 1600174-80</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |      |              |       |
| Chromium                                 | 0.207599         | 1.0           |                | 0.195994                                | NR    |   | 5.75 | 20           |       |
| Lead                                     | 13.9738          | 1.0           |                | 13.5901                                 | NR    |   | 2.78 | 20           |       |
| Nickel                                   | 0.744551         | 1.0           |                | 0.728925                                | NR    |   | 2.12 | 20           |       |
| <b>Matrix Spike (B6A0630-MS1)</b>        |                  |               |                | <b>Source: 1600174-41</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |      |              |       |
| Chromium                                 | 2.31761          |               | 2.50000        | 0.164022                                | 86.1  | 74 - 121                                |      |              |       |
| Lead                                     | 4.76630          |               | 2.50000        | 2.83312                                 | 77.3  | 44 - 130                                |      |              |       |
| Nickel                                   | 2.77060          |               | 2.50000        | 0.593816                                | 87.1  | 83 - 116                                |      |              |       |
| <b>Matrix Spike (B6A0630-MS2)</b>        |                  |               |                | <b>Source: 1600174-80</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |      |              |       |
| Chromium                                 | 2.91599          |               | 2.50000        | 0.195994                                | 109   | 74 - 121                                |      |              |       |
| Lead                                     | 19.0160          |               | 2.50000        | 13.5901                                 | 217   | 44 - 130                                |      |              | M1    |
| Nickel                                   | 3.60901          |               | 2.50000        | 0.728925                                | 115   | 83 - 116                                |      |              |       |
| <b>Matrix Spike Dup (B6A0630-MSD1)</b>   |                  |               |                | <b>Source: 1600174-41</b>               |       | Prepared: 1/25/2016 Analyzed: 1/25/2016 |      |              |       |
| Chromium                                 | 2.37572          |               | 2.50000        | 0.164022                                | 88.5  | 74 - 121                                | 2.48 | 20           |       |
| Lead                                     | 4.84658          |               | 2.50000        | 2.83312                                 | 80.5  | 44 - 130                                | 1.67 | 20           |       |
| Nickel                                   | 2.82322          |               | 2.50000        | 0.593816                                | 89.2  | 83 - 116                                | 1.88 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 01/27/2016

### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0631 - STLC\_S Extraction**

**Blank (B6A0631-BLK1)**

Prepared: 1/25/2016 Analyzed: 1/25/2016

|          |    |     |  |  |    |  |  |  |  |
|----------|----|-----|--|--|----|--|--|--|--|
| Chromium | ND | 1.0 |  |  | NR |  |  |  |  |
| Lead     | ND | 1.0 |  |  | NR |  |  |  |  |
| Nickel   | ND | 1.0 |  |  | NR |  |  |  |  |

**LCS (B6A0631-BS1)**

Prepared: 1/25/2016 Analyzed: 1/25/2016

|          |         |  |         |  |      |          |  |  |  |
|----------|---------|--|---------|--|------|----------|--|--|--|
| Chromium | 2.07119 |  | 2.00000 |  | 104  | 80 - 120 |  |  |  |
| Lead     | 1.98481 |  | 2.00000 |  | 99.2 | 80 - 120 |  |  |  |
| Nickel   | 2.08072 |  | 2.00000 |  | 104  | 80 - 120 |  |  |  |

**Duplicate (B6A0631-DUP1)**

Source: 1600216-23

Prepared: 1/25/2016 Analyzed: 1/25/2016

|          |          |     |  |          |    |      |    |  |  |
|----------|----------|-----|--|----------|----|------|----|--|--|
| Chromium | 0.074199 | 1.0 |  | 0.072384 | NR | 2.48 | 20 |  |  |
| Lead     | 3.04383  | 1.0 |  | 3.12029  | NR | 2.48 | 20 |  |  |
| Nickel   | 0.273346 | 1.0 |  | 0.283273 | NR | 3.57 | 20 |  |  |

**Matrix Spike (B6A0631-MS1)**

Source: 1600216-23

Prepared: 1/25/2016 Analyzed: 1/25/2016

|          |         |  |         |          |      |          |  |  |  |
|----------|---------|--|---------|----------|------|----------|--|--|--|
| Chromium | 2.25171 |  | 2.50000 | 0.072384 | 87.2 | 74 - 121 |  |  |  |
| Lead     | 4.99581 |  | 2.50000 | 3.12029  | 75.0 | 44 - 130 |  |  |  |
| Nickel   | 2.45326 |  | 2.50000 | 0.283273 | 86.8 | 83 - 116 |  |  |  |

**Matrix Spike Dup (B6A0631-MSD1)**

Source: 1600216-23

Prepared: 1/25/2016 Analyzed: 1/25/2016

|          |         |  |         |          |     |          |      |    |  |
|----------|---------|--|---------|----------|-----|----------|------|----|--|
| Chromium | 2.61194 |  | 2.50000 | 0.072384 | 102 | 74 - 121 | 14.8 | 20 |  |
| Lead     | 5.76859 |  | 2.50000 | 3.12029  | 106 | 44 - 130 | 14.4 | 20 |  |
| Nickel   | 2.84675 |  | 2.50000 | 0.283273 | 103 | 83 - 116 | 14.8 | 20 |  |



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 01/27/2016

### Notes and Definitions

|     |   |
|-----|---|
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| M1  | Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

**Diane Galvan**

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Wednesday, January 20, 2016 12:33 PM  
**To:** Diane Galvan  
**Subject:** Lab Order 1600174 (82/92 Interchange)

Hi Diane,

Please run WET analyses on the following samples as indicated on a regular TAT:

|            |       |          |
|------------|-------|----------|
| 1600174-02 | B17-1 | Chromium |
| 1600174-12 | B20-2 | Chromium |
| 1600174-65 | B49-1 | Lead     |
| 1600174-88 | B57-0 | Lead     |
| 1600174-37 | B39-0 | Lead     |
| 1600174-18 | B32-2 | Lead     |
| 1600174-42 | B40-2 | Lead     |
| 1600174-13 | B21-0 | Lead     |
| 1600174-35 | B38-1 | Lead     |
| 1600174-70 | B51-0 | Lead     |
| 1600174-41 | B40-1 | Lead     |
| 1600174-07 | B19-0 | Lead     |
| 1600174-79 | B54-0 | Lead     |
| 1600174-01 | B17-0 | Lead     |
| 1600174-25 | B35-0 | Lead     |
| 1600174-46 | B43-0 | Lead     |
| 1600174-26 | B35-1 | Lead     |
| 1600174-49 | B44-0 | Lead     |
| 1600174-44 | B41-1 | Lead     |
| 1600174-22 | B34-0 | Lead     |
| 1600174-10 | B20-0 | Lead     |
| 1600174-76 | B53-0 | Lead     |
| 1600174-04 | B18-0 | Lead     |
| 1600174-34 | B38-0 | Lead     |
| 1600174-19 | B33-0 | Lead     |
| 1600174-87 | B56-2 | Lead     |
| 1600174-94 | B59-0 | Lead     |
| 1600174-77 | B53-1 | Lead     |
| 1600174-AA | B61-0 | Lead     |
| 1600174-AD | B62-0 | Lead     |
| 1600174-16 | B32-0 | Lead     |
| 1600174-97 | B60-0 | Lead     |
| 1600174-80 | B54-1 | Lead     |
| 1600174-82 | B55-0 | Lead     |
| 1600174-40 | B40-0 | Lead     |
| 1600174-02 | B17-1 | Nickel   |
| 1600174-12 | B20-2 | Nickel   |

Thanks,  
Luann



**Luann Beadle | Project Scientist**

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P|925.371.5900 ext. 403 M|925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [Linkedin](#)

*Bay Area ~ Sacramento ~ Fairfield ~ Los Angeles ~ Orange County ~ Riverside County ~ Palm Desert ~ San Diego*

Geotechnical Engineering

Land Development

Environmental Services

Transportation

Infrastructure

Institutional

Engineering Geology

Brownfields/Redevelopment

Construction Inspection

Natural Resources

February 05, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600174  
Client Reference : SR-92 / SR-82 1C, E8721-02-36

Enclosed are the results for sample(s) received on January 09, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 02/05/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B18-0     | 1600174-04    | Soil   | 1/08/16 9:00  | 1/09/16 10:00 |
| B32-0     | 1600174-16    | Soil   | 1/08/16 10:48 | 1/09/16 10:00 |
| B33-0     | 1600174-19    | Soil   | 1/08/16 10:56 | 1/09/16 10:00 |
| B40-0     | 1600174-40    | Soil   | 1/08/16 12:05 | 1/09/16 10:00 |
| B53-1     | 1600174-77    | Soil   | 1/08/16 13:00 | 1/09/16 10:00 |
| B54-1     | 1600174-80    | Soil   | 1/08/16 13:05 | 1/09/16 10:00 |
| B55-0     | 1600174-82    | Soil   | 1/08/16 12:55 | 1/09/16 10:00 |
| B59-0     | 1600174-94    | Soil   | 1/08/16 13:20 | 1/09/16 10:00 |
| B60-0     | 1600174-97    | Soil   | 1/08/16 13:25 | 1/09/16 10:00 |
| B61-0     | 1600174-AA    | Soil   | 1/08/16 13:30 | 1/09/16 10:00 |
| B62-0     | 1600174-AD    | Soil   | 1/08/16 13:35 | 1/09/16 10:00 |



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 02/05/2016

### TCLP Metals by ICP-AES EPA 6010B

Analyte: Lead

Analyst: SB

| Laboratory ID | Client Sample ID | Result | Units | PQL   | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-------|----------|---------|------------|--------------------|-------|
| 1600174-04    | B18-0            | ND     | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:05     |       |
| 1600174-16    | B32-0            | 0.11   | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:07     |       |
| 1600174-19    | B33-0            | ND     | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:10     |       |
| 1600174-40    | B40-0            | 0.052  | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:12     |       |
| 1600174-77    | B53-1            | ND     | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:15     |       |
| 1600174-80    | B54-1            | 0.085  | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:17     |       |
| 1600174-82    | B55-0            | 0.28   | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:19     |       |
| 1600174-94    | B59-0            | 0.11   | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:26     |       |
| 1600174-97    | B60-0            | 0.067  | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:28     |       |
| 1600174-AA    | B61-0            | 0.086  | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:30     |       |
| 1600174-AD    | B62-0            | 0.072  | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:39     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/05/2016

### QUALITY CONTROL SECTION

#### TCLP Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                 | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---------------------------------------|-----------------|-------|--------------|-------|
| <b>Batch B6B0085 - EPA 3010A_S</b>     |                  |               |                |                  |                                       |                 |       |              |       |
| <b>Blank (B6B0085-BLK1)</b>            |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | ND               | 0.050         |                |                  |                                       |                 | NR    |              |       |
| <b>Blank (B6B0085-BLK2)</b>            |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | ND               | 0.050         |                |                  |                                       |                 | NR    |              |       |
| <b>LCS (B6B0085-BS1)</b>               |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 0.933581         | 0.050         | 1.00000        |                  | 93.4                                  | 80 - 120        |       |              |       |
| <b>Duplicate (B6B0085-DUP1)</b>        |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 0.081075         | 0.050         |                | 0.086121         | NR                                    |                 | 6.04  | 20           |       |
| <b>Duplicate (B6B0085-DUP2)</b>        |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 1.81236          | 0.050         |                | 1.80302          | NR                                    |                 | 0.517 | 20           |       |
| <b>Matrix Spike (B6B0085-MS1)</b>      |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 2.12458          | 0.050         | 2.50000        | 0.086121         | 81.5                                  | 77 - 121        |       |              |       |
| <b>Matrix Spike (B6B0085-MS2)</b>      |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 4.04682          | 0.050         | 2.50000        | 1.80302          | 89.8                                  | 77 - 121        |       |              |       |
| <b>Matrix Spike Dup (B6B0085-MSD1)</b> |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 2.33431          | 0.050         | 2.50000        | 0.086121         | 89.9                                  | 77 - 121        | 9.41  | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 02/05/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

## Diane Galvan

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Friday, January 29, 2016 1:34 PM  
**To:** Diane Galvan  
**Subject:** Lab Order 1600174 (82/92 Interchange)

Hi Diane,

Could you please run TCLP lead on the following samples on a regular TAT?

|            |       |
|------------|-------|
| 1600174-04 | B18-0 |
| 1600174-16 | B32-0 |
| 1600174-19 | B33-0 |
| 1600174-40 | B40-0 |
| 1600174-77 | B53-1 |
| 1600174-80 | B54-1 |
| 1600174-82 | B55-0 |
| 1600174-94 | B59-0 |
| 1600174-97 | B60-0 |
| 1600174-AA | B61-0 |
| 1600174-AD | B62-0 |

Thanks,  
Luann



**Luann Beadle** | *Project Scientist*

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P|925.371.5900 ext. 403 M|925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [LinkedIn](#)

*Bay Area ~ Sacramento ~ Fairfield ~ Los Angeles ~ Orange County ~ Riverside County ~ Palm Desert ~ San Diego*

Geotechnical Engineering

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Engineering Geology

Brownfields/Redevelopment

Construction Inspection

Natural Resources

March 18, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600174  
Client Reference : SR-92 / SR-82 1C, E8721-02-36

Enclosed are the results for sample(s) received on January 09, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/18/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|--------------|---------------|
| B20-2     | 1600174-12    | Soil   | 1/08/16 9:10 | 1/09/16 10:00 |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/18/2016

### STLC Mercury by AA (Cold Vapor) EPA 7470A

**Analyte: Mercury**

**Analyst: SB**

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600174-12    | B20-2            | ND     | ug/L  | 1.0 | 1        | B6C0418 | 03/16/2016 | 03/17/16 09:25     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 03/18/2016

### QUALITY CONTROL SECTION

#### STLC Mercury by AA (Cold Vapor) EPA 7470A - Quality Control

| Analyte                                 | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec   | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|---|------------------|---------------|----------------|------------------|---|-----------------|------|--------------|-------|
| <b>Batch B6C0418 - EPA 245.1/7470_S</b> |                  |               |                |                  |   |                 |      |              |       |
| <b>Blank (B6C0418-BLK1)</b>             |                  |               |                |                  | Prepared: 3/16/2016 Analyzed: 3/17/2016                       |                 |      |              |       |
| Mercury                                 | ND               | 0.20          |                |                  |   |                 |      |              | NR    |
| <b>LCS (B6C0418-BS1)</b>                |                  |               |                |                  | Prepared: 3/16/2016 Analyzed: 3/17/2016                       |                 |      |              |       |
| Mercury                                 | 10.2521          | 0.20          | 10.0000        |                  | 103   | 80 - 120        |      |              |       |
| <b>Duplicate (B6C0418-DUP1)</b>         |                  |               |                |                  | Source: 1600174-12<br>Prepared: 3/16/2016 Analyzed: 3/17/2016 |                 |      |              |       |
| Mercury                                 | ND               | 1.0           |                | ND               | NR  |                 |      | 20           |       |
| <b>Matrix Spike (B6C0418-MS1)</b>       |                  |               |                |                  | Source: 1600174-12<br>Prepared: 3/16/2016 Analyzed: 3/17/2016 |                 |      |              |       |
| Mercury                                 | 48.4260          | 1.0           | 50.0000        | ND               | 96.9  | 70 - 130        |      |              |       |
| <b>Matrix Spike Dup (B6C0418-MSD1)</b>  |                  |               |                |                  | Source: 1600174-12<br>Prepared: 3/16/2016 Analyzed: 3/17/2016 |                 |      |              |       |
| Mercury                                 | 45.6333          | 1.0           | 50.0000        | ND               | 91.3  | 70 - 130        | 5.94 | 20           |       |
| <b>Post Spike (B6C0418-PS1)</b>         |                  |               |                |                  | Source: 1600174-12<br>Prepared: 3/16/2016 Analyzed: 3/17/2016 |                 |      |              |       |
| Mercury                                 | 5.23728          |               | 5.00000        | ND               | 105   | 85 - 115        |      |              |       |



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 03/18/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

## Diane Galvan

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Friday, March 11, 2016 12:23 PM  
**To:** Diane Galvan  
**Subject:** Lab Order 1600174 (82/92)

Hi Diane,

Could you please run WET mercury on sample B20-2 from this lab order on a regular TAT?

Thanks,  
Luann



Luann Beadle | *Project Scientist*

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P | 925.371.5900 ext. 403 M | 925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [LinkedIn](#)

*Bay Area - Sacramento - Fairfield - Los Angeles - Orange County - Riverside County - Palm Desert - San Diego*

Geotechnical Engineering

Land Development

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Infrastructure

Institutional

Engineering Geology

Brownfields/Redevelopment

Construction Inspection

Natural Resources

March 28, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600174  
Client Reference : SR-92 / SR-82 1C, E8721-02-36

Enclosed are the results for sample(s) received on January 09, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 03/28/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B32-0     | 1600174-16    | Soil   | 1/08/16 10:48 | 1/09/16 10:00 |
| B40-0     | 1600174-40    | Soil   | 1/08/16 12:05 | 1/09/16 10:00 |
| B55-0     | 1600174-82    | Soil   | 1/08/16 12:55 | 1/09/16 10:00 |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/28/2016

## STLC DI Metals by ICP-AES by EPA 6010B

Analyte: Lead

Analyst: RR

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600174-16    | B32-0            | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:15     |       |
| 1600174-40    | B40-0            | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:17     |       |
| 1600174-82    | B55-0            | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:20     |       |

## pH by EPA 9045C

Analyte: pH

Analyst: LA

| Laboratory ID | Client Sample ID | Result | Units    | PQL  | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|----------|------|----------|---------|------------|--------------------|-------|
| 1600174-16    | B32-0            | 7.5    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16 14:28     |       |
| 1600174-40    | B40-0            | 7.7    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16 14:28     |       |
| 1600174-82    | B55-0            | 8.2    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16 14:28     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 03/28/2016

### QUALITY CONTROL SECTION

#### STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                     | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|---|------------------|---------------|----------------|------------------|---|-----------------|-------|--------------|-------|
| <b>Batch B6C0705 - STLC DI_S Extraction</b> |                  |               |                |                  |   |                 |       |              |       |
| <b>Blank (B6C0705-BLK1)</b>                 |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | ND               | 1.0           |                |                  |   |                 |       |              | NR    |
| <b>Blank (B6C0705-BLK2)</b>                 |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | ND               | 1.0           |                |                  |   |                 |       |              | NR    |
| <b>LCS (B6C0705-BS1)</b>                    |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 1.96188          |               | 2.00000        |                  | 98.1                                    | 80 - 120        |       |              |       |
| <b>Duplicate (B6C0705-DUP1)</b>             |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 0.187297         | 1.0           |                | 0.195913         | NR                                      |                 | 4.50  | 20           |       |
| <b>Duplicate (B6C0705-DUP2)</b>             |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 0.230340         | 1.0           |                | 0.235612         | NR                                      |                 | 2.26  | 20           |       |
| <b>Matrix Spike (B6C0705-MS1)</b>           |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 2.69768          |               | 2.50000        | 0.195913         | 100                                     | 70 - 130        |       |              |       |
| <b>Matrix Spike (B6C0705-MS2)</b>           |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 2.81552          |               | 2.50000        | 0.235612         | 103                                     | 70 - 130        |       |              |       |
| <b>Matrix Spike Dup (B6C0705-MSD1)</b>      |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 2.68080          |               | 2.50000        | 0.195913         | 99.4                                    | 70 - 130        | 0.628 | 20           |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/28/2016

#### pH by EPA 9045C - Quality Control

| Analyte | Result<br>(pH Units) | PQL<br>(pH Units) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|----------------------|-------------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|----------------------|-------------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0678 - Prep\_WC1\_S**

**Duplicate (B6C0678-DUP1)**

**Source: 1600328-58**

Prepared: 3/24/2016 Analyzed: 3/24/2016

|    |         |      |  |         |    |  |       |    |  |
|----|---------|------|--|---------|----|--|-------|----|--|
| pH | 6.91000 | 0.10 |  | 6.87000 | NR |  | 0.581 | 20 |  |
|----|---------|------|--|---------|----|--|-------|----|--|



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR-92 / SR-82 1C, E8721-02-36

Report To : Luann Beadle

Reported : 03/28/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

**Diane Galvan**

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Wednesday, March 23, 2016 9:29 AM  
**To:** Diane Galvan  
**Subject:** Lab Orders 1600-174, 328 (SR-82/92)

Hi Diane,

Could you please run DI-WET lead and pH on the following samples from these lab orders on a 48-hr (plus extraction) TAT?

- B1-0
- B8-0
- B14-0
- B16-0
- B23-0
- B28-0
- B31-0
- B32-0
- B40-0
- B55-0
- B64-0
- B65-0

Thank you,  
Luann



**Luann Beadle | Project Scientist**  
**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550  
P | 925.371.5900 ext. 403 M | 925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [LinkedIn](#)

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Geotechnical Engineering   Environmental Services   Engineering Geology   Construction Inspection  
Land Development   Transportation   Infrastructure   Institutional   Brownfields/Redevelopment   Natural Resources



January 29, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600328  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on January 22, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

A handwritten signature in black ink, appearing to read 'Eddie Rodriguez', with a small 'Er' monogram to the left.

Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

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*www.atlglobal.com*



## Certificate of Analysis

Geocon Consultants, Inc.

Project Number : SR92/SR82 Interchange, E8721-02-36

6671 Brisa Street

Report To : Rick Day

Livermore , CA 94550

Reported : 01/29/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B22-0'    | 1600328-01    | Soil   | 1/20/16 15:00 | 1/22/16 9:20  |
| B22-1'    | 1600328-02    | Soil   | 1/20/16 15:01 | 1/22/16 9:20  |
| B22-2'    | 1600328-03    | Soil   | 1/20/16 15:02 | 1/22/16 9:20  |
| B23-0'    | 1600328-04    | Soil   | 1/20/16 15:05 | 1/22/16 9:20  |
| B23-1'    | 1600328-05    | Soil   | 1/20/16 15:06 | 1/22/16 9:20  |
| B23-2'    | 1600328-06    | Soil   | 1/20/16 15:07 | 1/22/16 9:20  |
| B24-0'    | 1600328-07    | Soil   | 1/20/16 15:15 | 1/22/16 9:20  |
| B24-1'    | 1600328-08    | Soil   | 1/20/16 15:16 | 1/22/16 9:20  |
| B24-2'    | 1600328-09    | Soil   | 1/20/16 15:17 | 1/22/16 9:20  |
| B63-0'    | 1600328-10    | Soil   | 1/21/16 7:49  | 1/22/16 9:20  |
| B63-1'    | 1600328-11    | Soil   | 1/21/16 7:50  | 1/22/16 9:20  |
| B63-2'    | 1600328-12    | Soil   | 1/21/16 7:51  | 1/22/16 9:20  |
| B64-0'    | 1600328-13    | Soil   | 1/21/16 7:54  | 1/22/16 9:20  |
| B64-1'    | 1600328-14    | Soil   | 1/21/16 7:55  | 1/22/16 9:20  |
| B64-2'    | 1600328-15    | Soil   | 1/21/16 7:56  | 1/22/16 9:20  |
| B65-0'    | 1600328-16    | Soil   | 1/21/16 8:00  | 1/22/16 9:20  |
| B65-1'    | 1600328-17    | Soil   | 1/21/16 8:01  | 1/22/16 9:20  |
| B65-2'    | 1600328-18    | Soil   | 1/21/16 8:02  | 1/22/16 9:20  |
| B66-0'    | 1600328-19    | Soil   | 1/21/16 8:08  | 1/22/16 9:20  |
| B66-1'    | 1600328-20    | Soil   | 1/21/16 8:09  | 1/22/16 9:20  |
| B66-2'    | 1600328-21    | Soil   | 1/21/16 8:10  | 1/22/16 9:20  |
| B1-0'     | 1600328-22    | Soil   | 1/21/16 8:25  | 1/22/16 9:20  |
| B1-1'     | 1600328-23    | Soil   | 1/21/16 8:26  | 1/22/16 9:20  |
| B1-2'     | 1600328-24    | Soil   | 1/21/16 8:27  | 1/22/16 9:20  |
| B2-0'     | 1600328-25    | Soil   | 1/21/16 8:32  | 1/22/16 9:20  |
| B2-1'     | 1600328-26    | Soil   | 1/21/16 8:33  | 1/22/16 9:20  |
| B2-2'     | 1600328-27    | Soil   | 1/21/16 8:34  | 1/22/16 9:20  |
| B3-0'     | 1600328-28    | Soil   | 1/21/16 8:40  | 1/22/16 9:20  |
| B3-1'     | 1600328-29    | Soil   | 1/21/16 8:41  | 1/22/16 9:20  |
| B3-2'     | 1600328-30    | Soil   | 1/21/16 8:42  | 1/22/16 9:20  |
| B6-0'     | 1600328-31    | Soil   | 1/21/16 8:53  | 1/22/16 9:20  |
| B6-1'     | 1600328-32    | Soil   | 1/21/16 8:54  | 1/22/16 9:20  |
| B6-2'     | 1600328-33    | Soil   | 1/21/16 8:55  | 1/22/16 9:20  |
| B7-0'     | 1600328-34    | Soil   | 1/21/16 8:57  | 1/22/16 9:20  |
| B7-1'     | 1600328-35    | Soil   | 1/21/16 9:03  | 1/22/16 9:20  |
| B7-2'     | 1600328-36    | Soil   | 1/21/16 9:04  | 1/22/16 9:20  |
| B8-0'     | 1600328-37    | Soil   | 1/21/16 9:05  | 1/22/16 9:20  |



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 01/29/2016

|        |            |      |               |              |
|--------|------------|------|---------------|--------------|
| B8-1'  | 1600328-38 | Soil | 1/21/16 9:06  | 1/22/16 9:20 |
| B8-2'  | 1600328-39 | Soil | 1/21/16 9:08  | 1/22/16 9:20 |
| B9-0'  | 1600328-40 | Soil | 1/21/16 9:20  | 1/22/16 9:20 |
| B9-1'  | 1600328-41 | Soil | 1/21/16 9:21  | 1/22/16 9:20 |
| B9-2'  | 1600328-42 | Soil | 1/21/16 9:22  | 1/22/16 9:20 |
| B11-0' | 1600328-43 | Soil | 1/21/16 9:30  | 1/22/16 9:20 |
| B11-1' | 1600328-44 | Soil | 1/21/16 9:31  | 1/22/16 9:20 |
| B11-2' | 1600328-45 | Soil | 1/21/16 9:32  | 1/22/16 9:20 |
| B12-0' | 1600328-46 | Soil | 1/21/16 9:38  | 1/22/16 9:20 |
| B12-1' | 1600328-47 | Soil | 1/21/16 9:39  | 1/22/16 9:20 |
| B12-2' | 1600328-48 | Soil | 1/21/16 9:40  | 1/22/16 9:20 |
| B13-0' | 1600328-49 | Soil | 1/21/16 9:45  | 1/22/16 9:20 |
| B13-1' | 1600328-50 | Soil | 1/21/16 9:46  | 1/22/16 9:20 |
| B13-2' | 1600328-51 | Soil | 1/21/16 9:47  | 1/22/16 9:20 |
| B14-0' | 1600328-52 | Soil | 1/21/16 9:50  | 1/22/16 9:20 |
| B14-1' | 1600328-53 | Soil | 1/21/16 9:51  | 1/22/16 9:20 |
| B14-2' | 1600328-54 | Soil | 1/21/16 9:52  | 1/22/16 9:20 |
| B15-0' | 1600328-55 | Soil | 1/21/16 10:10 | 1/22/16 9:20 |
| B15-1' | 1600328-56 | Soil | 1/21/16 10:11 | 1/22/16 9:20 |
| B15-2' | 1600328-57 | Soil | 1/21/16 10:12 | 1/22/16 9:20 |
| B16-0' | 1600328-58 | Soil | 1/21/16 10:18 | 1/22/16 9:20 |
| B16-1' | 1600328-59 | Soil | 1/21/16 10:19 | 1/22/16 9:20 |
| B16-2' | 1600328-60 | Soil | 1/21/16 10:20 | 1/22/16 9:20 |
| B26-0' | 1600328-61 | Soil | 1/21/16 10:35 | 1/22/16 9:20 |
| B26-1' | 1600328-62 | Soil | 1/21/16 10:36 | 1/22/16 9:20 |
| B26-2' | 1600328-63 | Soil | 1/21/16 10:37 | 1/22/16 9:20 |
| B27-0' | 1600328-64 | Soil | 1/21/16 10:42 | 1/22/16 9:20 |
| B27-1' | 1600328-65 | Soil | 1/21/16 10:43 | 1/22/16 9:20 |
| B27-2' | 1600328-66 | Soil | 1/21/16 10:44 | 1/22/16 9:20 |
| B28-0' | 1600328-67 | Soil | 1/21/16 11:05 | 1/22/16 9:20 |
| B28-1' | 1600328-68 | Soil | 1/21/16 11:06 | 1/22/16 9:20 |
| B28-2' | 1600328-69 | Soil | 1/21/16 11:07 | 1/22/16 9:20 |
| B29-0' | 1600328-70 | Soil | 1/21/16 11:12 | 1/22/16 9:20 |
| B29-1' | 1600328-71 | Soil | 1/21/16 11:13 | 1/22/16 9:20 |
| B29-2' | 1600328-72 | Soil | 1/21/16 11:14 | 1/22/16 9:20 |
| B30-0' | 1600328-73 | Soil | 1/21/16 11:38 | 1/22/16 9:20 |
| B30-1' | 1600328-74 | Soil | 1/21/16 11:39 | 1/22/16 9:20 |
| B30-2' | 1600328-75 | Soil | 1/21/16 11:40 | 1/22/16 9:20 |
| B31-0' | 1600328-76 | Soil | 1/21/16 11:50 | 1/22/16 9:20 |
| B31-1' | 1600328-77 | Soil | 1/21/16 11:51 | 1/22/16 9:20 |
| B31-2' | 1600328-78 | Soil | 1/21/16 11:52 | 1/22/16 9:20 |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B22-0'**

**Lab ID: 1600328-01**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 170               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:14        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B22-1'**

**Lab ID: 1600328-02**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 98                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:16        |       |



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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B22-2'**

**Lab ID: 1600328-03**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 66                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:18        |       |



### Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B23-0'**

**Lab ID: 1600328-04**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>200</b>        | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:20        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes     |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-----------|
| <b>DRO</b>                    | <b>20</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:27        |           |
| <b>ORO</b>                    | <b>42</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:27        |           |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | <i>01/25/16 21:27</i> | <i>S4</i> |



# Certificate of Analysis

Geocon Consultants, Inc.  
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 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

**Client Sample ID B23-1'**  
**Lab ID: 1600328-05**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Arsenic</b>  | <b>4.0</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Barium</b>   | <b>140</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Chromium</b> | <b>28</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Cobalt</b>   | <b>12</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Copper</b>   | <b>16</b>         | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Lead</b>     | <b>34</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Nickel</b>   | <b>37</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Thallium</b> | <b>4.4</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Vanadium</b> | <b>31</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |
| <b>Zinc</b>     | <b>45</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:26        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:24        |       |



### Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B23-2'**

**Lab ID: 1600328-06**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>29</b>         | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:22        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>38</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 22:16        |       |
| <b>ORO</b>                    | <b>120</b>        | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 22:16        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | 01/25/16 22:16        | S4    |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B24-0'**

**Lab ID: 1600328-07**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 160               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:23        |       |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B24-1'**

**Lab ID: 1600328-08**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 23                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:25        |       |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B24-2'**

**Lab ID: 1600328-09**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 25                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:31        |       |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B63-0'**

**Lab ID: 1600328-10**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 420               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:33        |       |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B63-1'**

**Lab ID: 1600328-11**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 18:25        |       |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B63-2'**

**Lab ID: 1600328-12**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 36                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:40        |       |



### Certificate of Analysis

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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B64-0'**

**Lab ID: 1600328-13**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>700</b>        | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:42        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes     |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-----------|
| <b>DRO</b>                    | <b>18</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:46        |           |
| <b>ORO</b>                    | <b>44</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:46        |           |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | <i>01/25/16 21:46</i> | <i>S4</i> |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B64-1'**

**Lab ID: 1600328-14**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.4               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:43        |       |



### Certificate of Analysis

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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B64-2'**

**Lab ID: 1600328-15**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 14                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:45        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>1.3</b>        | 1.0            | 1        | B6A0645 | 01/25/2016 | 01/25/16 20:29        |       |
| ORO                           | ND                | 1.0            | 1        | B6A0645 | 01/25/2016 | 01/25/16 20:29        |       |
| <i>Surrogate: p-Terphenyl</i> | 83.8 %            | 26 - 123       |          | B6A0645 | 01/25/2016 | 01/25/16 20:29        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B65-0'**

**Lab ID: 1600328-16**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 940               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:47        |       |



# Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B65-1'**

**Lab ID: 1600328-17**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 15:08        |       |
| <b>Arsenic</b>  | <b>4.1</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 15:08        |       |
| <b>Barium</b>   | <b>140</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Chromium</b> | <b>24</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Cobalt</b>   | <b>8.5</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Copper</b>   | <b>15</b>         | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Lead</b>     | <b>9.3</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Nickel</b>   | <b>28</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Thallium</b> | <b>2.6</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Vanadium</b> | <b>33</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |
| <b>Zinc</b>     | <b>98</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:32        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:34        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B65-2'**

**Lab ID: 1600328-18**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 22                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:53        |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B66-0'**

**Lab ID: 1600328-19**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 630               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:54        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B66-1'**

**Lab ID: 1600328-20**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 12                | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:56        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B66-2'**

**Lab ID: 1600328-21**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.9               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:58        |       |



# Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

**Client Sample ID B1-0'**  
**Lab ID: 1600328-22**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony   | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Arsenic    | 5.1               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Barium     | 130               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Beryllium  | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Cadmium    | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Chromium   | 44                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Cobalt     | 8.6               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Copper     | 41                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Lead       | 420               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Molybdenum | 1.1               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Nickel     | 63                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Selenium   | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Silver     | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Thallium   | 2.7               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Vanadium   | 28                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |
| Zinc       | 150               | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:34        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:36        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B1-1'**

**Lab ID: 1600328-23**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 3.9               | 1.0            | 1        | B6A0708 | 01/27/2016 | 01/27/16 14:59        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B1-2'**

**Lab ID: 1600328-24**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.3               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:19        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B2-0'**

**Lab ID: 1600328-25**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 28                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:26        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B2-1'**

**Lab ID: 1600328-26**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.5               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:28        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B2-2'**

**Lab ID: 1600328-27**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:30        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

**Client Sample ID B3-0'**  
**Lab ID: 1600328-28**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>110</b>        | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:31        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>16</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:56        |       |
| <b>ORO</b>                    | <b>43</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:56        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | <i>01/25/16 21:56</i> | S4    |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B3-1'**

**Lab ID: 1600328-29**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:33        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B3-2'**  
**Lab ID: 1600328-30**

### Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Arsenic</b>  | <b>4.1</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Barium</b>   | <b>170</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Chromium</b> | <b>26</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Cobalt</b>   | <b>8.1</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Copper</b>   | <b>17</b>         | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Lead</b>     | <b>16</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Nickel</b>   | <b>30</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Thallium</b> | <b>3.0</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Vanadium</b> | <b>35</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |
| <b>Zinc</b>     | <b>39</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:36        |       |

### Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:38        |       |

### Diesel Range Organics by EPA 8015B

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>4.0</b>        | 1.0             | 1        | B6A0645 | 01/25/2016 | 01/25/16 20:38        |       |
| <b>ORO</b>                    | <b>7.8</b>        | 1.0             | 1        | B6A0645 | 01/25/2016 | 01/25/16 20:38        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>78.2 %</i>     | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | <i>01/25/16 20:38</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B6-0'**

**Lab ID: 1600328-31**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 200               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:35        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B6-1'**

**Lab ID: 1600328-32**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 5.6               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:36        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B6-2'**

**Lab ID: 1600328-33**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.8               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:43        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B7-0'**

**Lab ID: 1600328-34**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 140               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:44        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B7-1'**

**Lab ID: 1600328-35**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 18                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:49        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B7-2'**

**Lab ID: 1600328-36**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 25                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:51        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B8-0'**

**Lab ID: 1600328-37**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 150               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:53        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

**Client Sample ID B8-1'**  
**Lab ID: 1600328-38**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Arsenic</b>  | <b>4.2</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Barium</b>   | <b>130</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Chromium</b> | <b>130</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Cobalt</b>   | <b>17</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Copper</b>   | <b>27</b>         | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Lead</b>     | <b>6.8</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Nickel</b>   | <b>170</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Vanadium</b> | <b>49</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |
| <b>Zinc</b>     | <b>41</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:37        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:44        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B8-2'**

**Lab ID: 1600328-39**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.5               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:55        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B9-0'**  
**Lab ID: 1600328-40**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 78                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:56        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>28</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:36        |       |
| <b>ORO</b>                    | <b>61</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 21:36        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | <i>01/25/16 21:36</i> | S4    |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B9-1'**

**Lab ID: 1600328-41**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 47                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 15:58        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B9-2'**

**Lab ID: 1600328-42**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>12</b>         | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 16:04        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>6.6</b>        | 1.0             | 1        | B6A0645 | 01/25/2016 | 01/25/16 21:17        |       |
| <b>ORO</b>                    | <b>14</b>         | 1.0             | 1        | B6A0645 | 01/25/2016 | 01/25/16 21:17        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>79.1 %</i>     | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | <i>01/25/16 21:17</i> |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B11-0'**

**Lab ID: 1600328-43**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 160               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 16:05        |       |



# Certificate of Analysis

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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B11-1'**

**Lab ID: 1600328-44**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 32                | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 16:07        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B11-2'**

**Lab ID: 1600328-45**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.8               | 1.0            | 1        | B6A0709 | 01/27/2016 | 01/27/16 16:09        |       |



### Certificate of Analysis

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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B12-0'**

**Lab ID: 1600328-46**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>61</b>         | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:26        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>72</b>         | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 22:06        |       |
| <b>ORO</b>                    | <b>150</b>        | 10              | 10       | B6A0645 | 01/25/2016 | 01/25/16 22:06        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0645 | 01/25/2016 | 01/25/16 22:06        | S4    |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B12-1'**

**Lab ID: 1600328-47**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.5               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:28        |       |



### Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B12-2'**

**Lab ID: 1600328-48**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.0               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:30        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| DRO                           | ND                | 1.0            | 1        | B6A0645 | 01/25/2016 | 01/25/16 20:10        |       |
| ORO                           | ND                | 1.0            | 1        | B6A0645 | 01/25/2016 | 01/25/16 20:10        |       |
| <i>Surrogate: p-Terphenyl</i> | 76.2 %            | 26 - 123       |          | B6A0645 | 01/25/2016 | 01/25/16 20:10        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B13-0'**

**Lab ID: 1600328-49**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 150               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:32        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B13-1'**

**Lab ID: 1600328-50**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 5.6               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:33        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B13-2'**

**Lab ID: 1600328-51**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 2.6               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:35        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B14-0'**

**Lab ID: 1600328-52**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>610</b>        | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:38        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes     |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-----------|
| <b>DRO</b>                    | <b>160</b>        | 20              | 10       | B6A0674 | 01/26/2016 | 01/26/16 13:42        |           |
| <b>ORO</b>                    | <b>610</b>        | 20              | 10       | B6A0674 | 01/26/2016 | 01/26/16 13:42        |           |
| <i>Surrogate: p-Terphenyl</i> | <i>0%</i>         | <i>26 - 123</i> |          | B6A0674 | 01/26/2016 | <i>01/26/16 13:42</i> | <i>S4</i> |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B14-1'**

**Lab ID: 1600328-53**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:39        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B14-2'**

**Lab ID: 1600328-54**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| <b>Arsenic</b>  | <b>2.5</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 15:10        |       |
| <b>Barium</b>   | <b>73</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| <b>Chromium</b> | <b>240</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| <b>Cobalt</b>   | <b>25</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| <b>Copper</b>   | <b>34</b>         | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| <b>Lead</b>     | <b>22</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| <b>Nickel</b>   | <b>340</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| <b>Selenium</b> | <b>1.0</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| <b>Vanadium</b> | <b>58</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |
| <b>Zinc</b>     | <b>58</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:43        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:46        |       |

## Diesel Range Organics by EPA 8015B

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>5.0</b>        | 1.0             | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:31        |       |
| <b>ORO</b>                    | <b>11</b>         | 1.0             | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:31        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>72.0 %</i>     | <i>26 - 123</i> |          | B6A0674 | 01/26/2016 | <i>01/26/16 12:31</i> |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

**Client Sample ID B15-0'**  
**Lab ID: 1600328-55**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Arsenic</b>  | <b>2.4</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Barium</b>   | <b>180</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Chromium</b> | <b>11</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Cobalt</b>   | <b>4.8</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Copper</b>   | <b>9.7</b>        | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Lead</b>     | <b>77</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Nickel</b>   | <b>14</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Vanadium</b> | <b>30</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |
| <b>Zinc</b>     | <b>140</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:45        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:48        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B15-1'**

**Lab ID: 1600328-56**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>10</b>         | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:41        |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B15-2'**

**Lab ID: 1600328-57**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 4.5               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:43        |       |



### Certificate of Analysis

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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B16-0'**

**Lab ID: 1600328-58**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 160               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:53        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>27</b>         | 2.0            | 2        | B6A0674 | 01/26/2016 | 01/26/16 13:12        |       |
| <b>ORO</b>                    | <b>91</b>         | 2.0            | 2        | B6A0674 | 01/26/2016 | 01/26/16 13:12        |       |
| <i>Surrogate: p-Terphenyl</i> | 65.9 %            | 26 - 123       |          | B6A0674 | 01/26/2016 | 01/26/16 13:12        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B16-1'**

**Lab ID: 1600328-59**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 4.9               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/28/16 09:17        |       |



# Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B16-2'**

**Lab ID: 1600328-60**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 4.7               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:57        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>1.5</b>        | 1.0            | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:01        |       |
| <b>ORO</b>                    | <b>1.4</b>        | 1.0            | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:01        |       |
| <i>Surrogate: p-Terphenyl</i> | 89.4 %            | 26 - 123       |          | B6A0674 | 01/26/2016 | 01/26/16 12:01        |       |



### Certificate of Analysis

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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B26-0'**

**Lab ID: 1600328-61**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 19                | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 16:59        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>240</b>        | 10             | 10       | B6A0674 | 01/26/2016 | 01/26/16 13:52        |       |
| <b>ORO</b>                    | <b>690</b>        | 10             | 10       | B6A0674 | 01/26/2016 | 01/26/16 13:52        |       |
| <i>Surrogate: p-Terphenyl</i> | 0%                | 26 - 123       |          | B6A0674 | 01/26/2016 | 01/26/16 13:52        | S4    |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B26-1'**

**Lab ID: 1600328-62**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 3.3               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 17:01        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B26-2'**  
**Lab ID: 1600328-63**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch          | Prepared          | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|----------------|-------------------|-----------------------|-------|
| <b>Lead</b> | <b>5.6</b>        | <b>1.0</b>     | <b>1</b> | <b>B6A0710</b> | <b>01/27/2016</b> | <b>01/27/16 17:03</b> |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch          | Prepared          | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|----------------|-------------------|-----------------------|-------|
| <b>DRO</b>                    | <b>1.4</b>        | <b>1.0</b>      | <b>1</b> | <b>B6A0674</b> | <b>01/26/2016</b> | <b>01/26/16 12:11</b> |       |
| <b>ORO</b>                    | <b>1.4</b>        | <b>1.0</b>      | <b>1</b> | <b>B6A0674</b> | <b>01/26/2016</b> | <b>01/26/16 12:11</b> |       |
| <i>Surrogate: p-Terphenyl</i> | <i>74.6 %</i>     | <i>26 - 123</i> |          | <i>B6A0674</i> | <i>01/26/2016</i> | <i>01/26/16 12:11</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B27-0'**

**Lab ID: 1600328-64**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 1400              | 2.0            | 2        | B6A0710 | 01/27/2016 | 01/28/16 09:20        | D6    |



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Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B27-1'**

**Lab ID: 1600328-65**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 11                | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 17:06        |       |



# Certificate of Analysis

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 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

**Client Sample ID B27-2'**  
**Lab ID: 1600328-66**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Arsenic</b>  | <b>5.5</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Barium</b>   | <b>120</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Chromium</b> | <b>63</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Cobalt</b>   | <b>13</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Copper</b>   | <b>33</b>         | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Lead</b>     | <b>24</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Nickel</b>   | <b>86</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| Selenium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 15:12        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Vanadium</b> | <b>45</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |
| <b>Zinc</b>     | <b>62</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:47        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | <b>0.14</b>       | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:50        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B28-0'**

**Lab ID: 1600328-67**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 720               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 17:12        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B28-1'**

**Lab ID: 1600328-68**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 190               | 1.0            | 1        | B6A0710 | 01/27/2016 | 01/27/16 17:14        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B28-2'**

**Lab ID: 1600328-69**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 87                | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:28        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B29-0'**  
**Lab ID: 1600328-70**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte     | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>Lead</b> | <b>110</b>        | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:29        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>3.2</b>        | 1.0             | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:51        |       |
| <b>ORO</b>                    | <b>7.4</b>        | 1.0             | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:51        |       |
| <i>Surrogate: p-Terphenyl</i> | <i>72.0 %</i>     | <i>26 - 123</i> |          | B6A0674 | 01/26/2016 | <i>01/26/16 12:51</i> |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B29-1'**

**Lab ID: 1600328-71**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: SB**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Arsenic</b>  | <b>4.3</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Barium</b>   | <b>120</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| Beryllium       | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| Cadmium         | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Chromium</b> | <b>130</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Cobalt</b>   | <b>20</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Copper</b>   | <b>38</b>         | 2.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Lead</b>     | <b>13</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Nickel</b>   | <b>200</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Selenium</b> | <b>1.1</b>        | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| Silver          | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| Thallium        | ND                | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Vanadium</b> | <b>48</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |
| <b>Zinc</b>     | <b>40</b>         | 1.0            | 1        | B6A0700 | 01/28/2016 | 01/28/16 14:49        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6A0705 | 01/27/2016 | 01/27/16 15:53        |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B29-2'**

**Lab ID: 1600328-72**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.1               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:35        |       |

**Diesel Range Organics by EPA 8015B**

**Analyst: CR**

| Analyte                       | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-------------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| <b>DRO</b>                    | <b>6.0</b>        | 1.0            | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:21        |       |
| <b>ORO</b>                    | <b>4.6</b>        | 1.0            | 1        | B6A0674 | 01/26/2016 | 01/26/16 12:21        |       |
| <i>Surrogate: p-Terphenyl</i> | 78.8 %            | 26 - 123       |          | B6A0674 | 01/26/2016 | 01/26/16 12:21        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B30-0'**

**Lab ID: 1600328-73**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 240               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:37        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B30-1'**

**Lab ID: 1600328-74**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.3               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:39        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B30-2'**

**Lab ID: 1600328-75**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 7.7               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:40        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B31-0'**

**Lab ID: 1600328-76**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 390               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:42        |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B31-1'**

**Lab ID: 1600328-77**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 8.4               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:44        |       |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

**Client Sample ID B31-2'**

**Lab ID: 1600328-78**

**Lead by ICP-AES EPA 6010B**

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 9.2               | 1.0            | 1        | B6A0711 | 01/27/2016 | 01/27/16 17:45        |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

### QUALITY CONTROL SECTION

#### Title 22 Metals by ICP-AES EPA 6010B - Quality Control

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0700 - EPA 3050B\_S**

**Blank (B6A0700-BLK1)**

Prepared: 1/28/2016 Analyzed: 1/28/2016

|            |    |     |  |  |  |    |  |  |
|------------|----|-----|--|--|--|----|--|--|
| Antimony   | ND | 2.0 |  |  |  | NR |  |  |
| Arsenic    | ND | 1.0 |  |  |  | NR |  |  |
| Barium     | ND | 1.0 |  |  |  | NR |  |  |
| Beryllium  | ND | 1.0 |  |  |  | NR |  |  |
| Cadmium    | ND | 1.0 |  |  |  | NR |  |  |
| Chromium   | ND | 1.0 |  |  |  | NR |  |  |
| Cobalt     | ND | 1.0 |  |  |  | NR |  |  |
| Copper     | ND | 2.0 |  |  |  | NR |  |  |
| Lead       | ND | 1.0 |  |  |  | NR |  |  |
| Molybdenum | ND | 1.0 |  |  |  | NR |  |  |
| Nickel     | ND | 1.0 |  |  |  | NR |  |  |
| Selenium   | ND | 1.0 |  |  |  | NR |  |  |
| Silver     | ND | 1.0 |  |  |  | NR |  |  |
| Thallium   | ND | 1.0 |  |  |  | NR |  |  |
| Vanadium   | ND | 1.0 |  |  |  | NR |  |  |
| Zinc       | ND | 1.0 |  |  |  | NR |  |  |

**LCS (B6A0700-BS1)**

Prepared: 1/28/2016 Analyzed: 1/28/2016

|            |         |     |         |  |      |          |  |  |
|------------|---------|-----|---------|--|------|----------|--|--|
| Antimony   | 52.0394 | 2.0 | 50.0000 |  | 104  | 80 - 120 |  |  |
| Arsenic    | 50.3382 | 1.0 | 50.0000 |  | 101  | 80 - 120 |  |  |
| Barium     | 54.6240 | 1.0 | 50.0000 |  | 109  | 80 - 120 |  |  |
| Beryllium  | 49.8568 | 1.0 | 50.0000 |  | 99.7 | 80 - 120 |  |  |
| Cadmium    | 51.2043 | 1.0 | 50.0000 |  | 102  | 80 - 120 |  |  |
| Chromium   | 54.5842 | 1.0 | 50.0000 |  | 109  | 80 - 120 |  |  |
| Cobalt     | 53.1658 | 1.0 | 50.0000 |  | 106  | 80 - 120 |  |  |
| Copper     | 50.6823 | 2.0 | 50.0000 |  | 101  | 80 - 120 |  |  |
| Lead       | 52.0709 | 1.0 | 50.0000 |  | 104  | 80 - 120 |  |  |
| Molybdenum | 50.9246 | 1.0 | 50.0000 |  | 102  | 80 - 120 |  |  |
| Nickel     | 51.3110 | 1.0 | 50.0000 |  | 103  | 80 - 120 |  |  |
| Selenium   | 46.2295 | 1.0 | 50.0000 |  | 92.5 | 80 - 120 |  |  |
| Silver     | 50.4886 | 1.0 | 50.0000 |  | 101  | 80 - 120 |  |  |
| Thallium   | 54.3756 | 1.0 | 50.0000 |  | 109  | 80 - 120 |  |  |
| Vanadium   | 54.8096 | 1.0 | 50.0000 |  | 110  | 80 - 120 |  |  |
| Zinc       | 49.4203 | 1.0 | 50.0000 |  | 98.8 | 80 - 120 |  |  |

**Duplicate (B6A0700-DUP1)**

Source: 1600328-05

Prepared: 1/28/2016 Analyzed: 1/28/2016

|           |          |     |  |          |    |  |      |    |
|-----------|----------|-----|--|----------|----|--|------|----|
| Antimony  | 0.477374 | 2.0 |  | 0.431806 | NR |  | 10.0 | 20 |
| Arsenic   | 3.79866  | 1.0 |  | 4.03576  | NR |  | 6.05 | 20 |
| Barium    | 127.950  | 1.0 |  | 140.018  | NR |  | 9.01 | 20 |
| Beryllium | 0.363250 | 1.0 |  | 0.406943 | NR |  | 11.3 | 20 |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 01/29/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0700 - EPA 3050B\_S (continued)**

**Duplicate (B6A0700-DUP1) - Continued**

**Source: 1600328-05**

Prepared: 1/28/2016 Analyzed: 1/28/2016

|            |          |     |  |          |    |  |      |    |   |
|------------|----------|-----|--|----------|----|--|------|----|---|
| Cadmium    | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Chromium   | 31.7662  | 1.0 |  | 27.8511  | NR |  | 13.1 | 20 |   |
| Cobalt     | 7.07919  | 1.0 |  | 12.3084  | NR |  | 53.9 | 20 | R |
| Copper     | 16.8758  | 2.0 |  | 15.7432  | NR |  | 6.94 | 20 |   |
| Lead       | 56.7332  | 1.0 |  | 33.5900  | NR |  | 51.2 | 20 | R |
| Molybdenum | 0.201055 | 1.0 |  | 0.296873 | NR |  | 38.5 | 20 | R |
| Nickel     | 35.7353  | 1.0 |  | 36.8797  | NR |  | 3.15 | 20 |   |
| Selenium   | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Silver     | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Thallium   | 2.51080  | 1.0 |  | 4.37419  | NR |  | 54.1 | 20 |   |
| Vanadium   | 33.3068  | 1.0 |  | 31.1010  | NR |  | 6.85 | 20 |   |
| Zinc       | 56.8986  | 1.0 |  | 45.4013  | NR |  | 22.5 | 20 | R |

**Matrix Spike (B6A0700-MS1)**

**Source: 1600328-05**

Prepared: 1/28/2016 Analyzed: 1/28/2016

|            |         |     |         |          |      |          |  |  |  |
|------------|---------|-----|---------|----------|------|----------|--|--|--|
| Antimony   | 98.1929 | 2.0 | 125.000 | 0.431806 | 78.2 | 28 - 106 |  |  |  |
| Arsenic    | 106.249 | 1.0 | 125.000 | 4.03576  | 81.8 | 57 - 109 |  |  |  |
| Barium     | 209.828 | 1.0 | 125.000 | 140.018  | 55.8 | 18 - 159 |  |  |  |
| Beryllium  | 105.472 | 1.0 | 125.000 | 0.406943 | 84.1 | 61 - 107 |  |  |  |
| Cadmium    | 98.4366 | 1.0 | 125.000 | ND       | 78.7 | 53 - 104 |  |  |  |
| Chromium   | 130.676 | 1.0 | 125.000 | 27.8511  | 82.3 | 53 - 121 |  |  |  |
| Cobalt     | 106.949 | 1.0 | 125.000 | 12.3084  | 75.7 | 55 - 109 |  |  |  |
| Copper     | 123.336 | 2.0 | 125.000 | 15.7432  | 86.1 | 58 - 124 |  |  |  |
| Lead       | 125.186 | 1.0 | 125.000 | 33.5900  | 73.3 | 35 - 129 |  |  |  |
| Molybdenum | 101.222 | 1.0 | 125.000 | 0.296873 | 80.7 | 57 - 108 |  |  |  |
| Nickel     | 126.152 | 1.0 | 125.000 | 36.8797  | 71.4 | 44 - 122 |  |  |  |
| Selenium   | 97.4664 | 1.0 | 125.000 | ND       | 78.0 | 54 - 104 |  |  |  |
| Silver     | 108.483 | 1.0 | 125.000 | ND       | 86.8 | 60 - 112 |  |  |  |
| Thallium   | 105.054 | 1.0 | 125.000 | 4.37419  | 80.5 | 50 - 103 |  |  |  |
| Vanadium   | 134.446 | 1.0 | 125.000 | 31.1010  | 82.7 | 54 - 123 |  |  |  |
| Zinc       | 134.953 | 1.0 | 125.000 | 45.4013  | 71.6 | 29 - 132 |  |  |  |

**Matrix Spike Dup (B6A0700-MSD1)**

**Source: 1600328-05**

Prepared: 1/28/2016 Analyzed: 1/28/2016

|            |         |     |         |          |      |          |      |    |  |
|------------|---------|-----|---------|----------|------|----------|------|----|--|
| Antimony   | 95.9526 | 2.0 | 125.000 | 0.431806 | 76.4 | 28 - 106 | 2.31 | 20 |  |
| Arsenic    | 103.659 | 1.0 | 125.000 | 4.03576  | 79.7 | 57 - 109 | 2.47 | 20 |  |
| Barium     | 225.114 | 1.0 | 125.000 | 140.018  | 68.1 | 18 - 159 | 7.03 | 20 |  |
| Beryllium  | 102.787 | 1.0 | 125.000 | 0.406943 | 81.9 | 61 - 107 | 2.58 | 20 |  |
| Cadmium    | 95.7122 | 1.0 | 125.000 | ND       | 76.6 | 53 - 104 | 2.81 | 20 |  |
| Chromium   | 136.638 | 1.0 | 125.000 | 27.8511  | 87.0 | 53 - 121 | 4.46 | 20 |  |
| Cobalt     | 104.863 | 1.0 | 125.000 | 12.3084  | 74.0 | 55 - 109 | 1.97 | 20 |  |
| Copper     | 125.434 | 2.0 | 125.000 | 15.7432  | 87.8 | 58 - 124 | 1.69 | 20 |  |
| Lead       | 142.203 | 1.0 | 125.000 | 33.5900  | 86.9 | 35 - 129 | 12.7 | 20 |  |
| Molybdenum | 97.7970 | 1.0 | 125.000 | 0.296873 | 78.0 | 57 - 108 | 3.44 | 20 |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6A0700 - EPA 3050B\_S (continued)**

**Matrix Spike Dup (B6A0700-MSD1) - Continued**

**Source: 1600328-05**

Prepared: 1/28/2016 Analyzed: 1/28/2016

|          |         |     |         |         |      |          |       |    |  |
|----------|---------|-----|---------|---------|------|----------|-------|----|--|
| Nickel   | 132.021 | 1.0 | 125.000 | 36.8797 | 76.1 | 44 - 122 | 4.55  | 20 |  |
| Selenium | 93.7210 | 1.0 | 125.000 | ND      | 75.0 | 54 - 104 | 3.92  | 20 |  |
| Silver   | 107.728 | 1.0 | 125.000 | ND      | 86.2 | 60 - 112 | 0.698 | 20 |  |
| Thallium | 102.561 | 1.0 | 125.000 | 4.37419 | 78.5 | 50 - 103 | 2.40  | 20 |  |
| Vanadium | 138.046 | 1.0 | 125.000 | 31.1010 | 85.6 | 54 - 123 | 2.64  | 20 |  |
| Zinc     | 138.954 | 1.0 | 125.000 | 45.4013 | 74.8 | 29 - 132 | 2.92  | 20 |  |



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 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

### Lead by ICP-AES EPA 6010B - Quality Control

| Analyte                                    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0708 - EPA 3050 Modified_S</b> |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0708-BLK1)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>Blank (B6A0708-BLK2)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0708-BS1)</b>                   |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | 50.2568           | 1.0            | 50.0000        |  | 101   | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0708-DUP1)</b>            |                   |                |                | Source: 1600328-23 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 3.72734           | 1.0            |                | 3.89521  | NR    |                 | 4.40 | 20           |       |
| <b>Duplicate (B6A0708-DUP2)</b>            |                   |                |                | Source: 1600328-11 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 15.5396           | 1.0            |                | 11.6773  | NR    |                 | 28.4 | 20           | R     |
| <b>Matrix Spike (B6A0708-MS1)</b>          |                   |                |                | Source: 1600328-23 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 187.770           | 1.0            | 250.000        | 3.89521  | 73.5  | 35 - 129        |      |              |       |
| <b>Matrix Spike (B6A0708-MS2)</b>          |                   |                |                | Source: 1600328-11 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 204.949           | 1.0            | 250.000        | 11.6773  | 77.3  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0708-MSD1)</b>     |                   |                |                | Source: 1600328-23 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 192.224           | 1.0            | 250.000        | 3.89521  | 75.3  | 35 - 129        | 2.34 | 20           |       |



## Certificate of Analysis

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 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

### Lead by ICP-AES EPA 6010B - Quality Control

| Analyte                                    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0709 - EPA 3050 Modified_S</b> |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6A0709-BLK1)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>Blank (B6A0709-BLK2)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |  | NR    |                 |      |              |       |
| <b>LCS (B6A0709-BS1)</b>                   |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |      |              |       |
| Lead                                       | 52.2105           | 1.0            | 50.0000        |  | 104   | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0709-DUP1)</b>            |                   |                |                | Source: 1600328-45 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 9.02446           | 1.0            |                | 9.84905  | NR    |                 | 8.74 | 20           |       |
| <b>Duplicate (B6A0709-DUP2)</b>            |                   |                |                | Source: 1600328-34 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 128.326           | 1.0            |                | 142.996  | NR    |                 | 10.8 | 20           |       |
| <b>Matrix Spike (B6A0709-MS1)</b>          |                   |                |                | Source: 1600328-45 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 199.344           | 1.0            | 250.000        | 9.84905  | 75.8  | 35 - 129        |      |              |       |
| <b>Matrix Spike (B6A0709-MS2)</b>          |                   |                |                | Source: 1600328-34 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 318.353           | 1.0            | 250.000        | 142.996  | 70.1  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0709-MSD1)</b>     |                   |                |                | Source: 1600328-45 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 188.896           | 1.0            | 250.000        | 9.84905  | 71.6  | 35 - 129        | 5.38 | 20           |       |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

### Lead by ICP-AES EPA 6010B - Quality Control

| Analyte                                    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6A0710 - EPA 3050 Modified_S</b> |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6A0710-BLK1)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/28/2016                           |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>Blank (B6A0710-BLK2)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                           |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6A0710-BS1)</b>                   |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                           |       |                 |      |              |       |
| Lead                                       | 51.4550           | 1.0            | 50.0000        |   | 103   | 80 - 120        |      |              |       |
| <b>Duplicate (B6A0710-DUP1)</b>            |                   |                |                | <b>Source: 1600328-68</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 73.3604           | 1.0            |                | 193.606   | NR    |                 | 90.1 | 20           | R     |
| <b>Duplicate (B6A0710-DUP2)</b>            |                   |                |                | <b>Source: 1600328-57</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 3.37077           | 1.0            |                | 4.46646   | NR    |                 | 28.0 | 20           | R     |
| <b>Matrix Spike (B6A0710-MS1)</b>          |                   |                |                | <b>Source: 1600328-68</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 246.617           | 1.0            | 250.000        | 193.606   | 21.2  | 35 - 129        |      |              | M1    |
| <b>Matrix Spike (B6A0710-MS2)</b>          |                   |                |                | <b>Source: 1600328-57</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 160.784           | 1.0            | 250.000        | 4.46646   | 62.5  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6A0710-MSD1)</b>     |                   |                |                | <b>Source: 1600328-68</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |      |              |       |
| Lead                                       | 211.600           | 1.0            | 250.000        | 193.606   | 7.20  | 35 - 129        | 15.3 | 20           | M1    |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

### Lead by ICP-AES EPA 6010B - Quality Control

| Analyte                                    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|----------------|-----------------|------------|--------------|-------|
| <b>Batch B6A0711 - EPA 3050 Modified_S</b> |                   |                |                |   |                |                 |            |              |       |
| <b>Blank (B6A0711-BLK1)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/28/2016                           |                |                 |            |              |       |
| Lead                                       | ND                | 1.0            |                |   | NR             |                 |            |              |       |
| <b>Blank (B6A0711-BLK2)</b>                |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                           |                |                 |            |              |       |
| Lead                                       | ND                | 1.0            |                |   | NR             |                 |            |              |       |
| <b>LCS (B6A0711-BS1)</b>                   |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                           |                |                 |            |              |       |
| Lead                                       | 51.0236           | 1.0            | 50.0000        |   | 102            | 80 - 120        |            |              |       |
| <b>Duplicate (B6A0711-DUP1)</b>            |                   |                |                | <b>Source: 1600334-15</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |                |                 |            |              |       |
| Lead                                       | 4.00179           | 1.0            |                | 3.37964   | NR             |                 | 16.9       | 20           |       |
| <b>Duplicate (B6A0711-DUP2)</b>            |                   |                |                | <b>Source: 1600334-02</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |                |                 |            |              |       |
| Lead                                       | 8.46478           | 1.0            |                | 8.01472   | NR             |                 | 5.46       | 20           |       |
| <b>Matrix Spike (B6A0711-MS1)</b>          |                   |                |                | <b>Source: 1600334-15</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |                |                 |            |              |       |
| Lead                                       | 176.158           | 1.0            | 250.000        | 3.37964   | 69.1           | 35 - 129        |            |              |       |
| <b>Matrix Spike (B6A0711-MS2)</b>          |                   |                |                | <b>Source: 1600334-02</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |                |                 |            |              |       |
| Lead                                       | 164.305           | 1.0            | 250.000        | 8.01472   | 62.5           | 35 - 129        |            |              |       |
| <b>Matrix Spike Dup (B6A0711-MSD1)</b>     |                   |                |                | <b>Source: 1600334-15</b> Prepared: 1/27/2016 Analyzed: 1/27/2016 |                |                 |            |              |       |
| Lead                                       | 185.459           | 1.0            | 250.000        | 3.37964   | 72.8           | 35 - 129        | 5.14       | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

### Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|-------|--------------|-------|
| <b>Batch B6A0705 - EPA 7471_S</b>      |                   |                |                |  |       |                 |       |              |       |
| <b>Blank (B6A0705-BLK1)</b>            |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |       |              |       |
| Mercury                                | ND                | 0.10           |                |  | NR    |                 |       |              |       |
| <b>LCS (B6A0705-BS1)</b>               |                   |                |                | Prepared: 1/27/2016 Analyzed: 1/27/2016                    |       |                 |       |              |       |
| Mercury                                | 0.845466          | 0.10           | 0.833333       |  | 101   | 80 - 120        |       |              |       |
| <b>Duplicate (B6A0705-DUP1)</b>        |                   |                |                | Source: 1600328-05 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |       |              |       |
| Mercury                                | 0.038782          | 0.10           |                | 0.032938   | NR    |                 | 16.3  | 20           |       |
| <b>Matrix Spike (B6A0705-MS1)</b>      |                   |                |                | Source: 1600328-05 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |       |              |       |
| Mercury                                | 0.932381          | 0.10           | 0.833333       | 0.032938   | 108   | 70 - 130        |       |              |       |
| <b>Matrix Spike Dup (B6A0705-MSD1)</b> |                   |                |                | Source: 1600328-05 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |       |              |       |
| Mercury                                | 0.939131          | 0.10           | 0.847458       | 0.032938   | 107   | 70 - 130        | 0.721 | 20           |       |
| <b>Post Spike (B6A0705-PS1)</b>        |                   |                |                | Source: 1600328-05 Prepared: 1/27/2016 Analyzed: 1/27/2016 |       |                 |       |              |       |
| Mercury                                | 0.006522          |                | 5.00000E-3     | 3.953E-4   | 123   | 85 - 115        |       |              | M1    |



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 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

### Diesel Range Organics by EPA 8015B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result          | % Rec<br>% Rec                          | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---------------------------|---|-----------------|------------|--------------|-------|
| <b>Batch B6A0645 - GCSEMI_DRO_LL_S</b> |                   |                |                |                           |   |                 |            |              |       |
| <b>Blank (B6A0645-BLK1)</b>            |                   |                |                |                           | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |            |              |       |
| DRO                                    | ND                | 1.0            |                |                           | NR                                      |                 |            |              |       |
| ORO                                    | ND                | 1.0            |                |                           | NR                                      |                 |            |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.436             |                | 2.80000        |                           | 87.0                                    | 26 - 123        |            |              |       |
| <b>LCS (B6A0645-BS1)</b>               |                   |                |                |                           | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |            |              |       |
| DRO                                    | 29.3657           | 1.0            | 33.3333        |                           | 88.1                                    | 47 - 127        |            |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.257             |                | 2.80000        |                           | 80.6                                    | 26 - 123        |            |              |       |
| <b>Duplicate (B6A0645-DUP1)</b>        |                   |                |                |                           | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |            |              |       |
|  |                   |                |                | <b>Source: 1600328-30</b> |   |                 |            |              |       |
| DRO                                    | 3.86067           | 1.0            |                | 3.96967                   | NR                                      |                 | 2.78       | 20           |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.284             |                | 2.80000        |                           | 81.6                                    | 26 - 123        |            |              |       |
| <b>Matrix Spike (B6A0645-MS1)</b>      |                   |                |                |                           | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |            |              |       |
|  |                   |                |                | <b>Source: 1600328-06</b> |   |                 |            |              |       |
| DRO                                    | 66.1433           | 10             | 33.3333        | 38.0433                   | 84.3                                    | 16 - 123        |            |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 0.000             |                | 2.80000        |                           | NR                                      | 26 - 123        |            |              | S4    |
| <b>Matrix Spike Dup (B6A0645-MSD1)</b> |                   |                |                |                           | Prepared: 1/25/2016 Analyzed: 1/25/2016 |                 |            |              |       |
|  |                   |                |                | <b>Source: 1600328-06</b> |   |                 |            |              |       |
| DRO                                    | 64.0567           | 10             | 33.3333        | 38.0433                   | 78.0                                    | 16 - 123        | 3.21       | 20           |       |
| <i>Surrogate: p-Terphenyl</i>          | 0.000             |                | 2.80000        |                           | NR                                      | 26 - 123        |            |              | S4    |



## Certificate of Analysis

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 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 01/29/2016

### Diesel Range Organics by EPA 8015B - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec   | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|------------------|--|-----------------|------------|--------------|-------|
| <b>Batch B6A0674 - GCSEMI_DRO_LL_S</b> |                   |                |                |                  |  |                 |            |              |       |
| <b>Blank (B6A0674-BLK1)</b>            |                   |                |                |                  | Prepared: 1/26/2016 Analyzed: 1/26/2016                    |                 |            |              |       |
| DRO                                    | ND                | 1.0            |                |                  | NR   |                 |            |              |       |
| ORO                                    | ND                | 1.0            |                |                  | NR   |                 |            |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.354             |                | 2.80000        |                  | 84.1   | 26 - 123        |            |              |       |
| <b>LCS (B6A0674-BS1)</b>               |                   |                |                |                  | Prepared: 1/26/2016 Analyzed: 1/26/2016                    |                 |            |              |       |
| DRO                                    | 28.4083           | 1.0            | 33.3333        |                  | 85.2   | 47 - 127        |            |              |       |
| <i>Surrogate: p-Terphenyl</i>          | 2.165             |                | 2.80000        |                  | 77.3   | 26 - 123        |            |              |       |
| <b>Duplicate (B6A0674-DUP1)</b>        |                   |                |                |                  | Source: 1600328-54 Prepared: 1/26/2016 Analyzed: 1/26/2016 |                 |            |              |       |
| DRO                                    | 7.69367           | 1.0            |                | 5.03433          | NR   |                 | 41.8       | 20           | R2    |
| <i>Surrogate: p-Terphenyl</i>          | 2.014             |                | 2.80000        |                  | 71.9   | 26 - 123        |            |              |       |
| <b>Matrix Spike (B6A0674-MS1)</b>      |                   |                |                |                  | Source: 1600328-58 Prepared: 1/26/2016 Analyzed: 1/26/2016 |                 |            |              |       |
| DRO                                    | 84.8180           | 2.0            | 33.3333        | 26.6427          | 175  | 16 - 123        |            |              | M2    |
| <i>Surrogate: p-Terphenyl</i>          | 2.324             |                | 2.80000        |                  | 83.0   | 26 - 123        |            |              |       |
| <b>Matrix Spike Dup (B6A0674-MSD1)</b> |                   |                |                |                  | Source: 1600328-58 Prepared: 1/26/2016 Analyzed: 1/26/2016 |                 |            |              |       |
| DRO                                    | 87.4680           | 2.0            | 33.3333        | 26.6427          | 182  | 16 - 123        | 3.08       | 20           | M2    |
| <i>Surrogate: p-Terphenyl</i>          | 2.493             |                | 2.80000        |                  | 89.0   | 26 - 123        |            |              |       |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 01/29/2016

### Notes and Definitions

|     |   |
|-----|---|
| S4  | Surrogate was diluted out.  |
| R2  | RPD value outside acceptance criteria due to possible matrix interference.  |
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| M2  | Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.                                     |
| M1  | Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.   |
| D6  | Sample required dilution due to high concentration of target analyte.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

# CHAIN OF CUSTODY RECORD



**Advanced Technology  
Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755  
Tel: (562) 989-4045 • Fax: (562) 989-4040

**FOR LABORATORY USE ONLY**

|         |   |  |
|---------|---|--|
| P.O. #: | Method of Transport<br>Client <input type="checkbox"/><br>ATL <input type="checkbox"/><br>CA OverN <input type="checkbox"/><br>FedEx <input type="checkbox"/><br>Other: <u>o-trac</u> | Sample Condition Upon Receipt<br>1. CHILLED <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 4. SEALED <input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/><br>2. HEADSPACE (VOA) <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED <input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> |
|---------|---|--|

|                     |   |                   |
|---------------------|---|-------------------|
| Client: Geocon      | Address: 6671 Brisa Street                | Tel: 916-852-9118 |
| Attention: Rick Day | City: Livermore State: CA Zip Code: 94550 | Fax: 916-852-9132 |

Project Name: SR92/SR82 Interchange Project #: E8721-02-36 Sampler: Cord Dennig (Signature)

Relinquished by: (Signature and Printed Name) Cord Dennig Date: 1/21/16 Time: 1500 Received by: (Signature and Printed Name) Outvac Date: 1/21/16 Time: 1500

Relinquished by: (Signature and Printed Name) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: (Signature and Printed Name) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

|   |   |  |                                |
|---|---|--|--------------------------------|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr /Submitter:<br><u>R Silva</u> <u>1/21/16</u><br>Print Name Date<br>Signature | Send Report To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Bill To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Special Instructions/Comments: |
|---|---|--|--------------------------------|

**Sample/Records - Archival & Disposal**  
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 ■ Sample: \$2.00 / sample /mo (after 45 days)  
 ■ Records: \$1 /ATL workorder /mo (after 1 year)

| ITEM | LAB USE ONLY: |                      |      |      | Sample Description |               |               |           |      |      |       |              |            |              | SPECIFY APPROPRIATE MATRIX |       | TAT # | Type | PRESERVATION | REMARKS |
|------|---------------|----------------------|------|------|--------------------|---------------|---------------|-----------|------|------|-------|--------------|------------|--------------|----------------------------|-------|-------|------|--------------|---------|
|      | Lab No.       | Sample ID / Location | Date | Time | Total Lead         | CAM 17 Metals | TPH/BTEX/MTBE | TPH/TPHmo | VOCs | SOIL | WATER | GROUND WATER | WASTEWATER | Container(s) |                            |       |       |      |              |         |
|      | 1600324-1     | B22-0'               | 1/20 | 1500 | X                  |               |               |           |      |      |       |              |            | E            | 1                          | stent |       |      |              |         |
|      | -2            | -1'                  |      | 1501 | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -3            | -2'                  |      | 1502 | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -4            | B23-0'               |      | 1505 | X                  |               |               | X         |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -5            | -1'                  |      | 1506 | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -6            | -2'                  |      | 1507 | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -7            | B24-0'               |      | 1515 | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -8            | -1'                  |      | 1516 | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -9            | -2'                  |      | 1517 | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -10           | B63-0'               | 1/21 | 749  | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -11           | -1'                  |      | 750  | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -12           | -2'                  |      | 751  | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -13           | B64-0                |      | 754  | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -14           | -1'                  |      | 755  | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -15           | -2'                  |      | 756  | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -16           | B65-0'               |      | 800  | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -17           | -1'                  |      | 801  | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -18           | -2'                  |      | 802  | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -19           | B66-0'               |      | 808  | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |
|      | -20           | -1'                  |      | 809  | X                  |               |               |           |      |      |       |              |            |              |                            |       |       |      |              |         |

■ TAT starts 8AM the following day if samples received after 3 PM  
 TAT:  A = Overnight ≤ 24 hrs     B = Emergency Next Workday     C = Critical 2 Workdays     D = Urgent 3 Workdays     E = Routine 7 Workdays  
 Preservatives: H=HCl N=HNO<sub>3</sub> S=H<sub>2</sub>SO<sub>4</sub> C=4°C Z=Zn(AC)<sub>2</sub> O=NaOH T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  
 Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

# CHAIN OF CUSTODY RECORD



**Advanced Technology  
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Signal Hill, CA 90755  
Tel: (562) 989-4045 • Fax: (562) 989-4040

## FOR LABORATORY USE ONLY

|               |   |   |
|---------------|---|---|
| P.O. #: _____ | Method of Transport<br>Client <input type="checkbox"/><br>ATL <input type="checkbox"/><br>CA OverN <input type="checkbox"/><br>FedEx <input type="checkbox"/><br>Other: <u>o-TRAC</u> | Sample Condition Upon Receipt<br>1. CHILLED Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/><br>2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> |
|---------------|---|---|

|                                       |   |  |
|---------------------------------------|---|--|
| Client: Geocon<br>Attention: Rick Day | Address: 6671 Brisa Street<br>City: Livermore State: CA Zip Code: 94550 | Tel: 916-852-9118<br>Fax: 916-852-9132 |
|---------------------------------------|---|--|

|   |                        |                      |   |
|---|------------------------|----------------------|---|
| Project Name: SR92/SR82 Interchange   | Project #: E8721-02-36 | Sampler: Cord Dennig | (Signature) <u>[Signature]</u>                                  |
| Relinquished by: (Signature and Printed Name)<br>Cord Dennig <u>[Signature]</u> | Date: 1/21/16          | Time: 1500           | Received by: (Signature and Printed Name)<br><u>[Signature]</u> |
| Relinquished by: (Signature and Printed Name)                                   | Date:                  | Time:                | Received by: (Signature and Printed Name)                       |
| Relinquished by: (Signature and Printed Name)                                   | Date:                  | Time:                | Received by: (Signature and Printed Name)                       |

|   |   |  |                                |
|---|---|--|--------------------------------|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr./Submitter:<br><u>[Signature]</u><br>Print Name: _____ Date: _____<br>Signature: _____ | Send Report To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Bill To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Special Instructions/Comments: |
|---|---|--|--------------------------------|

|   |  |  |  |
|---|--|--|--|
| <b>Sample/Records - Archival &amp; Disposal</b><br>Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.<br><b>Storage Fees (applies when storage is requested):</b><br>■ Sample: \$2.00 / sample /mo (after 45 days)<br>■ Records: \$1 /ATL workorder /mo (after 1 year) | Circle or Add Analysis(es) Requested<br>Total Lead<br>CAM 17 Metals<br>TPHg/BTEX/MTE<br>TPHd/THmo<br>VOCs<br>SOIL<br>WATER<br>GROUND WATER<br>WASTEWATER | SPECIFY APPROPRIATE MATRIX<br>Container(s)<br>TAT # Type | QA/QC<br>RTNE <input type="checkbox"/><br>CT <input checked="" type="checkbox"/><br>SWRCB Logcode <input type="checkbox"/><br>OTHER _____<br>REMARKS |
|---|--|--|--|

| ITEM | LAB USE ONLY: |                        | Sample Description |      |   |  | Total Lead | CAM 17 Metals | TPHg/BTEX/MTE | TPHd/THmo | VOCs | SOIL | WATER | GROUND WATER | WASTEWATER | TAT # | Type | PRESERVATION | REMARKS |
|------|---------------|------------------------|--------------------|------|---|--|------------|---------------|---------------|-----------|------|------|-------|--------------|------------|-------|------|--------------|---------|
|      | Lab No.       | Sample ID / Location   | Date               | Time |   |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | 1800324-21    | B66-2'                 | 1/21               | 810  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -22           | B1-0'                  |                    | 825  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -23           | -1'                    |                    | 826  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -24           | -2'                    |                    | 827  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -25           | B2-0'                  |                    | 832  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -26           | -1'                    |                    | 833  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -27           | -2'                    |                    | 834  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -28           | B3-0'                  |                    | 840  | X |  |            |               | X             |           |      |      |       |              |            |       |      |              |         |
|      | -29           | <del>B3-0'</del> B3-1' |                    | 841  | X |  |            |               | X             |           |      |      |       |              |            |       |      |              |         |
|      | -30           | B3-2'                  |                    | 842  | X |  |            |               | X             |           |      |      |       |              |            |       |      |              |         |
|      | -31           | B6-0'                  |                    | 853  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -32           | -1'                    |                    | 854  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -33           | -2'                    |                    | 855  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -34           | B7-0'                  |                    | 857  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -35           | -1'                    |                    | 903  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -36           | -2'                    |                    | 904  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -37           | B8-0'                  |                    | 905  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -38           | -1'                    |                    | 906  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -39           | -2'                    |                    | 908  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |
|      | -40           | B9-0'                  |                    | 920  | X |  |            |               |               |           |      |      |       |              |            |       |      |              |         |

|  |   |   |
|--|---|---|
| ■ TAT starts 8AM the following day if samples received after 3 PM                    | TAT: <input type="checkbox"/> A = Overnight ≤ 24 hrs <input type="checkbox"/> B = Emergency Next Workday <input type="checkbox"/> C = Critical 2 Workdays <input type="checkbox"/> D = Urgent 3 Workdays <input checked="" type="checkbox"/> E = Routine 7 Workdays | Preservatives:<br>H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C<br>Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |
| Container Types: T=Tube V=VOA L=Liter P=Pin J=Jar B=Tedlar G=Glass P=Plastic M=Metal |   |   |

# CHAIN OF CUSTODY RECORD



**Advanced Technology  
Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755  
Tel: (562) 989-4045 • Fax: (562) 989-4040

## FOR LABORATORY USE ONLY

|               |   |   |
|---------------|---|---|
| P.O. #: _____ | Method of Transport<br>Client <input type="checkbox"/><br>ATL <input type="checkbox"/><br>CA OverN <input type="checkbox"/><br>FedEx <input type="checkbox"/><br>Other: <u>OUTRAC</u> | Sample Condition Upon Receipt<br>1. CHILLED Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/><br>2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> |
|---------------|---|---|

|  |   |  |
|--|---|--|
| Client: Geocoin<br>Attention: Rick Day | Address: 6671 Brisa Street<br>City: Livermore State: CA Zip Code: 94550 | Tel: 916-852-9118<br>Fax: 916-852-9182 |
|--|---|--|

Project Name: SR92/SR82 Interchange Project #: E8721-02-36 Sampler: Cord Dennig

|  |                      |                   |   |                      |                   |
|--|----------------------|-------------------|---|----------------------|-------------------|
| Relinquished by: (Signature and Printed Name)<br><u>Cord Dennig</u> <u>[Signature]</u> | Date: <u>1/21/16</u> | Time: <u>1900</u> | Received by: (Signature and Printed Name)<br><u>Contract</u> <u>[Signature]</u> | Date: <u>1/21/16</u> | Time: <u>1500</u> |
|--|----------------------|-------------------|---|----------------------|-------------------|

|  |   |  |  |
|--|---|--|--|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr./Submitter: <u>[Signature]</u><br>Print Name: _____ Date: _____<br>Signature: _____ | Send Report To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Bill To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Special Instructions/Comments:<br><br> |
|--|---|--|--|

**Sample/Records - Archival & Disposal**  
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 ■ Sample: \$2.00 / sample /mo (after 45 days)  
 ■ Records: \$1 /ATL workorder /mo (after 1 year)

|                                      |              |               |              |           |      |      |       |              |            |     |   |      |              |                            |           |
|--------------------------------------|--------------|---------------|--------------|-----------|------|------|-------|--------------|------------|-----|---|------|--------------|----------------------------|-----------|
| Circle or Add Analysis(es) Requested | Total Lead   | CAM 17 Metals | TPH/BTEX/MTE | TPH/TPHmo | VOCs | SOIL | WATER | GROUND WATER | WASTEWATER | TAT | # | Type | Container(s) | SPECIFY APPROPRIATE MATRIX | Q A / Q C |
|                                      | PRESERVATION |               |              |           |      |      |       |              |            |     |   |      |              |                            |           |

| ITEM | LAB USE ONLY: |                      | Sample Description |      |   |  | Total Lead | CAM 17 Metals | TPH/BTEX/MTE | TPH/TPHmo | VOCs | SOIL | WATER | GROUND WATER | WASTEWATER | TAT | # | Type | Container(s) | REMARKS |  |
|------|---------------|----------------------|--------------------|------|---|--|------------|---------------|--------------|-----------|------|------|-------|--------------|------------|-----|---|------|--------------|---------|--|
|      | Lab No.       | Sample ID / Location | Date               | Time |   |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      | 900324-41     | B9-1'                | 1/21               | 921  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | -2'                  |                    | 922  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | B11-0'               |                    | 930  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | -1'                  |                    | 931  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | -2'                  |                    | 932  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | B12-0'               |                    | 938  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | -1'                  |                    | 939  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | -2'                  |                    | 940  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | B13-0'               |                    | 945  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | -1'                  |                    | 946  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | -2'                  |                    | 947  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | B14-0'               |                    | 950  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | -1'                  |                    | 951  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | -2'                  |                    | 992  | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | B15-0'               |                    | 1010 | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | -1'                  |                    | 1011 | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | -2'                  |                    | 1012 | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | B16-0'               |                    | 1018 | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | -1'                  |                    | 1019 | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |
|      |               | -2'                  |                    | 1020 | X |  |            |               |              |           |      |      |       |              |            |     |   |      |              |         |  |

|   |   |   |
|---|---|---|
| ■ TAT starts 8AM the following day if samples received after 3 PM                     | TAT: <input type="checkbox"/> A = Overnight ≤ 24 hrs <input type="checkbox"/> B = Emergency Next Workday <input type="checkbox"/> C = Critical 2 Workdays <input type="checkbox"/> D = Urgent 3 Workdays <input checked="" type="checkbox"/> E = Routine 7 Workdays | Preservatives:<br>H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C<br>Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |
| Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal |   |   |

# CHAIN OF CUSTODY RECORD



**Advanced Technology  
Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755  
Tel: (562) 989-4045 • Fax: (562) 989-4040

## FOR LABORATORY USE ONLY

|               |  |   |
|---------------|--|---|
| P.O. #: _____ | Method of Transport<br>Client <input type="checkbox"/><br>ATL <input type="checkbox"/><br>CA OverN <input type="checkbox"/><br>FedEx <input type="checkbox"/><br>Other: <u>ATL</u> | Sample Condition Upon Receipt<br>1. CHILLED Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/><br>2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/><br>3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> |
|---------------|--|---|

|  |   |  |
|--|---|--|
| Client: Geocoin<br>Attention: Rick Day | Address: 6671 Brisa Street<br>City: Livermore State: CA Zip Code: 94550 | Tel: 916-852-9118<br>Fax: 916-852-9132 |
|--|---|--|

Project Name: SR92/SR82 Interchange Project #: E8721-02-36 Sampler: Cord Dennig (Signature) \_\_\_\_\_

|   |  |   |  |
|---|--|---|--|
| Relinquished by: (Signature and Printed Name)<br><u>Cord Dennig</u> | Date: <u>1/21/16</u> Time: <u>1500</u> | Received by: (Signature and Printed Name)<br><u>Barbara</u> | Date: <u>1/21/16</u> Time: <u>1900</u> |
|---|--|---|--|

|   |   |  |                                |
|---|---|--|--------------------------------|
| I hereby authorize ATL to perform the work indicated below:<br>Project Mgr /Submitter: <u>R. SIVUC</u> <u>1/21/16</u><br>Print Name _____ Date _____<br>Signature _____ | Send Report To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Bill To:<br>Attn: _____<br>Co: _____<br>Addr: _____<br>City: _____ State: _____ Zip: _____ | Special Instructions/Comments: |
|---|---|--|--------------------------------|

**Sample/Records - Archival & Disposal**  
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 ■ Sample: \$2.00 / sample /mo (after 45 days)  
 ■ Records: \$1 /ATL workorder /mo (after 1 year)

| ITEM | LAB USE ONLY: |                      | Sample Description |      | SPECIFY APPROPRIATE MATRIX |               |               |              |      |      |       |              |            |       | PRESERVATION |                               | QA/QC                                  |                                  |             |         |
|------|---------------|----------------------|--------------------|------|----------------------------|---------------|---------------|--------------|------|------|-------|--------------|------------|-------|--------------|-------------------------------|--|----------------------------------|-------------|---------|
|      | Lab No.       | Sample ID / Location | Date               | Time | Total Lead                 | CAM 17 Metals | TPH/BTEX/MTBE | TPH/BP/Pheno | VOCs | SOIL | WATER | GROUND WATER | WASTEWATER | TAT # | Type         | RTNE <input type="checkbox"/> | CT <input checked="" type="checkbox"/> | Logcode <input type="checkbox"/> | OTHER _____ | REMARKS |
|      | 160034-C1     | B26-0'               | 1/21               | 1035 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -C2           | -1'                  |                    | 1036 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -C3           | -2'                  |                    | 1037 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -C4           | B27-0'               |                    | 1042 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -C5           | -1'                  |                    | 1043 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -C6           | -2'                  |                    | 1044 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -C7           | B28-0'               |                    | 1105 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -C8           | -1'                  |                    | 1106 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -C9           | -2'                  |                    | 1107 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -70           | B29-0'               |                    | 1112 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -71           | -1'                  |                    | 1113 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -72           | -2'                  |                    | 1114 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -73           | B30-0'               |                    | 1138 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -74           | -1'                  |                    | 1139 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -75           | -2'                  |                    | 1140 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -76           | B31-0'               |                    | 1150 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -77           | -1'                  |                    | 1151 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |
|      | -78           | -2'                  |                    | 1152 | X                          |               | X             |              |      | X    |       |              |            |       |              |                               |  |                                  |             |         |

TAT starts 8AM the following day if samples received after 3 PM  
 TAT:  A = Overnight ≤24 hrs     B = Emergency Next Workday     C = Critical 2 Workdays     D = Urgent 3 Workdays     E = Routine 7 Workdays  
 Preservatives: H=HCl N=HNO<sub>3</sub> S=H<sub>2</sub>SO<sub>4</sub> C=4°C  
 Z=Zn(AC)<sub>2</sub> O=NaOH T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  
 Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal



February 05, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600328  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on January 22, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

A handwritten signature in black ink, appearing to read 'E. Rodriguez', is written over a light gray rectangular background.

Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

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*www.atlglobal.com*



## Certificate of Analysis

Geocon Consultants, Inc.

Project Number : SR92/SR82 Interchange, E8721-02-36

6671 Brisa Street

Report To : Rick Day

Livermore , CA 94550

Reported : 02/05/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B22-0'    | 1600328-01    | Soil   | 1/20/16 15:00 | 1/22/16 9:20  |
| B22-1'    | 1600328-02    | Soil   | 1/20/16 15:01 | 1/22/16 9:20  |
| B22-2'    | 1600328-03    | Soil   | 1/20/16 15:02 | 1/22/16 9:20  |
| B23-0'    | 1600328-04    | Soil   | 1/20/16 15:05 | 1/22/16 9:20  |
| B24-0'    | 1600328-07    | Soil   | 1/20/16 15:15 | 1/22/16 9:20  |
| B63-0'    | 1600328-10    | Soil   | 1/21/16 7:49  | 1/22/16 9:20  |
| B64-0'    | 1600328-13    | Soil   | 1/21/16 7:54  | 1/22/16 9:20  |
| B65-0'    | 1600328-16    | Soil   | 1/21/16 8:00  | 1/22/16 9:20  |
| B66-0'    | 1600328-19    | Soil   | 1/21/16 8:08  | 1/22/16 9:20  |
| B1-0'     | 1600328-22    | Soil   | 1/21/16 8:25  | 1/22/16 9:20  |
| B3-0'     | 1600328-28    | Soil   | 1/21/16 8:40  | 1/22/16 9:20  |
| B6-0'     | 1600328-31    | Soil   | 1/21/16 8:53  | 1/22/16 9:20  |
| B7-0'     | 1600328-34    | Soil   | 1/21/16 8:57  | 1/22/16 9:20  |
| B8-0'     | 1600328-37    | Soil   | 1/21/16 9:05  | 1/22/16 9:20  |
| B8-1'     | 1600328-38    | Soil   | 1/21/16 9:06  | 1/22/16 9:20  |
| B9-0'     | 1600328-40    | Soil   | 1/21/16 9:20  | 1/22/16 9:20  |
| B11-0'    | 1600328-43    | Soil   | 1/21/16 9:30  | 1/22/16 9:20  |
| B12-0'    | 1600328-46    | Soil   | 1/21/16 9:38  | 1/22/16 9:20  |
| B13-0'    | 1600328-49    | Soil   | 1/21/16 9:45  | 1/22/16 9:20  |
| B14-0'    | 1600328-52    | Soil   | 1/21/16 9:50  | 1/22/16 9:20  |
| B14-2'    | 1600328-54    | Soil   | 1/21/16 9:52  | 1/22/16 9:20  |
| B15-0'    | 1600328-55    | Soil   | 1/21/16 10:10 | 1/22/16 9:20  |
| B16-0'    | 1600328-58    | Soil   | 1/21/16 10:18 | 1/22/16 9:20  |
| B27-0'    | 1600328-64    | Soil   | 1/21/16 10:42 | 1/22/16 9:20  |
| B27-2'    | 1600328-66    | Soil   | 1/21/16 10:44 | 1/22/16 9:20  |
| B28-0'    | 1600328-67    | Soil   | 1/21/16 11:05 | 1/22/16 9:20  |
| B28-1'    | 1600328-68    | Soil   | 1/21/16 11:06 | 1/22/16 9:20  |
| B28-2'    | 1600328-69    | Soil   | 1/21/16 11:07 | 1/22/16 9:20  |
| B29-0'    | 1600328-70    | Soil   | 1/21/16 11:12 | 1/22/16 9:20  |
| B29-1'    | 1600328-71    | Soil   | 1/21/16 11:13 | 1/22/16 9:20  |
| B30-0'    | 1600328-73    | Soil   | 1/21/16 11:38 | 1/22/16 9:20  |
| B31-0'    | 1600328-76    | Soil   | 1/21/16 11:50 | 1/22/16 9:20  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 02/05/2016

### TCLP Metals by ICP-AES EPA 6010B

**Analyte: Lead**

**Analyst: SB**

| Laboratory ID | Client Sample ID | Result | Units | PQL   | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-------|----------|---------|------------|--------------------|-------|
| 1600328-64    | B27-0'           | 1.8    | mg/L  | 0.050 | 1        | B6B0085 | 02/02/2016 | 02/02/16 15:42     |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 02/05/2016

## STLC Metals by ICP-AES by EPA 6010B

Analyte: Chromium

Analyst: SB

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time |       | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|-----------|-------|-------|
|               |                  |        |       |     |          |         |            | Analized  |       |       |
| 1600328-38    | B8-1'            | ND     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:26 |       |
| 1600328-66    | B27-2'           | ND     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16  | 15:34 |       |
| 1600328-71    | B29-1'           | ND     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16  | 15:54 |       |

## STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead

Analyst: RR

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time |       | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|-----------|-------|-------|
|               |                  |        |       |     |          |         |            | Analized  |       |       |
| 1600328-01    | B22-0'           | 11     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 15:46 |       |
| 1600328-02    | B22-1'           | 4.5    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 16:54 |       |
| 1600328-03    | B22-2'           | 4.1    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 16:56 |       |
| 1600328-04    | B23-0'           | 15     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 16:58 |       |
| 1600328-07    | B24-0'           | 12     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:01 |       |
| 1600328-10    | B63-0'           | 35     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:03 |       |
| 1600328-13    | B64-0'           | 51     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:05 |       |
| 1600328-16    | B65-0'           | 71     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:08 |       |
| 1600328-19    | B66-0'           | 43     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:10 |       |
| 1600328-22    | B1-0'            | 23     | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 16:00 |       |
| 1600328-28    | B3-0'            | 8.9    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:12 |       |
| 1600328-31    | B6-0'            | 8.1    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:15 |       |
| 1600328-34    | B7-0'            | 6.9    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:21 |       |
| 1600328-37    | B8-0'            | 8.5    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:23 |       |
| 1600328-40    | B9-0'            | 3.3    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:28 |       |
| 1600328-43    | B11-0'           | 7.3    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:30 |       |
| 1600328-46    | B12-0'           | 2.0    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:33 |       |
| 1600328-49    | B13-0'           | 8.2    | mg/L  | 1.0 | 20       | B6B0170 | 02/04/2016 | 02/04/16  | 17:35 |       |
| 1600328-52    | B14-0'           | 27     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16  | 14:58 |       |
| 1600328-55    | B15-0'           | 5.1    | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16  | 15:19 |       |
| 1600328-58    | B16-0'           | 10     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16  | 15:23 |       |
| 1600328-67    | B28-0'           | 46     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16  | 15:37 |       |



### Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 02/05/2016

#### STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead

Analyst: SB

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600328-68    | B28-1'           | 5.1    | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16 15:42     |       |
| 1600328-69    | B28-2'           | 6.5    | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16 15:46     |       |
| 1600328-70    | B29-0'           | 7.0    | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16 15:50     |       |
| 1600328-73    | B30-0'           | 16     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16 16:05     |       |
| 1600328-76    | B31-0'           | 28     | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16 16:09     |       |

#### Client Sample ID B14-2'

Lab ID: 1600328-54

#### STLC Metals by ICP-AES by EPA 6010B

Analyst: SB

| Analyte  | Result (mg/L) | PQL (mg/L) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|----------|---------------|------------|----------|---------|------------|--------------------|-------|
| Chromium | ND            | 1.0        | 20       | B6B0171 | 02/04/2016 | 02/04/16 15:15     |       |
| Nickel   | 1.6           | 1.0        | 20       | B6B0171 | 02/04/2016 | 02/04/16 15:15     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 02/05/2016

### QUALITY CONTROL SECTION

#### TCLP Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                 | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---------------------------------------|-----------------|-------|--------------|-------|
| <b>Batch B6B0085 - EPA 3010A_S</b>     |                  |               |                |                  |                                       |                 |       |              |       |
| <b>Blank (B6B0085-BLK1)</b>            |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | ND               | 0.050         |                |                  |                                       |                 |       |              | NR    |
| <b>Blank (B6B0085-BLK2)</b>            |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | ND               | 0.050         |                |                  |                                       |                 |       |              | NR    |
| <b>LCS (B6B0085-BS1)</b>               |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 0.933581         | 0.050         | 1.00000        |                  | 93.4                                  | 80 - 120        |       |              |       |
| <b>Duplicate (B6B0085-DUP1)</b>        |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 0.081075         | 0.050         |                | 0.086121         | NR                                    |                 | 6.04  | 20           |       |
| <b>Duplicate (B6B0085-DUP2)</b>        |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 1.81236          | 0.050         |                | 1.80302          | NR                                    |                 | 0.517 | 20           |       |
| <b>Matrix Spike (B6B0085-MS1)</b>      |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 2.12458          | 0.050         | 2.50000        | 0.086121         | 81.5                                  | 77 - 121        |       |              |       |
| <b>Matrix Spike (B6B0085-MS2)</b>      |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 4.04682          | 0.050         | 2.50000        | 1.80302          | 89.8                                  | 77 - 121        |       |              |       |
| <b>Matrix Spike Dup (B6B0085-MSD1)</b> |                  |               |                |                  | Prepared: 2/2/2016 Analyzed: 2/2/2016 |                 |       |              |       |
| Lead                                   | 2.33431          | 0.050         | 2.50000        | 0.086121         | 89.9                                  | 77 - 121        | 9.41  | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 02/05/2016

### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result                      | % Rec | % Rec<br>Limits                       | RPD  | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|---------------------------------------|-------|---------------------------------------|------|--------------|-------|
| <b>Batch B6B0170 - STLC_S Extraction</b> |                  |               |                |                                       |       |                                       |      |              |       |
| <b>Blank (B6B0170-BLK1)</b>              |                  |               |                | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |                                       |      |              |       |
| Chromium                                 | ND               | 1.0           |                |                                       | NR    |                                       |      |              |       |
| Lead                                     | ND               | 1.0           |                |                                       | NR    |                                       |      |              |       |
| Nickel                                   | ND               | 1.0           |                |                                       | NR    |                                       |      |              |       |
| <b>Blank (B6B0170-BLK2)</b>              |                  |               |                | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |                                       |      |              |       |
| Chromium                                 | ND               | 1.0           |                |                                       | NR    |                                       |      |              |       |
| Lead                                     | ND               | 1.0           |                |                                       | NR    |                                       |      |              |       |
| Nickel                                   | ND               | 1.0           |                |                                       | NR    |                                       |      |              |       |
| <b>LCS (B6B0170-BS1)</b>                 |                  |               |                | Prepared: 2/4/2016 Analyzed: 2/4/2016 |       |                                       |      |              |       |
| Chromium                                 | 1.97659          |               | 2.00000        |                                       | 98.8  | 80 - 120                              |      |              |       |
| Lead                                     | 1.91275          |               | 2.00000        |                                       | 95.6  | 80 - 120                              |      |              |       |
| Nickel                                   | 1.94592          |               | 2.00000        |                                       | 97.3  | 80 - 120                              |      |              |       |
| <b>Duplicate (B6B0170-DUP1)</b>          |                  |               |                | <b>Source: 1600328-01</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |      |              |       |
| Chromium                                 | 0.158350         | 1.0           |                | 0.184268                              | NR    |                                       | 15.1 | 20           |       |
| Lead                                     | 10.9805          | 1.0           |                | 11.1144                               | NR    |                                       | 1.21 | 20           |       |
| Nickel                                   | 0.360379         | 1.0           |                | 0.380512                              | NR    |                                       | 5.43 | 20           |       |
| <b>Duplicate (B6B0170-DUP2)</b>          |                  |               |                | <b>Source: 1600328-22</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |      |              |       |
| Chromium                                 | 0.163514         | 1.0           |                | 0.203466                              | NR    |                                       | 21.8 | 20           | R     |
| Lead                                     | 22.9493          | 1.0           |                | 22.6827                               | NR    |                                       | 1.17 | 20           |       |
| Nickel                                   | 0.709407         | 1.0           |                | 0.747414                              | NR    |                                       | 5.22 | 20           |       |
| <b>Matrix Spike (B6B0170-MS1)</b>        |                  |               |                | <b>Source: 1600328-01</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |      |              |       |
| Chromium                                 | 2.54696          |               | 2.50000        | 0.184268                              | 94.5  | 74 - 121                              |      |              |       |
| Lead                                     | 12.8585          |               | 2.50000        | 11.1144                               | 69.8  | 44 - 130                              |      |              |       |
| Nickel                                   | 2.71413          |               | 2.50000        | 0.380512                              | 93.3  | 83 - 116                              |      |              |       |
| <b>Matrix Spike (B6B0170-MS2)</b>        |                  |               |                | <b>Source: 1600328-22</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |      |              |       |
| Chromium                                 | 2.59927          |               | 2.50000        | 0.203466                              | 95.8  | 74 - 121                              |      |              |       |
| Lead                                     | 24.4050          |               | 2.50000        | 22.6827                               | 68.9  | 44 - 130                              |      |              |       |
| Nickel                                   | 3.15653          |               | 2.50000        | 0.747414                              | 96.4  | 83 - 116                              |      |              |       |
| <b>Matrix Spike Dup (B6B0170-MSD1)</b>   |                  |               |                | <b>Source: 1600328-01</b>             |       | Prepared: 2/4/2016 Analyzed: 2/4/2016 |      |              |       |
| Chromium                                 | 2.64298          |               | 2.50000        | 0.184268                              | 98.3  | 74 - 121                              | 3.70 | 20           |       |
| Lead                                     | 13.2847          |               | 2.50000        | 11.1144                               | 86.8  | 44 - 130                              | 3.26 | 20           |       |
| Nickel                                   | 2.82996          |               | 2.50000        | 0.380512                              | 98.0  | 83 - 116                              | 4.18 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 02/05/2016

### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level            | Source<br>Result | % Rec<br>% Rec                        | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|--|------------------|---------------|---------------------------|------------------|---------------------------------------|-----------------|-------|--------------|-------|
| <b>Batch B6B0171 - STLC_S Extraction</b> |                  |               |                           |                  |                                       |                 |       |              |       |
| <b>Blank (B6B0171-BLK1)</b>              |                  |               |                           |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Chromium                                 | ND               | 1.0           |                           |                  | NR                                    |                 |       |              |       |
| Lead                                     | ND               | 1.0           |                           |                  | NR                                    |                 |       |              |       |
| Nickel                                   | ND               | 1.0           |                           |                  | NR                                    |                 |       |              |       |
| <b>Blank (B6B0171-BLK2)</b>              |                  |               |                           |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Chromium                                 | ND               | 1.0           |                           |                  | NR                                    |                 |       |              |       |
| Lead                                     | ND               | 1.0           |                           |                  | NR                                    |                 |       |              |       |
| Nickel                                   | ND               | 1.0           |                           |                  | NR                                    |                 |       |              |       |
| <b>LCS (B6B0171-BS1)</b>                 |                  |               |                           |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Chromium                                 | 1.96473          |               | 2.00000                   |                  | 98.2                                  | 80 - 120        |       |              |       |
| Lead                                     | 2.09085          |               | 2.00000                   |                  | 105                                   | 80 - 120        |       |              |       |
| Nickel                                   | 2.10336          |               | 2.00000                   |                  | 105                                   | 80 - 120        |       |              |       |
| <b>Duplicate (B6B0171-DUP1)</b>          |                  |               |                           |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
|  |                  |               | <b>Source: 1600328-52</b> |                  |                                       |                 |       |              |       |
| Chromium                                 | 0.120569         | 1.0           |                           | 0.118426         | NR                                    |                 | 1.79  | 20           |       |
| Lead                                     | 27.8457          | 1.0           |                           | 27.0307          | NR                                    |                 | 2.97  | 20           |       |
| Nickel                                   | 0.287387         | 1.0           |                           | 0.283100         | NR                                    |                 | 1.50  | 20           |       |
| <b>Duplicate (B6B0171-DUP2)</b>          |                  |               |                           |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
|  |                  |               | <b>Source: 1600328-71</b> |                  |                                       |                 |       |              |       |
| Chromium                                 | 0.088463         | 1.0           |                           | 0.090724         | NR                                    |                 | 2.52  | 20           |       |
| Lead                                     | ND               | 1.0           |                           | ND               | NR                                    |                 |       | 20           |       |
| Nickel                                   | 1.05967          | 1.0           |                           | 1.06657          | NR                                    |                 | 0.650 | 20           |       |
| <b>Matrix Spike (B6B0171-MS1)</b>        |                  |               |                           |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
|  |                  |               | <b>Source: 1600328-52</b> |                  |                                       |                 |       |              |       |
| Chromium                                 | 2.57678          |               | 2.50000                   | 0.118426         | 98.3                                  | 74 - 121        |       |              |       |
| Lead                                     | 30.5161          |               | 2.50000                   | 27.0307          | 139                                   | 44 - 130        |       |              | M1    |
| Nickel                                   | 2.84513          |               | 2.50000                   | 0.283100         | 102                                   | 83 - 116        |       |              |       |
| <b>Matrix Spike (B6B0171-MS2)</b>        |                  |               |                           |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
|  |                  |               | <b>Source: 1600328-71</b> |                  |                                       |                 |       |              |       |
| Chromium                                 | 2.54769          |               | 2.50000                   | 0.090724         | 98.3                                  | 74 - 121        |       |              |       |
| Lead                                     | 2.56627          |               | 2.50000                   | 0.031921         | 101                                   | 44 - 130        |       |              |       |
| Nickel                                   | 3.52780          |               | 2.50000                   | 1.06657          | 98.4                                  | 83 - 116        |       |              |       |
| <b>Matrix Spike Dup (B6B0171-MSD1)</b>   |                  |               |                           |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
|  |                  |               | <b>Source: 1600328-52</b> |                  |                                       |                 |       |              |       |
| Chromium                                 | 2.55180          |               | 2.50000                   | 0.118426         | 97.3                                  | 74 - 121        | 0.974 | 20           |       |
| Lead                                     | 29.9164          |               | 2.50000                   | 27.0307          | 115                                   | 44 - 130        | 1.98  | 20           |       |
| Nickel                                   | 2.83805          |               | 2.50000                   | 0.283100         | 102                                   | 83 - 116        | 0.249 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 02/05/2016

### Notes and Definitions

|     |   |
|-----|---|
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| M1  | Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

## Diane Galvan

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Friday, January 29, 2016 3:26 PM  
**To:** Diane Galvan  
**Cc:** 'keith.fang@dot.ca.gov'  
**Subject:** RE: Results/EDD/Invoice - SR92/SR82 Interchange (1600328)

Hi Diane,

Thank you for the results. Could you please run WET analyses on the following:

|            |        |          |
|------------|--------|----------|
| 1600328-66 | B27-2' | Chromium |
| 1600328-38 | B8-1'  | Chromium |
| 1600328-71 | B29-1' | Chromium |
| 1600328-54 | B14-2' | Chromium |
| 1600328-46 | B12-0' | Lead     |
| 1600328-03 | B22-2' | Lead     |
| 1600328-55 | B15-0' | Lead     |
| 1600328-40 | B9-0'  | Lead     |
| 1600328-69 | B28-2' | Lead     |
| 1600328-02 | B22-1' | Lead     |
| 1600328-28 | B3-0'  | Lead     |
| 1600328-70 | B29-0' | Lead     |
| 1600328-34 | B7-0'  | Lead     |
| 1600328-37 | B8-0'  | Lead     |
| 1600328-49 | B13-0' | Lead     |
| 1600328-07 | B24-0' | Lead     |
| 1600328-43 | B11-0' | Lead     |
| 1600328-58 | B16-0' | Lead     |
| 1600328-01 | B22-0' | Lead     |
| 1600328-68 | B28-1' | Lead     |
| 1600328-04 | B23-0' | Lead     |
| 1600328-31 | B6-0'  | Lead     |
| 1600328-73 | B30-0' | Lead     |
| 1600328-76 | B31-0' | Lead     |
| 1600328-22 | B1-0'  | Lead     |
| 1600328-10 | B63-0' | Lead     |
| 1600328-52 | B14-0' | Lead     |
| 1600328-19 | B66-0' | Lead     |
| 1600328-13 | B64-0' | Lead     |
| 1600328-67 | B28-0' | Lead     |
| 1600328-16 | B65-0' | Lead     |
| 1600328-54 | B14-2' | Nickel   |

And TCLP lead for:

|            |        |
|------------|--------|
| 1600328-64 | B27-0' |
|------------|--------|

All on a regular TAT.

Thank you,  
Luann

March 07, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600328  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on January 22, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/07/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B22-0'    | 1600328-01    | Soil   | 1/20/16 15:00 | 1/22/16 9:20  |
| B23-0'    | 1600328-04    | Soil   | 1/20/16 15:05 | 1/22/16 9:20  |
| B24-0'    | 1600328-07    | Soil   | 1/20/16 15:15 | 1/22/16 9:20  |
| B63-0'    | 1600328-10    | Soil   | 1/21/16 7:49  | 1/22/16 9:20  |
| B64-0'    | 1600328-13    | Soil   | 1/21/16 7:54  | 1/22/16 9:20  |
| B65-0'    | 1600328-16    | Soil   | 1/21/16 8:00  | 1/22/16 9:20  |
| B66-0'    | 1600328-19    | Soil   | 1/21/16 8:08  | 1/22/16 9:20  |
| B1-0'     | 1600328-22    | Soil   | 1/21/16 8:25  | 1/22/16 9:20  |
| B3-0'     | 1600328-28    | Soil   | 1/21/16 8:40  | 1/22/16 9:20  |
| B6-0'     | 1600328-31    | Soil   | 1/21/16 8:53  | 1/22/16 9:20  |
| B7-0'     | 1600328-34    | Soil   | 1/21/16 8:57  | 1/22/16 9:20  |
| B8-0'     | 1600328-37    | Soil   | 1/21/16 9:05  | 1/22/16 9:20  |
| B11-0'    | 1600328-43    | Soil   | 1/21/16 9:30  | 1/22/16 9:20  |
| B13-0'    | 1600328-49    | Soil   | 1/21/16 9:45  | 1/22/16 9:20  |
| B14-0'    | 1600328-52    | Soil   | 1/21/16 9:50  | 1/22/16 9:20  |
| B16-0'    | 1600328-58    | Soil   | 1/21/16 10:18 | 1/22/16 9:20  |
| B28-0'    | 1600328-67    | Soil   | 1/21/16 11:05 | 1/22/16 9:20  |
| B28-1'    | 1600328-68    | Soil   | 1/21/16 11:06 | 1/22/16 9:20  |
| B29-0'    | 1600328-70    | Soil   | 1/21/16 11:12 | 1/22/16 9:20  |
| B30-0'    | 1600328-73    | Soil   | 1/21/16 11:38 | 1/22/16 9:20  |
| B31-0'    | 1600328-76    | Soil   | 1/21/16 11:50 | 1/22/16 9:20  |



## Certificate of Analysis

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6671 Brisa Street

Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/07/2016

### TCLP Metals by ICP-AES EPA 6010B

Analyte: Lead

Analyst: RR

| Laboratory ID | Client Sample ID | Result | Units | PQL   | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-------|----------|---------|------------|--------------------|-------|
| 1600328-01    | B22-0'           | 0.11   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:11     |       |
| 1600328-04    | B23-0'           | 0.20   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:20     |       |
| 1600328-07    | B24-0'           | 0.12   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:22     |       |
| 1600328-10    | B63-0'           | 0.33   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:24     |       |
| 1600328-13    | B64-0'           | 0.22   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:31     |       |
| 1600328-16    | B65-0'           | 0.34   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:33     |       |
| 1600328-19    | B66-0'           | 0.25   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:36     |       |
| 1600328-22    | B1-0'            | 0.16   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:38     |       |
| 1600328-28    | B3-0'            | ND     | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:40     |       |
| 1600328-31    | B6-0'            | ND     | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:43     |       |
| 1600328-34    | B7-0'            | ND     | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:50     |       |
| 1600328-37    | B8-0'            | ND     | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:52     |       |
| 1600328-43    | B11-0'           | 0.076  | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 16:58     |       |
| 1600328-49    | B13-0'           | 0.079  | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:00     |       |
| 1600328-52    | B14-0'           | 0.59   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:03     |       |
| 1600328-58    | B16-0'           | 0.087  | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:05     |       |
| 1600328-67    | B28-0'           | 0.26   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:08     |       |
| 1600328-68    | B28-1'           | 0.13   | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:10     |       |
| 1600328-70    | B29-0'           | 0.052  | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:12     |       |
| 1600328-73    | B30-0'           | 0.097  | mg/L  | 0.050 | 1        | B6C0040 | 03/02/2016 | 03/02/16 17:15     |       |
| 1600328-76    | B31-0'           | 0.11   | mg/L  | 0.050 | 1        | B6C0041 | 03/02/2016 | 03/02/16 17:25     |       |



## Certificate of Analysis

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 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/07/2016

### QUALITY CONTROL SECTION

#### TCLP Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                 | % Rec<br>Limits | RPD     | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---------------------------------------|-----------------|---------|--------------|-------|
| <b>Batch B6C0040 - EPA 3010A_S</b>     |                  |               |                |                  |                                       |                 |         |              |       |
| <b>Blank (B6C0040-BLK1)</b>            |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | ND               | 0.050         |                |                  |                                       |                 | NR      |              |       |
| <b>Blank (B6C0040-BLK2)</b>            |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | ND               | 0.050         |                |                  |                                       |                 | NR      |              |       |
| <b>LCS (B6C0040-BS1)</b>               |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | 0.899873         | 0.050         | 1.00000        |                  | 90.0                                  | 80 - 120        |         |              |       |
| <b>Duplicate (B6C0040-DUP1)</b>        |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | 0.093858         | 0.050         |                | 0.112164         | NR                                    |                 | 17.8    | 20           |       |
| <b>Duplicate (B6C0040-DUP2)</b>        |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | 0.032297         | 0.050         |                | 0.034542         | NR                                    |                 | 6.72    | 20           |       |
| <b>Matrix Spike (B6C0040-MS1)</b>      |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | 2.21807          | 0.050         | 2.50000        | 0.112164         | 84.2                                  | 77 - 121        |         |              |       |
| <b>Matrix Spike (B6C0040-MS2)</b>      |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | 2.17143          | 0.050         | 2.50000        | 0.034542         | 85.5                                  | 77 - 121        |         |              |       |
| <b>Matrix Spike Dup (B6C0040-MSD1)</b> |                  |               |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |         |              |       |
| Lead                                   | 2.21791          | 0.050         | 2.50000        | 0.112164         | 84.2                                  | 77 - 121        | 0.00735 | 20           |       |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/07/2016

### TCLP Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/L) | PQL<br>(mg/L)             | Spike<br>Level | Source<br>Result | % Rec                                 | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|--|------------------|---------------------------|----------------|------------------|---------------------------------------|-----------------|-------|--------------|-------|
| <b>Batch B6C0041 - EPA 3010A_S</b>     |                  |                           |                |                  |                                       |                 |       |              |       |
| <b>Blank (B6C0041-BLK1)</b>            |                  |                           |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |       |              |       |
| Lead                                   | ND               | 0.050                     |                |                  |                                       |                 |       |              | NR    |
| <b>LCS (B6C0041-BS1)</b>               |                  |                           |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |       |              |       |
| Lead                                   | 0.892433         | 0.050                     | 1.00000        |                  | 89.2                                  | 80 - 120        |       |              |       |
| <b>Duplicate (B6C0041-DUP1)</b>        |                  |                           |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |       |              |       |
|  |                  | <b>Source: 1600328-76</b> |                |                  |                                       |                 |       |              |       |
| Lead                                   | 0.100319         | 0.050                     |                | 0.113864         | NR                                    |                 | 12.6  |              | 20    |
| <b>Matrix Spike (B6C0041-MS1)</b>      |                  |                           |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |       |              |       |
|  |                  | <b>Source: 1600328-76</b> |                |                  |                                       |                 |       |              |       |
| Lead                                   | 2.18074          | 0.050                     | 2.50000        | 0.113864         | 82.7                                  | 77 - 121        |       |              |       |
| <b>Matrix Spike Dup (B6C0041-MSD1)</b> |                  |                           |                |                  | Prepared: 3/2/2016 Analyzed: 3/2/2016 |                 |       |              |       |
|  |                  | <b>Source: 1600328-76</b> |                |                  |                                       |                 |       |              |       |
| Lead                                   | 2.19477          | 0.050                     | 2.50000        | 0.113864         | 83.2                                  | 77 - 121        | 0.641 |              | 20    |



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Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/07/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

**Diane Galvan**

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Monday, February 29, 2016 9:50 AM  
**To:** Diane Galvan  
**Cc:** Rachelle Arada  
**Subject:** Lab Order 1600328 (82/92 Interchange)

Hi Diane,

Could you please run TCLP lead on these samples on a regular TAT?

- B1-0
- B3-0
- B6-0
- B7-0
- B8-0
- B11-0
- B13-0
- B14-0
- B16-0
- B22-0
- B23-0
- B24-0
- B28-0
- B28-1
- B29-0
- B30-0
- B31-0
- B63-0
- B64-0
- B65-0
- B66-0

Thanks,  
Luann



**Luann Beadle | Project Scientist**

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P|925.371.5900 ext. 403 M|925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [Linkedin](#)

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Brownfields/Redevelopment

Construction Inspection

Natural Resources



March 23, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

RE: ATL Work Order Number : 1600328  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on January, 22 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

A handwritten signature in black ink, appearing to be 'Gm', is written over a light gray rectangular background.

Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

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*www.atlglobal.com*



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/23/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B29-1'    | 1600328-71    | Soil   | 1/21/16 11:13 | 1/22/16 9:20  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/23/2016

### STLC Metals by ICP-AES by EPA 6010B

**Analyte: Nickel**

**Analyst: SB**

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600328-71    | B29-1'           | 1.1    | mg/L  | 1.0 | 20       | B6B0171 | 02/04/2016 | 02/04/16 15:54     |       |



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 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/23/2016

### QUALITY CONTROL SECTION

#### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                 | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---------------------------------------|-----------------|-------|--------------|-------|
| <b>Batch B6B0171 - STLC_S Extraction</b> |                  |               |                |                  |                                       |                 |       |              |       |
| <b>Blank (B6B0171-BLK1)</b>              |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | ND               | 1.0           |                |                  |                                       |                 |       |              | NR    |
| <b>Blank (B6B0171-BLK2)</b>              |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | ND               | 1.0           |                |                  |                                       |                 |       |              | NR    |
| <b>LCS (B6B0171-BS1)</b>                 |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | 2.10336          |               | 2.00000        |                  | 105                                   | 80 - 120        |       |              |       |
| <b>Duplicate (B6B0171-DUP1)</b>          |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | 0.287387         |               |                | 0.283100         | NR                                    |                 | 1.50  |              | 20    |
| <b>Duplicate (B6B0171-DUP2)</b>          |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | 1.05967          |               |                | 1.06657          | NR                                    |                 | 0.650 |              | 20    |
| <b>Matrix Spike (B6B0171-MS1)</b>        |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | 2.84513          |               | 2.50000        | 0.283100         | 102                                   | 83 - 116        |       |              |       |
| <b>Matrix Spike (B6B0171-MS2)</b>        |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | 3.52780          |               | 2.50000        | 1.06657          | 98.4                                  | 83 - 116        |       |              |       |
| <b>Matrix Spike Dup (B6B0171-MSD1)</b>   |                  |               |                |                  | Prepared: 2/4/2016 Analyzed: 2/4/2016 |                 |       |              |       |
| Nickel                                   | 2.83805          |               | 2.50000        | 0.283100         | 102                                   | 83 - 116        | 0.249 |              | 20    |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/23/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
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| MDL | Method Detection Limit  |
| NR  | Not Reported  |
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| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

- Notes:
- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
  - (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
  - (3) Results are wet unless otherwise specified.

**Diane Galvan**

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Tuesday, March 22, 2016 8:16 AM  
**To:** Diane Galvan  
**Subject:** Lab order 1600328 (82/92 Interchange)

Hi Diane,  
Could you please run WET nickel on sample B29-1 on a 48-hr (plus extraction) TAT?  
Thanks,  
Luann



**Luann Beadle | Project Scientist**  
**GEOCON CONSULTANTS, INC.**  
6671 Brisa Street, Livermore, California 94550  
P|925.371.5900 ext. 403 M|925.395.1669  
[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [LinkedIn](#)

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March 28, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600328  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on January 22, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

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6671 Brisa Street

Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/28/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B23-0'    | 1600328-04    | Soil   | 1/20/16 15:05 | 1/22/16 9:20  |
| B64-0'    | 1600328-13    | Soil   | 1/21/16 7:54  | 1/22/16 9:20  |
| B65-0'    | 1600328-16    | Soil   | 1/21/16 8:00  | 1/22/16 9:20  |
| B1-0'     | 1600328-22    | Soil   | 1/21/16 8:25  | 1/22/16 9:20  |
| B8-0'     | 1600328-37    | Soil   | 1/21/16 9:05  | 1/22/16 9:20  |
| B14-0'    | 1600328-52    | Soil   | 1/21/16 9:50  | 1/22/16 9:20  |
| B16-0'    | 1600328-58    | Soil   | 1/21/16 10:18 | 1/22/16 9:20  |
| B28-0'    | 1600328-67    | Soil   | 1/21/16 11:05 | 1/22/16 9:20  |
| B31-0'    | 1600328-76    | Soil   | 1/21/16 11:50 | 1/22/16 9:20  |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/28/2016

### STLC DI Metals by ICP-AES by EPA 6010B

Analyte: Lead

Analyst: RR

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time      | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|----------------|-------|
|               |                  |        |       |     |          |         |            | Analyzed       |       |
| 1600328-04    | B23-0'           | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:22 |       |
| 1600328-13    | B64-0'           | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:24 |       |
| 1600328-16    | B65-0'           | 1.1    | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:26 |       |
| 1600328-22    | B1-0'            | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:29 |       |
| 1600328-37    | B8-0'            | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:35 |       |
| 1600328-52    | B14-0'           | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:37 |       |
| 1600328-58    | B16-0'           | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:39 |       |
| 1600328-67    | B28-0'           | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:48 |       |
| 1600328-76    | B31-0'           | ND     | mg/L  | 1.0 | 20       | B6C0705 | 03/25/2016 | 03/25/16 12:50 |       |

### pH by EPA 9045C

Analyte: pH

Analyst: LA

| Laboratory ID | Client Sample ID | Result | Units    | PQL  | Dilution | Batch   | Prepared   | Date/Time      | Notes |
|---------------|------------------|--------|----------|------|----------|---------|------------|----------------|-------|
|               |                  |        |          |      |          |         |            | Analyzed       |       |
| 1600328-04    | B23-0'           | 7.4    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16 14:28 |       |
| 1600328-13    | B64-0'           | 7.1    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16 14:28 |       |
| 1600328-16    | B65-0'           | 6.9    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16 14:28 |       |
| 1600328-22    | B1-0'            | 6.2    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16 14:28 |       |
| 1600328-37    | B8-0'            | 7.4    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16 14:28 |       |
| 1600328-52    | B14-0'           | 6.9    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16 14:28 |       |
| 1600328-58    | B16-0'           | 6.9    | pH Units | 0.10 | 1        | B6C0678 | 03/24/2016 | 03/24/16 14:28 |       |
| 1600328-67    | B28-0'           | 7.0    | pH Units | 0.10 | 1        | B6C0679 | 03/24/2016 | 03/24/16 14:30 |       |
| 1600328-76    | B31-0'           | 6.9    | pH Units | 0.10 | 1        | B6C0679 | 03/24/2016 | 03/24/16 14:30 |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/28/2016

### QUALITY CONTROL SECTION

#### STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                     | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD   | RPD<br>Limit | Notes |
|---|------------------|---------------|----------------|------------------|---|-----------------|-------|--------------|-------|
| <b>Batch B6C0705 - STLC DI_S Extraction</b> |                  |               |                |                  |   |                 |       |              |       |
| <b>Blank (B6C0705-BLK1)</b>                 |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | ND               | 1.0           |                |                  |   |                 |       |              | NR    |
| <b>Blank (B6C0705-BLK2)</b>                 |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | ND               | 1.0           |                |                  |   |                 |       |              | NR    |
| <b>LCS (B6C0705-BS1)</b>                    |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 1.96188          |               | 2.00000        |                  | 98.1                                    | 80 - 120        |       |              |       |
| <b>Duplicate (B6C0705-DUP1)</b>             |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 0.187297         | 1.0           |                | 0.195913         | NR                                      |                 | 4.50  | 20           |       |
| <b>Duplicate (B6C0705-DUP2)</b>             |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 0.230340         | 1.0           |                | 0.235612         | NR                                      |                 | 2.26  | 20           |       |
| <b>Matrix Spike (B6C0705-MS1)</b>           |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 2.69768          |               | 2.50000        | 0.195913         | 100                                     | 70 - 130        |       |              |       |
| <b>Matrix Spike (B6C0705-MS2)</b>           |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 2.81552          |               | 2.50000        | 0.235612         | 103                                     | 70 - 130        |       |              |       |
| <b>Matrix Spike Dup (B6C0705-MSD1)</b>      |                  |               |                |                  | Prepared: 3/25/2016 Analyzed: 3/25/2016 |                 |       |              |       |
| Lead  | 2.68080          |               | 2.50000        | 0.195913         | 99.4                                    | 70 - 130        | 0.628 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/28/2016

### pH by EPA 9045C - Quality Control

| Analyte | Result<br>(pH Units) | PQL<br>(pH Units) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|----------------------|-------------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|----------------------|-------------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

#### Batch B6C0678 - Prep\_WC1\_S

#### Duplicate (B6C0678-DUP1)

Source: 1600328-58

Prepared: 3/24/2016 Analyzed: 3/24/2016

|    |         |      |  |         |    |  |       |    |  |
|----|---------|------|--|---------|----|--|-------|----|--|
| pH | 6.91000 | 0.10 |  | 6.87000 | NR |  | 0.581 | 20 |  |
|----|---------|------|--|---------|----|--|-------|----|--|



### Certificate of Analysis

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6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/28/2016

#### pH by EPA 9045C - Quality Control

| Analyte | Result<br>(pH Units) | PQL<br>(pH Units) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|----------------------|-------------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|----------------------|-------------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6C0679 - Prep\_WC1\_S**

**Duplicate (B6C0679-DUP1)**

Source: 1600328-67

Prepared: 3/24/2016 Analyzed: 3/24/2016

|    |         |      |  |         |    |  |       |    |  |
|----|---------|------|--|---------|----|--|-------|----|--|
| pH | 7.02000 | 0.10 |  | 6.98000 | NR |  | 0.571 | 20 |  |
|----|---------|------|--|---------|----|--|-------|----|--|



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/28/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

- Notes:
- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
  - (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
  - (3) Results are wet unless otherwise specified.

**Diane Galvan**

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Wednesday, March 23, 2016 9:29 AM  
**To:** Diane Galvan  
**Subject:** Lab Orders 1600-174, 328 (SR-82/92)

Hi Diane,

Could you please run DI-WET lead and pH on the following samples from these lab orders on a 48-hr (plus extraction) TAT?

- B1-0
- B8-0
- B14-0
- B16-0
- B23-0
- B28-0
- B31-0
- B32-0
- B40-0
- B55-0
- B64-0
- B65-0

Thank you,  
Luann



**Luann Beadle | Project Scientist**

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P|925.371.5900 ext. 403 M|925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [Linkedin](#)

*Bay Area - Sacramento - Fairfield - Los Angeles - Orange County - Riverside County - Palm Desert - San Diego*

Geotechnical Engineering

Land Development

Environmental Services

Transportation

Infrastructure

Institutional

Engineering Geology

Brownfields/Redevelopment

Construction Inspection

Natural Resources

February 26, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600683  
Client Reference : 82/92 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on February 19, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B67-0     | 1600683-01    | Soil   | 2/18/16 7:30  | 2/19/16 9:30  |
| B67-1     | 1600683-02    | Soil   | 2/18/16 7:30  | 2/19/16 9:30  |
| B67-2     | 1600683-03    | Soil   | 2/18/16 7:30  | 2/19/16 9:30  |
| B67-10    | 1600683-04    | Soil   | 2/18/16 7:50  | 2/19/16 9:30  |
| B67-25    | 1600683-05    | Soil   | 2/18/16 8:50  | 2/19/16 9:30  |
| B4-0      | 1600683-07    | Soil   | 2/18/16 10:15 | 2/19/16 9:30  |
| B4-1      | 1600683-08    | Soil   | 2/18/16 10:15 | 2/19/16 9:30  |
| B4-2      | 1600683-09    | Soil   | 2/18/16 10:15 | 2/19/16 9:30  |
| B4-10     | 1600683-10    | Soil   | 2/18/16 10:30 | 2/19/16 9:30  |
| B4-20     | 1600683-11    | Soil   | 2/18/16 11:00 | 2/19/16 9:30  |
| B10-0     | 1600683-12    | Soil   | 2/18/16 11:25 | 2/19/16 9:30  |
| B10-1     | 1600683-13    | Soil   | 2/18/16 11:25 | 2/19/16 9:30  |
| B10-2     | 1600683-14    | Soil   | 2/18/16 11:25 | 2/19/16 9:30  |
| B10-10    | 1600683-15    | Soil   | 2/18/16 11:35 | 2/19/16 9:30  |
| B10-25    | 1600683-17    | Soil   | 2/18/16 12:35 | 2/19/16 9:30  |
| B10-GW    | 1600683-18    | Water  | 2/18/16 13:30 | 2/19/16 9:30  |
| B67-GW    | 1600683-19    | Water  | 2/18/16 14:00 | 2/19/16 9:30  |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B67-0**

**Lab ID: 1600683-01**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 74                | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:00        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B67-1**

**Lab ID: 1600683-02**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 21                | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:04        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
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Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B67-2**

**Lab ID: 1600683-03**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.2               | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:07        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B67-10**

**Lab ID: 1600683-04**

### Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Benzene                     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Bromobenzene                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Bromoform                   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Bromomethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Chlorobenzene               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Chloroethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Chloroform                  | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Chloromethane               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B67-10**

**Lab ID: 1600683-04**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| m,p-Xylene                              | ND                | 10              | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Methylene chloride                      | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Naphthalene                             | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| o-Xylene                                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Styrene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Toluene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Trichloroethene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:09        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>124 %</i>      | <i>20 - 189</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:09</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>98.7 %</i>     | <i>20 - 173</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:09</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>113 %</i>      | <i>26 - 178</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:09</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>112 %</i>      | <i>31 - 166</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:09</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B67-25**

**Lab ID: 1600683-05**

### Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Benzene                     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Bromobenzene                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Bromoform                   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Bromomethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Chlorobenzene               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Chloroethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Chloroform                  | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Chloromethane               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B67-25**

**Lab ID: 1600683-05**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| m,p-Xylene                              | ND                | 10              | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Methylene chloride                      | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Naphthalene                             | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| o-Xylene                                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Styrene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Toluene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Trichloroethene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:28        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>125 %</i>      | <i>20 - 189</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:28</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>93.7 %</i>     | <i>20 - 173</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:28</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>110 %</i>      | <i>26 - 178</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:28</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>108 %</i>      | <i>31 - 166</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:28</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B4-0**

**Lab ID: 1600683-07**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.2               | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:11        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B4-1**

**Lab ID: 1600683-08**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 1.9               | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:14        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B4-2**

**Lab ID: 1600683-09**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 1.9               | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:17        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B4-10**

**Lab ID: 1600683-10**

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Benzene                     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Bromobenzene                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Bromoform                   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Bromomethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Chlorobenzene               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Chloroethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Chloroform                  | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Chloromethane               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B4-10**

**Lab ID: 1600683-10**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| m,p-Xylene                              | ND                | 10              | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Methylene chloride                      | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Naphthalene                             | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| o-Xylene                                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Styrene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Toluene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Trichloroethene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 12:46        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>123 %</i>      | <i>20 - 189</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:46</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>100 %</i>      | <i>20 - 173</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:46</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>112 %</i>      | <i>26 - 178</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:46</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>115 %</i>      | <i>31 - 166</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 12:46</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B4-20**

**Lab ID: 1600683-11**

### Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Benzene                     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Bromobenzene                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Bromoform                   | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Bromomethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Chlorobenzene               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Chloroethane                | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Chloroform                  | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Chloromethane               | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B4-20**

**Lab ID: 1600683-11**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| m,p-Xylene                              | ND                | 10              | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Methylene chloride                      | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Naphthalene                             | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| o-Xylene                                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Styrene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Toluene                                 | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Trichloroethene                         | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6B0731 | 02/23/2016 | 02/23/16 11:31        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>116 %</i>      | <i>20 - 189</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 11:31</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>96.7 %</i>     | <i>20 - 173</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 11:31</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>105 %</i>      | <i>26 - 178</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 11:31</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>108 %</i>      | <i>31 - 166</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 11:31</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B10-0**

**Lab ID: 1600683-12**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 54                | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:21        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B10-1**

**Lab ID: 1600683-13**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 14                | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:31        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B10-2**

**Lab ID: 1600683-14**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 4.6               | 1.0            | 1        | B6B0770 | 02/24/2016 | 02/24/16 15:35        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B10-10**

**Lab ID: 1600683-15**

### Gasoline Range Organics by EPA 8015B (Modified)

Analyst: QP/

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| <b>Gasoline Range Organics</b>         | <b>150</b>        | 25              | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>448 %</i>      | <i>37 - 153</i> |          | B6B0717 | 02/22/2016 | 02/22/16 19:36        | S7    |

### BTEX/MTBE by EPA 8021

Analyst: QP/

| Analyte                                | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| MTBE                                   | ND                | 120             | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |       |
| Benzene                                | ND                | 120             | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |       |
| Toluene                                | ND                | 120             | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |       |
| <b>Ethylbenzene</b>                    | <b>520</b>        | 120             | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |       |
| m,p-Xylene                             | ND                | 250             | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |       |
| o-Xylene                               | ND                | 120             | 25       | B6B0717 | 02/22/2016 | 02/22/16 19:36        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>227 %</i>      | <i>62 - 128</i> |          | B6B0717 | 02/22/2016 | 02/22/16 19:36        | S7    |

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,1,1-Trichloroethane       | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,1,2,2-Tetrachloroethane   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,1,2-Trichloroethane       | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,1-Dichloroethane          | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,1-Dichloroethene          | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,1-Dichloropropene         | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2,3-Trichloropropane      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2,3-Trichlorobenzene      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2,4-Trichlorobenzene      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2,4-Trimethylbenzene      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2-Dibromo-3-chloropropane | ND                | 50             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2-Dibromoethane           | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2-Dichlorobenzene         | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2-Dichloroethane          | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,2-Dichloropropane         | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,3,5-Trimethylbenzene      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,3-Dichlorobenzene         | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B10-10**

**Lab ID: 1600683-15**

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                   | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,3-Dichloropropane       | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 1,4-Dichlorobenzene       | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 2,2-Dichloropropane       | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 2-Chlorotoluene           | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| 4-Chlorotoluene           | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <b>4-Isopropyltoluene</b> | <b>210</b>        | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Benzene                   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Bromobenzene              | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Bromodichloromethane      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Bromoform                 | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Bromomethane              | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Carbon tetrachloride      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Chlorobenzene             | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Chloroethane              | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Chloroform                | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Chloromethane             | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| cis-1,2-Dichloroethene    | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| cis-1,3-Dichloropropene   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Dibromochloromethane      | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Dibromomethane            | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Dichlorodifluoromethane   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <b>Ethylbenzene</b>       | <b>500</b>        | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Hexachlorobutadiene       | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <b>Isopropylbenzene</b>   | <b>13000</b>      | 250            | 50       | B6B0731 | 02/23/2016 | 02/23/16 13:24        | D6    |
| m,p-Xylene                | ND                | 50             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Methylene chloride        | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <b>n-Butylbenzene</b>     | <b>4100</b>       | 250            | 50       | B6B0731 | 02/23/2016 | 02/23/16 13:24        | D6    |
| <b>n-Propylbenzene</b>    | <b>6700</b>       | 250            | 50       | B6B0731 | 02/23/2016 | 02/23/16 13:24        | D6    |
| <b>Naphthalene</b>        | <b>4900</b>       | 250            | 50       | B6B0731 | 02/23/2016 | 02/23/16 13:24        | D6    |
| o-Xylene                  | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <b>sec-Butylbenzene</b>   | <b>810</b>        | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Styrene                   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <b>tert-Butylbenzene</b>  | <b>120</b>        | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Tetrachloroethene         | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Toluene                   | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| trans-1,2-Dichloroethene  | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Trichloroethene           | ND                | 25             | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B10-10**

**Lab ID: 1600683-15**

## Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Trichlorofluoromethane                  | ND                | 25              | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| Vinyl chloride                          | ND                | 25              | 5        | B6B0731 | 02/23/2016 | 02/23/16 13:51        | D6    |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>123 %</i>      | <i>20 - 189</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:24</i> |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>98.0 %</i>     | <i>20 - 189</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:51</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>109 %</i>      | <i>20 - 173</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:24</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>132 %</i>      | <i>20 - 173</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:51</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>102 %</i>      | <i>26 - 178</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:51</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>113 %</i>      | <i>26 - 178</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:24</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>111 %</i>      | <i>31 - 166</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:24</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>110 %</i>      | <i>31 - 166</i> |          | B6B0731 | 02/23/2016 | <i>02/23/16 13:51</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B10-25**

**Lab ID: 1600683-17**

### Gasoline Range Organics by EPA 8015B (Modified)

Analyst: QP/

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Gasoline Range Organics                | ND                | 1.0             | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>110 %</i>      | <i>37 - 153</i> |          | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |

### BTEX/MTBE by EPA 8021

Analyst: QP/

| Analyte                                | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| MTBE                                   | ND                | 5.0             | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| Benzene                                | ND                | 5.0             | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| Toluene                                | ND                | 5.0             | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| Ethylbenzene                           | ND                | 5.0             | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| m,p-Xylene                             | ND                | 10              | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| o-Xylene                               | ND                | 5.0             | 1        | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>109 %</i>      | <i>62 - 128</i> |          | B6B0717 | 02/22/2016 | 02/22/16 19:20        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

## Client Sample ID B10-GW

Lab ID: 1600683-18

### Gasoline Range Organics by EPA 8015B (Modified)

Analyst: QP/

| Analyte                                | Result (mg/L) | PQL (mg/L)      | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|--|---------------|-----------------|----------|---------|------------|--------------------|-------|
| <b>Gasoline Range Organics</b>         | <b>1.3</b>    | 0.05            | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>1180 %</i> | <i>70 - 130</i> |          | B6B0748 | 02/23/2016 | 02/23/16 17:16     | S10   |

### BTEX/MTBE by EPA 8021

Analyst: QP/

| Analyte                                | Result (ug/L) | PQL (ug/L)      | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|--|---------------|-----------------|----------|---------|------------|--------------------|-------|
| MTBE                                   | ND            | 0.50            | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| <b>Benzene</b>                         | <b>16</b>     | 0.50            | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| Toluene                                | ND            | 0.50            | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| <b>Ethylbenzene</b>                    | <b>74</b>     | 0.50            | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| m,p-Xylene                             | ND            | 1.0             | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| o-Xylene                               | ND            | 0.50            | 1        | B6B0748 | 02/23/2016 | 02/23/16 17:16     |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>410 %</i>  | <i>70 - 130</i> |          | B6B0748 | 02/23/2016 | 02/23/16 17:16     | S10   |

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                     | Result (ug/L) | PQL (ug/L) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|-----------------------------|---------------|------------|----------|---------|------------|--------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,1,1-Trichloroethane       | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,1,2,2-Tetrachloroethane   | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,1,2-Trichloroethane       | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,1-Dichloroethane          | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,1-Dichloroethene          | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,1-Dichloropropene         | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2,3-Trichloropropane      | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2,3-Trichlorobenzene      | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2,4-Trichlorobenzene      | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2,4-Trimethylbenzene      | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2-Dibromo-3-chloropropane | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2-Dibromoethane           | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2-Dichlorobenzene         | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2-Dichloroethane          | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,2-Dichloropropane         | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,3,5-Trimethylbenzene      | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |
| 1,3-Dichlorobenzene         | ND            | 2.0        | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53     | D6    |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

Client Sample ID B10-GW

Lab ID: 1600683-18

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                  | Result<br>(ug/L) | PQL<br>(ug/L) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--------------------------|------------------|---------------|----------|---------|------------|-----------------------|-------|
| 1,3-Dichloropropane      | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| 1,4-Dichlorobenzene      | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| 2,2-Dichloropropane      | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| 2-Chlorotoluene          | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| 4-Chlorotoluene          | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| 4-Isopropyltoluene       | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>Benzene</b>           | <b>17</b>        | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Bromobenzene             | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Bromodichloromethane     | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Bromoform                | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Bromomethane             | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Carbon tetrachloride     | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Chlorobenzene            | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Chloroethane             | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Chloroform               | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Chloromethane            | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| cis-1,2-Dichloroethene   | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| cis-1,3-Dichloropropene  | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Dibromochloromethane     | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Dibromomethane           | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Dichlorodifluoromethane  | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>Ethylbenzene</b>      | <b>82</b>        | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Hexachlorobutadiene      | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>Isopropylbenzene</b>  | <b>510</b>       | 5.0           | 10       | B6B0681 | 02/24/2016 | 02/24/16 11:41        | D6    |
| m,p-Xylene               | ND               | 4.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Methylene chloride       | ND               | 4.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>n-Butylbenzene</b>    | <b>11</b>        | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>n-Propylbenzene</b>   | <b>110</b>       | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>Naphthalene</b>       | <b>7.8</b>       | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| o-Xylene                 | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>sec-Butylbenzene</b>  | <b>10</b>        | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Styrene                  | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <b>tert-Butylbenzene</b> | <b>2.4</b>       | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Tetrachloroethene        | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Toluene                  | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| trans-1,2-Dichloroethene | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Trichloroethene          | ND               | 2.0           | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

**Client Sample ID B10-GW**  
**Lab ID: 1600683-18**

## Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                                 | Result<br>(ug/L) | PQL<br>(ug/L)   | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Trichlorofluoromethane                  | ND               | 2.0             | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| Vinyl chloride                          | ND               | 2.0             | 4        | B6B0681 | 02/24/2016 | 02/24/16 13:53        | D6    |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>112 %</i>     | <i>49 - 148</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 13:53</i> |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>130 %</i>     | <i>49 - 148</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 11:41</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>96.1 %</i>    | <i>65 - 132</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 13:53</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>109 %</i>     | <i>65 - 132</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 11:41</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>117 %</i>     | <i>55 - 138</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 11:41</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>102 %</i>     | <i>55 - 138</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 13:53</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>92.5 %</i>    | <i>60 - 120</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 13:53</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>106 %</i>     | <i>60 - 120</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 11:41</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

Client Sample ID B67-GW

Lab ID: 1600683-19

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                     | Result<br>(ug/L) | PQL<br>(ug/L) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|------------------|---------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,1,1-Trichloroethane       | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,1,2,2-Tetrachloroethane   | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,1,2-Trichloroethane       | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,1-Dichloroethane          | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,1-Dichloroethene          | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,1-Dichloropropene         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2,3-Trichloropropane      | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2,3-Trichlorobenzene      | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2,4-Trichlorobenzene      | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2,4-Trimethylbenzene      | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2-Dibromo-3-chloropropane | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2-Dibromoethane           | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2-Dichlorobenzene         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2-Dichloroethane          | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,2-Dichloropropane         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,3,5-Trimethylbenzene      | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,3-Dichlorobenzene         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,3-Dichloropropane         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 1,4-Dichlorobenzene         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 2,2-Dichloropropane         | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 2-Chlorotoluene             | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 4-Chlorotoluene             | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| 4-Isopropyltoluene          | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Benzene                     | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Bromobenzene                | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Bromodichloromethane        | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Bromoform                   | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Bromomethane                | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Carbon tetrachloride        | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Chlorobenzene               | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Chloroethane                | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Chloroform                  | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Chloromethane               | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| cis-1,2-Dichloroethene      | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| cis-1,3-Dichloropropene     | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Dibromochloromethane        | ND               | 0.50          | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

**Client Sample ID B67-GW**

**Lab ID: 1600683-19**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                                 | Result<br>(ug/L) | PQL<br>(ug/L)   | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Dichlorodifluoromethane                 | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Ethylbenzene                            | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Hexachlorobutadiene                     | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Isopropylbenzene                        | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| m,p-Xylene                              | ND               | 1.0             | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Methylene chloride                      | ND               | 1.0             | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| n-Butylbenzene                          | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| n-Propylbenzene                         | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Naphthalene                             | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| o-Xylene                                | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| sec-Butylbenzene                        | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Styrene                                 | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| tert-Butylbenzene                       | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Tetrachloroethene                       | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Toluene                                 | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| trans-1,2-Dichloroethene                | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Trichloroethene                         | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Trichlorofluoromethane                  | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| Vinyl chloride                          | ND               | 0.50            | 1        | B6B0681 | 02/24/2016 | 02/24/16 12:53        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>134 %</i>     | <i>49 - 148</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 12:53</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>106 %</i>     | <i>65 - 132</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 12:53</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>118 %</i>     | <i>55 - 138</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 12:53</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>105 %</i>     | <i>60 - 120</i> |          | B6B0681 | 02/24/2016 | <i>02/24/16 12:53</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

### QUALITY CONTROL SECTION

#### Lead by ICP-AES EPA 6010B - Quality Control

| Analyte                                    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6B0770 - EPA 3050 Modified_S</b> |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6B0770-BLK1)</b>                |                   |                |                | Prepared: 2/24/2016 Analyzed: 2/24/2016                           |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6B0770-BS1)</b>                   |                   |                |                | Prepared: 2/24/2016 Analyzed: 2/24/2016                           |       |                 |      |              |       |
| Lead                                       | 47.5195           | 1.0            | 50.0000        |   | 95.0  | 80 - 120        |      |              |       |
| <b>Duplicate (B6B0770-DUP1)</b>            |                   |                |                | <b>Source: 1600683-14</b> Prepared: 2/24/2016 Analyzed: 2/24/2016 |       |                 |      |              |       |
| Lead                                       | 4.89553           | 1.0            |                | 4.63817   | NR    |                 | 5.40 | 20           |       |
| <b>Matrix Spike (B6B0770-MS1)</b>          |                   |                |                | <b>Source: 1600683-14</b> Prepared: 2/24/2016 Analyzed: 2/24/2016 |       |                 |      |              |       |
| Lead                                       | 180.722           | 1.0            | 250.000        | 4.63817   | 70.4  | 35 - 129        |      |              |       |
| <b>Matrix Spike Dup (B6B0770-MSD1)</b>     |                   |                |                | <b>Source: 1600683-14</b> Prepared: 2/24/2016 Analyzed: 2/24/2016 |       |                 |      |              |       |
| Lead                                       | 175.023           | 1.0            | 250.000        | 4.63817   | 68.2  | 35 - 129        | 3.20 | 20           |       |



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Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result                        | % Rec<br>% Rec | % Rec<br>Limits                         | RPD<br>RPD | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|----------------|---|------------|--------------|-------|
| <b>Batch B6B0717 - GCVOA_S</b>         |                   |                |                |   |                |   |            |              |       |
| <b>Blank (B6B0717-BLK1)</b>            |                   |                |                | Prepared: 2/22/2016 Analyzed: 2/22/2016 |                |   |            |              |       |
| Gasoline Range Organics                | ND                | 1.0            |                |   | NR             |   |            |              |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2144            |                | 0.199892       |   | 107            | 37 - 153                                |            |              |       |
| <b>LCS (B6B0717-BS1)</b>               |                   |                |                | Prepared: 2/22/2016 Analyzed: 2/22/2016 |                |   |            |              |       |
| Gasoline Range Organics                | 4.60800           | 1.0            | 5.00000        |   | 92.2           | 70 - 130                                |            |              |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2198            |                | 0.199892       |   | 110            | 37 - 153                                |            |              |       |
| <b>Duplicate (B6B0717-DUP1)</b>        |                   |                |                | <b>Source: 1600683-17</b>               |                | Prepared: 2/22/2016 Analyzed: 2/23/2016 |            |              |       |
| Gasoline Range Organics                | ND                | 1.0            |                | ND                                      | NR             |   |            | 20           |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2027            |                | 0.199892       |   | 101            | 37 - 153                                |            |              |       |
| <b>Matrix Spike (B6B0717-MS1)</b>      |                   |                |                | <b>Source: 1600683-17</b>               |                | Prepared: 2/22/2016 Analyzed: 2/22/2016 |            |              |       |
| Gasoline Range Organics                | 4.60100           | 1.0            | 5.00000        | ND                                      | 92.0           | 20 - 130                                |            |              |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2275            |                | 0.199892       |   | 114            | 37 - 153                                |            |              |       |
| <b>Matrix Spike Dup (B6B0717-MSD1)</b> |                   |                |                | <b>Source: 1600683-17</b>               |                | Prepared: 2/22/2016 Analyzed: 2/22/2016 |            |              |       |
| Gasoline Range Organics                | 4.61100           | 1.0            | 5.00000        | ND                                      | 92.2           | 20 - 130                                | 0.217      | 20           |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2274            |                | 0.199892       |   | 114            | 37 - 153                                |            |              |       |



## Certificate of Analysis

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 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 02/26/2016

### Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

| Analyte | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0748 - GCVOA\_W**

**Blank (B6B0748-BLK1)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                         |    |      |  |    |  |
|-------------------------|----|------|--|----|--|
| Gasoline Range Organics | ND | 0.05 |  | NR |  |
|-------------------------|----|------|--|----|--|

|  |                |  |                   |            |                 |
|--|----------------|--|-------------------|------------|-----------------|
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.09994</i> |  | <i>9.99460E-2</i> | <i>100</i> | <i>70 - 130</i> |
|--|----------------|--|-------------------|------------|-----------------|

**LCS (B6B0748-BS1)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                         |          |      |         |      |          |
|-------------------------|----------|------|---------|------|----------|
| Gasoline Range Organics | 0.887000 | 0.05 | 1.00000 | 88.7 | 70 - 130 |
|-------------------------|----------|------|---------|------|----------|

|  |                |  |                   |             |                 |
|--|----------------|--|-------------------|-------------|-----------------|
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.08227</i> |  | <i>9.99460E-2</i> | <i>82.3</i> | <i>70 - 130</i> |
|--|----------------|--|-------------------|-------------|-----------------|

**LCS Dup (B6B0748-BSD1)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                         |          |      |         |      |          |      |    |
|-------------------------|----------|------|---------|------|----------|------|----|
| Gasoline Range Organics | 0.941000 | 0.05 | 1.00000 | 94.1 | 70 - 130 | 5.91 | 20 |
|-------------------------|----------|------|---------|------|----------|------|----|

|  |                |  |                   |             |                 |
|--|----------------|--|-------------------|-------------|-----------------|
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.07581</i> |  | <i>9.99460E-2</i> | <i>75.8</i> | <i>70 - 130</i> |
|--|----------------|--|-------------------|-------------|-----------------|



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### BTEX/MTBE by EPA 8021 - Quality Control

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6B0717 - GCVOA\_S**

**Blank (B6B0717-BLK1)**

Prepared: 2/22/2016 Analyzed: 2/22/2016

|              |    |     |  |  |    |  |  |  |  |
|--------------|----|-----|--|--|----|--|--|--|--|
| MTBE         | ND | 5.0 |  |  | NR |  |  |  |  |
| Benzene      | ND | 5.0 |  |  | NR |  |  |  |  |
| Toluene      | ND | 5.0 |  |  | NR |  |  |  |  |
| Ethylbenzene | ND | 5.0 |  |  | NR |  |  |  |  |
| m,p-Xylene   | ND | 10  |  |  | NR |  |  |  |  |
| o-Xylene     | ND | 5.0 |  |  | NR |  |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      216.7      199.892      108      62 - 128

**LCS (B6B0717-BS2)**

Prepared: 2/22/2016 Analyzed: 2/22/2016

|              |         |     |         |  |      |          |  |  |  |
|--------------|---------|-----|---------|--|------|----------|--|--|--|
| MTBE         | 111.354 | 5.0 | 100.000 |  | 111  | 70 - 130 |  |  |  |
| Benzene      | 89.1720 | 5.0 | 100.000 |  | 89.2 | 70 - 130 |  |  |  |
| Toluene      | 90.1520 | 5.0 | 100.000 |  | 90.2 | 70 - 130 |  |  |  |
| Ethylbenzene | 86.3540 | 5.0 | 100.000 |  | 86.4 | 70 - 130 |  |  |  |
| m,p-Xylene   | 179.343 | 10  | 200.000 |  | 89.7 | 70 - 130 |  |  |  |
| o-Xylene     | 87.7590 | 5.0 | 100.000 |  | 87.8 | 70 - 130 |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      235.3      199.892      118      62 - 128

**Duplicate (B6B0717-DUP1)**

Source: 1600683-17

Prepared: 2/22/2016 Analyzed: 2/23/2016

|              |          |     |  |          |    |  |      |    |   |
|--------------|----------|-----|--|----------|----|--|------|----|---|
| MTBE         | ND       | 5.0 |  | 4.61900  | NR |  |      | 20 |   |
| Benzene      | 0.699000 | 5.0 |  | 0.928000 | NR |  | 28.1 | 20 | R |
| Toluene      | 0.613000 | 5.0 |  | 2.41600  | NR |  | 119  | 20 | R |
| Ethylbenzene | ND       | 5.0 |  | 0.773000 | NR |  |      | 20 |   |
| m,p-Xylene   | 0.999000 | 10  |  | 2.28500  | NR |  | 78.3 | 20 | R |
| o-Xylene     | ND       | 5.0 |  | 0.877000 | NR |  |      | 20 |   |

*Surrogate: 4-Bromofluorobenzene*      203.8      199.892      102      62 - 128

**Matrix Spike (B6B0717-MS1)**

Source: 1600683-17

Prepared: 2/22/2016 Analyzed: 2/22/2016

|              |         |     |         |          |      |          |  |  |  |
|--------------|---------|-----|---------|----------|------|----------|--|--|--|
| MTBE         | 547.842 | 5.0 | 430.000 | 4.61900  | 126  | 37 - 135 |  |  |  |
| Benzene      | 36.0270 | 5.0 | 40.7500 | 0.928000 | 86.1 | 29 - 143 |  |  |  |
| Toluene      | 165.333 | 5.0 | 202.250 | 2.41600  | 80.6 | 24 - 125 |  |  |  |
| Ethylbenzene | 49.0180 | 5.0 | 76.0000 | 0.773000 | 63.5 | 13 - 99  |  |  |  |
| m,p-Xylene   | 173.645 | 10  | 206.500 | 2.28500  | 83.0 | 15 - 141 |  |  |  |
| o-Xylene     | 66.3890 | 5.0 | 73.5000 | 0.877000 | 89.1 | 16 - 144 |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      228.6      199.892      114      62 - 128

**Matrix Spike Dup (B6B0717-MSD1)**

Source: 1600683-17

Prepared: 2/22/2016 Analyzed: 2/22/2016

|              |         |     |         |          |      |          |       |    |  |
|--------------|---------|-----|---------|----------|------|----------|-------|----|--|
| MTBE         | 561.217 | 5.0 | 430.000 | 4.61900  | 129  | 37 - 135 | 2.41  | 20 |  |
| Benzene      | 36.7460 | 5.0 | 40.7500 | 0.928000 | 87.9 | 29 - 143 | 1.98  | 20 |  |
| Toluene      | 167.460 | 5.0 | 202.250 | 2.41600  | 81.6 | 24 - 125 | 1.28  | 20 |  |
| Ethylbenzene | 49.4530 | 5.0 | 76.0000 | 0.773000 | 64.1 | 13 - 99  | 0.884 | 20 |  |
| m,p-Xylene   | 175.841 | 10  | 206.500 | 2.28500  | 84.0 | 15 - 141 | 1.26  | 20 |  |



## Certificate of Analysis

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 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 02/26/2016

### BTEX/MTBE by EPA 8021 - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0717 - GCVOA\_S (continued)**

**Matrix Spike Dup (B6B0717-MSD1) - Continued**

Source: 1600683-17

Prepared: 2/22/2016 Analyzed: 2/22/2016

|                                 |         |     |         |          |      |          |      |    |  |
|---------------------------------|---------|-----|---------|----------|------|----------|------|----|--|
| o-Xylene                        | 67.2170 | 5.0 | 73.5000 | 0.877000 | 90.3 | 16 - 144 | 1.24 | 20 |  |
| Surrogate: 4-Bromofluorobenzene | 229.5   |     | 199.892 |          | 115  | 62 - 128 |      |    |  |



## Certificate of Analysis

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Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### BTEX/MTBE by EPA 8021 - Quality Control

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6B0748 - GCVOA\_W**

**Blank (B6B0748-BLK1)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|              |    |      |  |  |    |  |  |  |  |
|--------------|----|------|--|--|----|--|--|--|--|
| MTBE         | ND | 0.50 |  |  | NR |  |  |  |  |
| Benzene      | ND | 0.50 |  |  | NR |  |  |  |  |
| Toluene      | ND | 0.50 |  |  | NR |  |  |  |  |
| Ethylbenzene | ND | 0.50 |  |  | NR |  |  |  |  |
| m,p-Xylene   | ND | 1.0  |  |  | NR |  |  |  |  |
| o-Xylene     | ND | 0.50 |  |  | NR |  |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      89.88      99.9460      89.9      70 - 130

**LCS (B6B0748-BS2)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|              |         |      |         |  |      |          |  |  |  |
|--------------|---------|------|---------|--|------|----------|--|--|--|
| MTBE         | 40.9350 | 0.50 | 50.0000 |  | 81.9 | 70 - 130 |  |  |  |
| Benzene      | 38.3620 | 0.50 | 50.0000 |  | 76.7 | 70 - 130 |  |  |  |
| Toluene      | 39.0790 | 0.50 | 50.0000 |  | 78.2 | 70 - 130 |  |  |  |
| Ethylbenzene | 39.6090 | 0.50 | 50.0000 |  | 79.2 | 70 - 130 |  |  |  |
| m,p-Xylene   | 85.1070 | 1.0  | 100.000 |  | 85.1 | 70 - 130 |  |  |  |
| o-Xylene     | 40.3690 | 0.50 | 50.0000 |  | 80.7 | 70 - 130 |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      100.6      99.9460      101      70 - 130

**LCS Dup (B6B0748-BS2)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|              |         |      |         |  |      |          |      |    |  |
|--------------|---------|------|---------|--|------|----------|------|----|--|
| MTBE         | 44.1050 | 0.50 | 50.0000 |  | 88.2 | 70 - 130 | 7.46 | 20 |  |
| Benzene      | 40.5300 | 0.50 | 50.0000 |  | 81.1 | 70 - 130 | 5.50 | 20 |  |
| Toluene      | 41.4440 | 0.50 | 50.0000 |  | 82.9 | 70 - 130 | 5.87 | 20 |  |
| Ethylbenzene | 41.9150 | 0.50 | 50.0000 |  | 83.8 | 70 - 130 | 5.66 | 20 |  |
| m,p-Xylene   | 90.7790 | 1.0  | 100.000 |  | 90.8 | 70 - 130 | 6.45 | 20 |  |
| o-Xylene     | 43.0720 | 0.50 | 50.0000 |  | 86.1 | 70 - 130 | 6.48 | 20 |  |

*Surrogate: 4-Bromofluorobenzene*      94.81      99.9460      94.9      70 - 130



## Certificate of Analysis

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Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|------------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|------------------|------------|--------------|-------|

**Batch B6B0731 - MSVOA\_S**

**Blank (B6B0731-BLK1)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                             |    |     |  |  |    |  |  |  |  |
|-----------------------------|----|-----|--|--|----|--|--|--|--|
| 1,1,1,2-Tetrachloroethane   | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,1,1-Trichloroethane       | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,1,2,2-Tetrachloroethane   | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,1,2-Trichloroethane       | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,1-Dichloroethane          | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,1-Dichloroethene          | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,1-Dichloropropene         | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2,3-Trichloropropane      | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2,3-Trichlorobenzene      | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2,4-Trichlorobenzene      | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2,4-Trimethylbenzene      | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2-Dibromo-3-chloropropane | ND | 10  |  |  | NR |  |  |  |  |
| 1,2-Dibromoethane           | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2-Dichlorobenzene         | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2-Dichloroethane          | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,2-Dichloropropane         | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,3,5-Trimethylbenzene      | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,3-Dichlorobenzene         | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,3-Dichloropropane         | ND | 5.0 |  |  | NR |  |  |  |  |
| 1,4-Dichlorobenzene         | ND | 5.0 |  |  | NR |  |  |  |  |
| 2,2-Dichloropropane         | ND | 5.0 |  |  | NR |  |  |  |  |
| 2-Chlorotoluene             | ND | 5.0 |  |  | NR |  |  |  |  |
| 4-Chlorotoluene             | ND | 5.0 |  |  | NR |  |  |  |  |
| 4-Isopropyltoluene          | ND | 5.0 |  |  | NR |  |  |  |  |
| Benzene                     | ND | 5.0 |  |  | NR |  |  |  |  |
| Bromobenzene                | ND | 5.0 |  |  | NR |  |  |  |  |
| Bromodichloromethane        | ND | 5.0 |  |  | NR |  |  |  |  |
| Bromoform                   | ND | 5.0 |  |  | NR |  |  |  |  |
| Bromomethane                | ND | 5.0 |  |  | NR |  |  |  |  |
| Carbon tetrachloride        | ND | 5.0 |  |  | NR |  |  |  |  |
| Chlorobenzene               | ND | 5.0 |  |  | NR |  |  |  |  |
| Chloroethane                | ND | 5.0 |  |  | NR |  |  |  |  |
| Chloroform                  | ND | 5.0 |  |  | NR |  |  |  |  |
| Chloromethane               | ND | 5.0 |  |  | NR |  |  |  |  |
| cis-1,2-Dichloroethene      | ND | 5.0 |  |  | NR |  |  |  |  |
| cis-1,3-Dichloropropene     | ND | 5.0 |  |  | NR |  |  |  |  |
| Dibromochloromethane        | ND | 5.0 |  |  | NR |  |  |  |  |
| Dibromomethane              | ND | 5.0 |  |  | NR |  |  |  |  |
| Dichlorodifluoromethane     | ND | 5.0 |  |  | NR |  |  |  |  |
| Ethylbenzene                | ND | 5.0 |  |  | NR |  |  |  |  |
| Hexachlorobutadiene         | ND | 5.0 |  |  | NR |  |  |  |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0731 - MSVOA\_S (continued)**

**Blank (B6B0731-BLK1) - Continued**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|   |              |     |                |  |             |                 |  |  |  |
|---|--------------|-----|----------------|--|-------------|-----------------|--|--|--|
| Isopropylbenzene                        | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| m,p-Xylene                              | ND           | 10  |                |  | NR          |                 |  |  |  |
| Methylene chloride                      | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| n-Butylbenzene                          | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| n-Propylbenzene                         | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Naphthalene                             | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| o-Xylene                                | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| sec-Butylbenzene                        | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Styrene                                 | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| tert-Butylbenzene                       | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Tetrachloroethene                       | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Toluene                                 | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| trans-1,2-Dichloroethene                | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Trichloroethene                         | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Trichlorofluoromethane                  | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Vinyl chloride                          | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| <hr/>                                   |              |     |                |  |             |                 |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>52.96</i> |     | <i>50.0000</i> |  | <i>106</i>  | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>48.48</i> |     | <i>50.0000</i> |  | <i>97.0</i> | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>50.86</i> |     | <i>50.0000</i> |  | <i>102</i>  | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>51.71</i> |     | <i>50.0000</i> |  | <i>103</i>  | <i>31 - 166</i> |  |  |  |

**LCS (B6B0731-BS1)**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                             |         |     |         |  |      |          |  |  |  |
|-----------------------------|---------|-----|---------|--|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 53.4700 | 5.0 | 50.0000 |  | 107  | 74 - 117 |  |  |  |
| 1,1,1-Trichloroethane       | 55.1100 | 5.0 | 50.0000 |  | 110  | 65 - 130 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 49.0400 | 5.0 | 50.0000 |  | 98.1 | 63 - 123 |  |  |  |
| 1,1,2-Trichloroethane       | 48.3700 | 5.0 | 50.0000 |  | 96.7 | 66 - 122 |  |  |  |
| 1,1-Dichloroethane          | 53.9600 | 5.0 | 50.0000 |  | 108  | 65 - 124 |  |  |  |
| 1,1-Dichloroethene          | 54.6200 | 5.0 | 50.0000 |  | 109  | 60 - 130 |  |  |  |
| 1,1-Dichloropropene         | 54.8200 | 5.0 | 50.0000 |  | 110  | 75 - 121 |  |  |  |
| 1,2,3-Trichloropropane      | 51.8600 | 5.0 | 50.0000 |  | 104  | 62 - 126 |  |  |  |
| 1,2,3-Trichlorobenzene      | 50.6700 | 5.0 | 50.0000 |  | 101  | 72 - 120 |  |  |  |
| 1,2,4-Trichlorobenzene      | 53.9900 | 5.0 | 50.0000 |  | 108  | 75 - 121 |  |  |  |
| 1,2,4-Trimethylbenzene      | 57.6000 | 5.0 | 50.0000 |  | 115  | 82 - 118 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 52.5600 | 10  | 50.0000 |  | 105  | 67 - 121 |  |  |  |
| 1,2-Dibromoethane           | 50.5100 | 5.0 | 50.0000 |  | 101  | 69 - 123 |  |  |  |
| 1,2-Dichlorobenzene         | 53.1200 | 5.0 | 50.0000 |  | 106  | 81 - 114 |  |  |  |
| 1,2-Dichloroethane          | 52.8700 | 5.0 | 50.0000 |  | 106  | 71 - 119 |  |  |  |
| 1,2-Dichloropropane         | 51.2100 | 5.0 | 50.0000 |  | 102  | 71 - 118 |  |  |  |
| 1,3,5-Trimethylbenzene      | 57.0800 | 5.0 | 50.0000 |  | 114  | 81 - 120 |  |  |  |
| 1,3-Dichlorobenzene         | 53.9200 | 5.0 | 50.0000 |  | 108  | 80 - 115 |  |  |  |
| 1,3-Dichloropropane         | 52.6300 | 5.0 | 50.0000 |  | 105  | 77 - 117 |  |  |  |



## Certificate of Analysis

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Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6B0731 - MSVOA\_S (continued)**

**LCS (B6B0731-BS1) - Continued**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                                  |         |     |         |  |      |          |  |  |    |
|----------------------------------|---------|-----|---------|--|------|----------|--|--|----|
| 1,4-Dichlorobenzene              | 53.3100 | 5.0 | 50.0000 |  | 107  | 80 - 115 |  |  |    |
| 2,2-Dichloropropane              | 61.8100 | 5.0 | 50.0000 |  | 124  | 58 - 141 |  |  |    |
| 2-Chlorotoluene                  | 57.1800 | 5.0 | 50.0000 |  | 114  | 78 - 120 |  |  |    |
| 4-Chlorotoluene                  | 57.2500 | 5.0 | 50.0000 |  | 114  | 79 - 119 |  |  |    |
| 4-Isopropyltoluene               | 58.2500 | 5.0 | 50.0000 |  | 116  | 81 - 125 |  |  |    |
| Benzene                          | 102.650 | 5.0 | 100.000 |  | 103  | 73 - 116 |  |  |    |
| Bromobenzene                     | 51.6300 | 5.0 | 50.0000 |  | 103  | 78 - 115 |  |  |    |
| Bromodichloromethane             | 50.2000 | 5.0 | 50.0000 |  | 100  | 73 - 120 |  |  |    |
| Bromoform                        | 50.4200 | 5.0 | 50.0000 |  | 101  | 68 - 124 |  |  |    |
| Bromomethane                     | 80.5000 | 5.0 | 50.0000 |  | 161  | 26 - 163 |  |  |    |
| Carbon tetrachloride             | 53.1800 | 5.0 | 50.0000 |  | 106  | 67 - 130 |  |  |    |
| Chlorobenzene                    | 53.0800 | 5.0 | 50.0000 |  | 106  | 82 - 114 |  |  |    |
| Chloroethane                     | 70.4300 | 5.0 | 50.0000 |  | 141  | 40 - 151 |  |  |    |
| Chloroform                       | 53.8500 | 5.0 | 50.0000 |  | 108  | 68 - 124 |  |  |    |
| Chloromethane                    | 69.9000 | 5.0 | 50.0000 |  | 140  | 18 - 144 |  |  |    |
| cis-1,2-Dichloroethene           | 53.3000 | 5.0 | 50.0000 |  | 107  | 66 - 125 |  |  |    |
| cis-1,3-Dichloropropene          | 49.7600 | 5.0 | 50.0000 |  | 99.5 | 77 - 120 |  |  |    |
| Dibromochloromethane             | 50.3900 | 5.0 | 50.0000 |  | 101  | 76 - 118 |  |  |    |
| Dibromomethane                   | 48.6600 | 5.0 | 50.0000 |  | 97.3 | 69 - 122 |  |  |    |
| Dichlorodifluoromethane          | 62.3100 | 5.0 | 50.0000 |  | 125  | 0 - 155  |  |  |    |
| Ethylbenzene                     | 113.280 | 5.0 | 100.000 |  | 113  | 79 - 115 |  |  |    |
| Hexachlorobutadiene              | 54.7700 | 5.0 | 50.0000 |  | 110  | 71 - 121 |  |  |    |
| Isopropylbenzene                 | 57.7700 | 5.0 | 50.0000 |  | 116  | 78 - 126 |  |  |    |
| m,p-Xylene                       | 118.210 | 10  | 100.000 |  | 118  | 80 - 119 |  |  |    |
| Methylene chloride               | 54.0800 | 5.0 | 50.0000 |  | 108  | 56 - 129 |  |  |    |
| MTBE                             | 53.8100 | 5.0 | 50.0000 |  | 108  | 61 - 124 |  |  |    |
| n-Butylbenzene                   | 61.3900 | 5.0 | 50.0000 |  | 123  | 78 - 127 |  |  |    |
| n-Propylbenzene                  | 59.1000 | 5.0 | 50.0000 |  | 118  | 77 - 128 |  |  |    |
| Naphthalene                      | 49.7600 | 5.0 | 50.0000 |  | 99.5 | 61 - 141 |  |  |    |
| o-Xylene                         | 116.150 | 5.0 | 100.000 |  | 116  | 81 - 116 |  |  | L5 |
| sec-Butylbenzene                 | 58.9000 | 5.0 | 50.0000 |  | 118  | 81 - 125 |  |  |    |
| Styrene                          | 56.9200 | 5.0 | 50.0000 |  | 114  | 82 - 120 |  |  |    |
| tert-Butylbenzene                | 56.5300 | 5.0 | 50.0000 |  | 113  | 80 - 123 |  |  |    |
| Tetrachloroethene                | 54.1200 | 5.0 | 50.0000 |  | 108  | 75 - 123 |  |  |    |
| Toluene                          | 107.500 | 5.0 | 100.000 |  | 108  | 75 - 119 |  |  |    |
| trans-1,2-Dichloroethene         | 53.1900 | 5.0 | 50.0000 |  | 106  | 62 - 127 |  |  |    |
| Trichloroethene                  | 51.2900 | 5.0 | 50.0000 |  | 103  | 73 - 119 |  |  |    |
| Trichlorofluoromethane           | 49.8200 | 5.0 | 50.0000 |  | 99.6 | 47 - 157 |  |  |    |
| Vinyl chloride                   | 62.2900 | 5.0 | 50.0000 |  | 125  | 27 - 147 |  |  |    |
| Surrogate: 1,2-Dichloroethane-d4 | 55.81   |     | 50.0000 |  | 112  | 20 - 189 |  |  |    |
| Surrogate: 4-Bromofluorobenzene  | 51.64   |     | 50.0000 |  | 103  | 20 - 173 |  |  |    |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 02/26/2016

## Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

### Batch B6B0731 - MSVOA\_S (continued)

#### LCS (B6B0731-BS1) - Continued

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                                 |       |  |         |  |     |          |  |  |  |
|---------------------------------|-------|--|---------|--|-----|----------|--|--|--|
| Surrogate: Dibromofluoromethane | 54.15 |  | 50.0000 |  | 108 | 26 - 178 |  |  |  |
| Surrogate: Toluene-d8           | 54.43 |  | 50.0000 |  | 109 | 31 - 166 |  |  |  |

#### Duplicate (B6B0731-DUP1)

Source: 1600683-11

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                             |    |     |  |    |    |  |  |    |  |
|-----------------------------|----|-----|--|----|----|--|--|----|--|
| 1,1,1,2-Tetrachloroethane   | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,1,1-Trichloroethane       | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,1,2,2-Tetrachloroethane   | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,1,2-Trichloroethane       | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloroethane          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloroethene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloropropene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2,3-Trichloropropane      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2,3-Trichlorobenzene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2,4-Trichlorobenzene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2,4-Trimethylbenzene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2-Dibromo-3-chloropropane | ND | 10  |  | ND | NR |  |  | 20 |  |
| 1,2-Dibromoethane           | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichlorobenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichloroethane          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichloropropane         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,3,5-Trimethylbenzene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,3-Dichlorobenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,3-Dichloropropane         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,4-Dichlorobenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 2,2-Dichloropropane         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 2-Chlorotoluene             | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 4-Chlorotoluene             | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 4-Isopropyltoluene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Benzene                     | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Bromobenzene                | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Bromodichloromethane        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Bromoform                   | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Bromomethane                | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Carbon tetrachloride        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Chlorobenzene               | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Chloroethane                | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Chloroform                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Chloromethane               | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| cis-1,2-Dichloroethene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| cis-1,3-Dichloropropene     | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Dibromochloromethane        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Dibromomethane              | ND | 5.0 |  | ND | NR |  |  | 20 |  |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6B0731 - MSVOA\_S (continued)**

**Duplicate (B6B0731-DUP1) - Continued**

**Source: 1600683-11**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                          |    |     |  |    |    |  |  |    |  |
|--------------------------|----|-----|--|----|----|--|--|----|--|
| Dichlorodifluoromethane  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Ethylbenzene             | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Hexachlorobutadiene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Isopropylbenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| m,p-Xylene               | ND | 10  |  | ND | NR |  |  | 20 |  |
| Methylene chloride       | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| MTBE                     | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| n-Butylbenzene           | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| n-Propylbenzene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Naphthalene              | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| o-Xylene                 | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| sec-Butylbenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Styrene                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| tert-Butylbenzene        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Tetrachloroethene        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Toluene                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| trans-1,2-Dichloroethene | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Trichloroethene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Trichlorofluoromethane   | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Vinyl chloride           | ND | 5.0 |  | ND | NR |  |  | 20 |  |

|   |       |  |         |  |      |          |  |  |  |
|---|-------|--|---------|--|------|----------|--|--|--|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 58.58 |  | 50.0000 |  | 117  | 20 - 189 |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 47.71 |  | 50.0000 |  | 95.4 | 20 - 173 |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | 52.06 |  | 50.0000 |  | 104  | 26 - 178 |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | 52.37 |  | 50.0000 |  | 105  | 31 - 166 |  |  |  |

**Matrix Spike (B6B0731-MS1)**

**Source: 1600683-11**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                             |         |     |         |    |      |          |  |  |  |
|-----------------------------|---------|-----|---------|----|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 47.2200 | 5.0 | 50.0000 | ND | 94.4 | 45 - 122 |  |  |  |
| 1,1,1-Trichloroethane       | 50.0300 | 5.0 | 50.0000 | ND | 100  | 46 - 131 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 46.8900 | 5.0 | 50.0000 | ND | 93.8 | 34 - 133 |  |  |  |
| 1,1,2-Trichloroethane       | 49.3300 | 5.0 | 50.0000 | ND | 98.7 | 40 - 133 |  |  |  |
| 1,1-Dichloroethane          | 48.4700 | 5.0 | 50.0000 | ND | 96.9 | 50 - 120 |  |  |  |
| 1,1-Dichloroethene          | 49.4900 | 5.0 | 50.0000 | ND | 99.0 | 42 - 130 |  |  |  |
| 1,1-Dichloropropene         | 50.5900 | 5.0 | 50.0000 | ND | 101  | 49 - 125 |  |  |  |
| 1,2,3-Trichloropropane      | 48.6700 | 5.0 | 50.0000 | ND | 97.3 | 42 - 130 |  |  |  |
| 1,2,3-Trichlorobenzene      | 45.2500 | 5.0 | 50.0000 | ND | 90.5 | 2 - 136  |  |  |  |
| 1,2,4-Trichlorobenzene      | 45.7300 | 5.0 | 50.0000 | ND | 91.5 | 6 - 137  |  |  |  |
| 1,2,4-Trimethylbenzene      | 50.2200 | 5.0 | 50.0000 | ND | 100  | 37 - 129 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 50.8400 | 10  | 50.0000 | ND | 102  | 36 - 135 |  |  |  |
| 1,2-Dibromoethane           | 50.6900 | 5.0 | 50.0000 | ND | 101  | 43 - 129 |  |  |  |
| 1,2-Dichlorobenzene         | 46.8300 | 5.0 | 50.0000 | ND | 93.7 | 31 - 129 |  |  |  |
| 1,2-Dichloroethane          | 53.2800 | 5.0 | 50.0000 | ND | 107  | 50 - 122 |  |  |  |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

## Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

### Batch B6B0731 - MSVOA\_S (continued)

#### Matrix Spike (B6B0731-MS1) - Continued

Source: 1600683-11

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                          |         |     |         |    |      |          |  |  |  |
|--------------------------|---------|-----|---------|----|------|----------|--|--|--|
| 1,2-Dichloropropane      | 48.0800 | 5.0 | 50.0000 | ND | 96.2 | 51 - 119 |  |  |  |
| 1,3,5-Trimethylbenzene   | 49.6700 | 5.0 | 50.0000 | ND | 99.3 | 38 - 130 |  |  |  |
| 1,3-Dichlorobenzene      | 47.3300 | 5.0 | 50.0000 | ND | 94.7 | 31 - 128 |  |  |  |
| 1,3-Dichloropropane      | 48.4700 | 5.0 | 50.0000 | ND | 96.9 | 52 - 122 |  |  |  |
| 1,4-Dichlorobenzene      | 47.0300 | 5.0 | 50.0000 | ND | 94.1 | 31 - 128 |  |  |  |
| 2,2-Dichloropropane      | 54.9900 | 5.0 | 50.0000 | ND | 110  | 42 - 140 |  |  |  |
| 2-Chlorotoluene          | 49.3000 | 5.0 | 50.0000 | ND | 98.6 | 38 - 129 |  |  |  |
| 4-Chlorotoluene          | 50.1200 | 5.0 | 50.0000 | ND | 100  | 38 - 128 |  |  |  |
| 4-Isopropyltoluene       | 50.5400 | 5.0 | 50.0000 | ND | 101  | 31 - 137 |  |  |  |
| Benzene                  | 96.2300 | 5.0 | 100.000 | ND | 96.2 | 51 - 117 |  |  |  |
| Bromobenzene             | 45.6900 | 5.0 | 50.0000 | ND | 91.4 | 41 - 125 |  |  |  |
| Bromodichloromethane     | 47.6600 | 5.0 | 50.0000 | ND | 95.3 | 50 - 122 |  |  |  |
| Bromoform                | 47.0900 | 5.0 | 50.0000 | ND | 94.2 | 39 - 131 |  |  |  |
| Bromomethane             | 64.3300 | 5.0 | 50.0000 | ND | 129  | 10 - 154 |  |  |  |
| Carbon tetrachloride     | 48.5400 | 5.0 | 50.0000 | ND | 97.1 | 44 - 131 |  |  |  |
| Chlorobenzene            | 47.2600 | 5.0 | 50.0000 | ND | 94.5 | 46 - 123 |  |  |  |
| Chloroethane             | 60.1800 | 5.0 | 50.0000 | ND | 120  | 27 - 143 |  |  |  |
| Chloroform               | 49.1200 | 5.0 | 50.0000 | ND | 98.2 | 50 - 124 |  |  |  |
| Chloromethane            | 61.7000 | 5.0 | 50.0000 | ND | 123  | 8 - 139  |  |  |  |
| cis-1,2-Dichloroethene   | 48.6000 | 5.0 | 50.0000 | ND | 97.2 | 48 - 125 |  |  |  |
| cis-1,3-Dichloropropene  | 45.5600 | 5.0 | 50.0000 | ND | 91.1 | 51 - 123 |  |  |  |
| Dibromochloromethane     | 46.7300 | 5.0 | 50.0000 | ND | 93.5 | 48 - 124 |  |  |  |
| Dibromomethane           | 46.6300 | 5.0 | 50.0000 | ND | 93.3 | 48 - 124 |  |  |  |
| Dichlorodifluoromethane  | 53.7300 | 5.0 | 50.0000 | ND | 107  | 0 - 150  |  |  |  |
| Ethylbenzene             | 100.710 | 5.0 | 100.000 | ND | 101  | 46 - 123 |  |  |  |
| Hexachlorobutadiene      | 45.0300 | 5.0 | 50.0000 | ND | 90.1 | 5 - 132  |  |  |  |
| Isopropylbenzene         | 50.1300 | 5.0 | 50.0000 | ND | 100  | 43 - 132 |  |  |  |
| m,p-Xylene               | 105.690 | 10  | 100.000 | ND | 106  | 45 - 128 |  |  |  |
| Methylene chloride       | 48.9000 | 5.0 | 50.0000 | ND | 97.8 | 37 - 126 |  |  |  |
| MTBE                     | 51.1900 | 5.0 | 50.0000 | ND | 102  | 46 - 125 |  |  |  |
| n-Butylbenzene           | 52.3200 | 5.0 | 50.0000 | ND | 105  | 24 - 138 |  |  |  |
| n-Propylbenzene          | 51.7900 | 5.0 | 50.0000 | ND | 104  | 40 - 133 |  |  |  |
| Naphthalene              | 46.4300 | 5.0 | 50.0000 | ND | 92.9 | 10 - 149 |  |  |  |
| o-Xylene                 | 104.290 | 5.0 | 100.000 | ND | 104  | 45 - 125 |  |  |  |
| sec-Butylbenzene         | 50.9800 | 5.0 | 50.0000 | ND | 102  | 33 - 136 |  |  |  |
| Styrene                  | 51.1700 | 5.0 | 50.0000 | ND | 102  | 43 - 128 |  |  |  |
| tert-Butylbenzene        | 49.2500 | 5.0 | 50.0000 | ND | 98.5 | 36 - 133 |  |  |  |
| Tetrachloroethene        | 47.4900 | 5.0 | 50.0000 | ND | 95.0 | 41 - 129 |  |  |  |
| Toluene                  | 100.310 | 5.0 | 100.000 | ND | 100  | 49 - 124 |  |  |  |
| trans-1,2-Dichloroethene | 47.7000 | 5.0 | 50.0000 | ND | 95.4 | 44 - 126 |  |  |  |
| Trichloroethene          | 48.6700 | 5.0 | 50.0000 | ND | 97.3 | 38 - 139 |  |  |  |
| Trichlorofluoromethane   | 44.4100 | 5.0 | 50.0000 | ND | 88.8 | 30 - 157 |  |  |  |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0731 - MSVOA\_S (continued)**

**Matrix Spike (B6B0731-MS1) - Continued**

**Source: 1600683-11**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|   |              |     |                |    |            |                 |  |  |  |
|---|--------------|-----|----------------|----|------------|-----------------|--|--|--|
| Vinyl chloride                          | 56.5900      | 5.0 | 50.0000        | ND | 113        | 19 - 142        |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>63.49</i> |     | <i>50.0000</i> |    | <i>127</i> | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>51.60</i> |     | <i>50.0000</i> |    | <i>103</i> | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>54.06</i> |     | <i>50.0000</i> |    | <i>108</i> | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>55.35</i> |     | <i>50.0000</i> |    | <i>111</i> | <i>31 - 166</i> |  |  |  |

**Matrix Spike Dup (B6B0731-MSD1)**

**Source: 1600683-11**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                             |         |     |         |    |      |          |       |    |  |
|-----------------------------|---------|-----|---------|----|------|----------|-------|----|--|
| 1,1,1,2-Tetrachloroethane   | 44.8400 | 5.0 | 50.0000 | ND | 89.7 | 45 - 122 | 5.17  | 20 |  |
| 1,1,1-Trichloroethane       | 48.5200 | 5.0 | 50.0000 | ND | 97.0 | 46 - 131 | 3.06  | 20 |  |
| 1,1,2,2-Tetrachloroethane   | 44.1200 | 5.0 | 50.0000 | ND | 88.2 | 34 - 133 | 6.09  | 20 |  |
| 1,1,2-Trichloroethane       | 46.1200 | 5.0 | 50.0000 | ND | 92.2 | 40 - 133 | 6.73  | 20 |  |
| 1,1-Dichloroethane          | 48.1500 | 5.0 | 50.0000 | ND | 96.3 | 50 - 120 | 0.662 | 20 |  |
| 1,1-Dichloroethene          | 46.0500 | 5.0 | 50.0000 | ND | 92.1 | 42 - 130 | 7.20  | 20 |  |
| 1,1-Dichloropropene         | 47.3600 | 5.0 | 50.0000 | ND | 94.7 | 49 - 125 | 6.60  | 20 |  |
| 1,2,3-Trichloropropane      | 45.6300 | 5.0 | 50.0000 | ND | 91.3 | 42 - 130 | 6.45  | 20 |  |
| 1,2,3-Trichlorobenzene      | 44.7200 | 5.0 | 50.0000 | ND | 89.4 | 2 - 136  | 1.18  | 20 |  |
| 1,2,4-Trichlorobenzene      | 47.9700 | 5.0 | 50.0000 | ND | 95.9 | 6 - 137  | 4.78  | 20 |  |
| 1,2,4-Trimethylbenzene      | 49.0000 | 5.0 | 50.0000 | ND | 98.0 | 37 - 129 | 2.46  | 20 |  |
| 1,2-Dibromo-3-chloropropane | 53.2000 | 10  | 50.0000 | ND | 106  | 36 - 135 | 4.54  | 20 |  |
| 1,2-Dibromoethane           | 47.6000 | 5.0 | 50.0000 | ND | 95.2 | 43 - 129 | 6.29  | 20 |  |
| 1,2-Dichlorobenzene         | 46.2600 | 5.0 | 50.0000 | ND | 92.5 | 31 - 129 | 1.22  | 20 |  |
| 1,2-Dichloroethane          | 49.9900 | 5.0 | 50.0000 | ND | 100  | 50 - 122 | 6.37  | 20 |  |
| 1,2-Dichloropropane         | 45.6800 | 5.0 | 50.0000 | ND | 91.4 | 51 - 119 | 5.12  | 20 |  |
| 1,3,5-Trimethylbenzene      | 47.7100 | 5.0 | 50.0000 | ND | 95.4 | 38 - 130 | 4.03  | 20 |  |
| 1,3-Dichlorobenzene         | 46.0000 | 5.0 | 50.0000 | ND | 92.0 | 31 - 128 | 2.85  | 20 |  |
| 1,3-Dichloropropane         | 47.0200 | 5.0 | 50.0000 | ND | 94.0 | 52 - 122 | 3.04  | 20 |  |
| 1,4-Dichlorobenzene         | 45.9000 | 5.0 | 50.0000 | ND | 91.8 | 31 - 128 | 2.43  | 20 |  |
| 2,2-Dichloropropane         | 53.0000 | 5.0 | 50.0000 | ND | 106  | 42 - 140 | 3.69  | 20 |  |
| 2-Chlorotoluene             | 47.4100 | 5.0 | 50.0000 | ND | 94.8 | 38 - 129 | 3.91  | 20 |  |
| 4-Chlorotoluene             | 48.5500 | 5.0 | 50.0000 | ND | 97.1 | 38 - 128 | 3.18  | 20 |  |
| 4-Isopropyltoluene          | 49.1100 | 5.0 | 50.0000 | ND | 98.2 | 31 - 137 | 2.87  | 20 |  |
| Benzene                     | 91.4200 | 5.0 | 100.000 | ND | 91.4 | 51 - 117 | 5.13  | 20 |  |
| Bromobenzene                | 43.2300 | 5.0 | 50.0000 | ND | 86.5 | 41 - 125 | 5.53  | 20 |  |
| Bromodichloromethane        | 45.7500 | 5.0 | 50.0000 | ND | 91.5 | 50 - 122 | 4.09  | 20 |  |
| Bromoform                   | 45.6800 | 5.0 | 50.0000 | ND | 91.4 | 39 - 131 | 3.04  | 20 |  |
| Bromomethane                | 60.0400 | 5.0 | 50.0000 | ND | 120  | 10 - 154 | 6.90  | 20 |  |
| Carbon tetrachloride        | 46.4600 | 5.0 | 50.0000 | ND | 92.9 | 44 - 131 | 4.38  | 20 |  |
| Chlorobenzene               | 45.1800 | 5.0 | 50.0000 | ND | 90.4 | 46 - 123 | 4.50  | 20 |  |
| Chloroethane                | 57.2300 | 5.0 | 50.0000 | ND | 114  | 27 - 143 | 5.03  | 20 |  |
| Chloroform                  | 47.4300 | 5.0 | 50.0000 | ND | 94.9 | 50 - 124 | 3.50  | 20 |  |
| Chloromethane               | 63.5700 | 5.0 | 50.0000 | ND | 127  | 8 - 139  | 2.99  | 20 |  |



## Certificate of Analysis

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Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0731 - MSVOA\_S (continued)**

**Matrix Spike Dup (B6B0731-MSD1) - Continued**

**Source: 1600683-11**

Prepared: 2/23/2016 Analyzed: 2/23/2016

|                                  |         |     |         |    |      |          |          |    |  |
|----------------------------------|---------|-----|---------|----|------|----------|----------|----|--|
| cis-1,2-Dichloroethene           | 46.6200 | 5.0 | 50.0000 | ND | 93.2 | 48 - 125 | 4.16     | 20 |  |
| cis-1,3-Dichloropropene          | 45.3200 | 5.0 | 50.0000 | ND | 90.6 | 51 - 123 | 0.528    | 20 |  |
| Dibromochloromethane             | 44.7600 | 5.0 | 50.0000 | ND | 89.5 | 48 - 124 | 4.31     | 20 |  |
| Dibromomethane                   | 44.1500 | 5.0 | 50.0000 | ND | 88.3 | 48 - 124 | 5.46     | 20 |  |
| Dichlorodifluoromethane          | 53.4700 | 5.0 | 50.0000 | ND | 107  | 0 - 150  | 0.485    | 20 |  |
| Ethylbenzene                     | 97.1500 | 5.0 | 100.000 | ND | 97.2 | 46 - 123 | 3.60     | 20 |  |
| Hexachlorobutadiene              | 44.6700 | 5.0 | 50.0000 | ND | 89.3 | 5 - 132  | 0.803    | 20 |  |
| Isopropylbenzene                 | 47.6100 | 5.0 | 50.0000 | ND | 95.2 | 43 - 132 | 5.16     | 20 |  |
| m,p-Xylene                       | 102.480 | 10  | 100.000 | ND | 102  | 45 - 128 | 3.08     | 20 |  |
| Methylene chloride               | 48.1400 | 5.0 | 50.0000 | ND | 96.3 | 37 - 126 | 1.57     | 20 |  |
| MTBE                             | 49.9200 | 5.0 | 50.0000 | ND | 99.8 | 46 - 125 | 2.51     | 20 |  |
| n-Butylbenzene                   | 51.1000 | 5.0 | 50.0000 | ND | 102  | 24 - 138 | 2.36     | 20 |  |
| n-Propylbenzene                  | 49.2900 | 5.0 | 50.0000 | ND | 98.6 | 40 - 133 | 4.95     | 20 |  |
| Naphthalene                      | 47.5600 | 5.0 | 50.0000 | ND | 95.1 | 10 - 149 | 2.40     | 20 |  |
| o-Xylene                         | 101.560 | 5.0 | 100.000 | ND | 102  | 45 - 125 | 2.65     | 20 |  |
| sec-Butylbenzene                 | 49.0500 | 5.0 | 50.0000 | ND | 98.1 | 33 - 136 | 3.86     | 20 |  |
| Styrene                          | 50.2300 | 5.0 | 50.0000 | ND | 100  | 43 - 128 | 1.85     | 20 |  |
| tert-Butylbenzene                | 47.4600 | 5.0 | 50.0000 | ND | 94.9 | 36 - 133 | 3.70     | 20 |  |
| Tetrachloroethene                | 44.8900 | 5.0 | 50.0000 | ND | 89.8 | 41 - 129 | 5.63     | 20 |  |
| Toluene                          | 97.2800 | 5.0 | 100.000 | ND | 97.3 | 49 - 124 | 3.07     | 20 |  |
| trans-1,2-Dichloroethene         | 45.7600 | 5.0 | 50.0000 | ND | 91.5 | 44 - 126 | 4.15     | 20 |  |
| Trichloroethene                  | 45.6600 | 5.0 | 50.0000 | ND | 91.3 | 38 - 139 | 6.38     | 20 |  |
| Trichlorofluoromethane           | 42.9100 | 5.0 | 50.0000 | ND | 85.8 | 30 - 157 | 3.44     | 20 |  |
| Vinyl chloride                   | 54.1600 | 5.0 | 50.0000 | ND | 108  | 19 - 142 | 4.39     | 20 |  |
| <hr/>                            |         |     |         |    |      |          |          |    |  |
| Surrogate: 1,2-Dichloroethane-d4 | 56.80   |     | 50.0000 |    | 114  |          | 20 - 189 |    |  |
| Surrogate: 4-Bromofluorobenzene  | 51.75   |     | 50.0000 |    | 104  |          | 20 - 173 |    |  |
| Surrogate: Dibromofluoromethane  | 55.31   |     | 50.0000 |    | 111  |          | 26 - 178 |    |  |
| Surrogate: Toluene-d8            | 54.86   |     | 50.0000 |    | 110  |          | 31 - 166 |    |  |



## Certificate of Analysis

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Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>Limits | RPD<br>RPD | Limit<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|------------------|------------|----------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|------------------|------------|----------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W**

**Blank (B6B0681-BLK1)**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                             |    |      |  |    |
|-----------------------------|----|------|--|----|
| 1,1,1,2-Tetrachloroethane   | ND | 0.50 |  | NR |
| 1,1,1-Trichloroethane       | ND | 0.50 |  | NR |
| 1,1,2,2-Tetrachloroethane   | ND | 0.50 |  | NR |
| 1,1,2-Trichloroethane       | ND | 0.50 |  | NR |
| 1,1-Dichloroethane          | ND | 0.50 |  | NR |
| 1,1-Dichloroethene          | ND | 0.50 |  | NR |
| 1,1-Dichloropropene         | ND | 0.50 |  | NR |
| 1,2,3-Trichloropropane      | ND | 0.50 |  | NR |
| 1,2,3-Trichlorobenzene      | ND | 0.50 |  | NR |
| 1,2,4-Trichlorobenzene      | ND | 0.50 |  | NR |
| 1,2,4-Trimethylbenzene      | ND | 0.50 |  | NR |
| 1,2-Dibromo-3-chloropropane | ND | 0.50 |  | NR |
| 1,2-Dibromoethane           | ND | 0.50 |  | NR |
| 1,2-Dichlorobenzene         | ND | 0.50 |  | NR |
| 1,2-Dichloroethane          | ND | 0.50 |  | NR |
| 1,2-Dichloropropane         | ND | 0.50 |  | NR |
| 1,3,5-Trimethylbenzene      | ND | 0.50 |  | NR |
| 1,3-Dichlorobenzene         | ND | 0.50 |  | NR |
| 1,3-Dichloropropane         | ND | 0.50 |  | NR |
| 1,4-Dichlorobenzene         | ND | 0.50 |  | NR |
| 2,2-Dichloropropane         | ND | 0.50 |  | NR |
| 2-Chlorotoluene             | ND | 0.50 |  | NR |
| 4-Chlorotoluene             | ND | 0.50 |  | NR |
| 4-Isopropyltoluene          | ND | 0.50 |  | NR |
| Benzene                     | ND | 0.50 |  | NR |
| Bromobenzene                | ND | 0.50 |  | NR |
| Bromodichloromethane        | ND | 0.50 |  | NR |
| Bromoform                   | ND | 0.50 |  | NR |
| Bromomethane                | ND | 0.50 |  | NR |
| Carbon tetrachloride        | ND | 0.50 |  | NR |
| Chlorobenzene               | ND | 0.50 |  | NR |
| Chloroethane                | ND | 0.50 |  | NR |
| Chloroform                  | ND | 0.50 |  | NR |
| Chloromethane               | ND | 0.50 |  | NR |
| cis-1,2-Dichloroethene      | ND | 0.50 |  | NR |
| cis-1,3-Dichloropropene     | ND | 0.50 |  | NR |
| Dibromochloromethane        | ND | 0.50 |  | NR |
| Dibromomethane              | ND | 0.50 |  | NR |
| Dichlorodifluoromethane     | ND | 0.50 |  | NR |
| Ethylbenzene                | ND | 0.50 |  | NR |
| Hexachlorobutadiene         | ND | 0.50 |  | NR |



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Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W (continued)**

**Blank (B6B0681-BLK1) - Continued**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|   |       |      |         |  |     |          |  |  |  |
|---|-------|------|---------|--|-----|----------|--|--|--|
| Isopropylbenzene                        | ND    | 0.50 |         |  |     | NR       |  |  |  |
| m,p-Xylene                              | ND    | 1.0  |         |  |     | NR       |  |  |  |
| Methylene chloride                      | ND    | 1.0  |         |  |     | NR       |  |  |  |
| n-Butylbenzene                          | ND    | 0.50 |         |  |     | NR       |  |  |  |
| n-Propylbenzene                         | ND    | 0.50 |         |  |     | NR       |  |  |  |
| Naphthalene                             | ND    | 0.50 |         |  |     | NR       |  |  |  |
| o-Xylene                                | ND    | 0.50 |         |  |     | NR       |  |  |  |
| sec-Butylbenzene                        | ND    | 0.50 |         |  |     | NR       |  |  |  |
| Styrene                                 | ND    | 0.50 |         |  |     | NR       |  |  |  |
| tert-Butylbenzene                       | ND    | 0.50 |         |  |     | NR       |  |  |  |
| Tetrachloroethene                       | ND    | 0.50 |         |  |     | NR       |  |  |  |
| Toluene                                 | ND    | 0.50 |         |  |     | NR       |  |  |  |
| trans-1,2-Dichloroethene                | ND    | 0.50 |         |  |     | NR       |  |  |  |
| Trichloroethene                         | ND    | 0.50 |         |  |     | NR       |  |  |  |
| Trichlorofluoromethane                  | ND    | 0.50 |         |  |     | NR       |  |  |  |
| Vinyl chloride                          | ND    | 0.50 |         |  |     | NR       |  |  |  |
| <hr/>                                   |       |      |         |  |     |          |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 32.32 |      | 25.0000 |  | 129 | 49 - 148 |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 27.27 |      | 25.0000 |  | 109 | 65 - 132 |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | 29.79 |      | 25.0000 |  | 119 | 55 - 138 |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | 27.07 |      | 25.0000 |  | 108 | 60 - 120 |  |  |  |

**LCS (B6B0681-BS1)**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                             |         |      |         |  |      |          |  |  |  |
|-----------------------------|---------|------|---------|--|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 17.8500 | 0.50 | 20.0000 |  | 89.2 | 71 - 142 |  |  |  |
| 1,1,1-Trichloroethane       | 22.0500 | 0.50 | 20.0000 |  | 110  | 68 - 141 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 18.5500 | 0.50 | 20.0000 |  | 92.8 | 72 - 123 |  |  |  |
| 1,1,2-Trichloroethane       | 16.7300 | 0.50 | 20.0000 |  | 83.6 | 63 - 129 |  |  |  |
| 1,1-Dichloroethane          | 23.5600 | 0.50 | 20.0000 |  | 118  | 65 - 133 |  |  |  |
| 1,1-Dichloroethene          | 24.7400 | 0.50 | 20.0000 |  | 124  | 61 - 136 |  |  |  |
| 1,1-Dichloropropene         | 19.3000 | 0.50 | 20.0000 |  | 96.5 | 62 - 137 |  |  |  |
| 1,2,3-Trichloropropane      | 17.2100 | 0.50 | 20.0000 |  | 86.0 | 71 - 128 |  |  |  |
| 1,2,3-Trichlorobenzene      | 15.0600 | 0.50 | 20.0000 |  | 75.3 | 47 - 187 |  |  |  |
| 1,2,4-Trichlorobenzene      | 15.4100 | 0.50 | 20.0000 |  | 77.0 | 53 - 154 |  |  |  |
| 1,2,4-Trimethylbenzene      | 18.9600 | 0.50 | 20.0000 |  | 94.8 | 80 - 139 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 15.5500 | 0.50 | 20.0000 |  | 77.8 | 53 - 166 |  |  |  |
| 1,2-Dibromoethane           | 16.3500 | 0.50 | 20.0000 |  | 81.8 | 58 - 134 |  |  |  |
| 1,2-Dichlorobenzene         | 16.4100 | 0.50 | 20.0000 |  | 82.0 | 75 - 130 |  |  |  |
| 1,2-Dichloroethane          | 19.3400 | 0.50 | 20.0000 |  | 96.7 | 71 - 131 |  |  |  |
| 1,2-Dichloropropane         | 18.2600 | 0.50 | 20.0000 |  | 91.3 | 69 - 130 |  |  |  |
| 1,3,5-Trimethylbenzene      | 20.0800 | 0.50 | 20.0000 |  | 100  | 80 - 139 |  |  |  |
| 1,3-Dichlorobenzene         | 17.0500 | 0.50 | 20.0000 |  | 85.2 | 76 - 129 |  |  |  |
| 1,3-Dichloropropane         | 17.4200 | 0.50 | 20.0000 |  | 87.1 | 75 - 124 |  |  |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W (continued)**

**LCS (B6B0681-BS1) - Continued**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                                  |         |      |         |  |      |          |  |  |    |
|----------------------------------|---------|------|---------|--|------|----------|--|--|----|
| 1,4-Dichlorobenzene              | 16.7900 | 0.50 | 20.0000 |  | 84.0 | 76 - 123 |  |  |    |
| 2,2-Dichloropropane              | 22.8000 | 0.50 | 20.0000 |  | 114  | 60 - 149 |  |  |    |
| 2-Chlorotoluene                  | 19.3400 | 0.50 | 20.0000 |  | 96.7 | 78 - 137 |  |  |    |
| 4-Chlorotoluene                  | 19.3400 | 0.50 | 20.0000 |  | 96.7 | 78 - 136 |  |  |    |
| 4-Isopropyltoluene               | 20.1900 | 0.50 | 20.0000 |  | 101  | 75 - 146 |  |  |    |
| Benzene                          | 35.9800 | 0.50 | 40.0000 |  | 90.0 | 72 - 127 |  |  |    |
| Bromobenzene                     | 16.5800 | 0.50 | 20.0000 |  | 82.9 | 74 - 123 |  |  |    |
| Bromodichloromethane             | 19.2500 | 0.50 | 20.0000 |  | 96.2 | 74 - 130 |  |  |    |
| Bromoform                        | 15.6700 | 0.50 | 20.0000 |  | 78.4 | 74 - 135 |  |  |    |
| Bromomethane                     | 32.6800 | 0.50 | 20.0000 |  | 163  | 14 - 166 |  |  |    |
| Carbon tetrachloride             | 20.6400 | 0.50 | 20.0000 |  | 103  | 57 - 162 |  |  |    |
| Chlorobenzene                    | 17.6600 | 0.50 | 20.0000 |  | 88.3 | 78 - 125 |  |  |    |
| Chloroethane                     | 29.4500 | 0.50 | 20.0000 |  | 147  | 54 - 144 |  |  | L5 |
| Chloroform                       | 20.3100 | 0.50 | 20.0000 |  | 102  | 66 - 132 |  |  |    |
| Chloromethane                    | 26.1500 | 0.50 | 20.0000 |  | 131  | 31 - 128 |  |  | L5 |
| cis-1,2-Dichloroethene           | 21.3100 | 0.50 | 20.0000 |  | 107  | 68 - 124 |  |  |    |
| cis-1,3-Dichloropropene          | 18.2200 | 0.50 | 20.0000 |  | 91.1 | 63 - 139 |  |  |    |
| Dibromochloromethane             | 18.3600 | 0.50 | 20.0000 |  | 91.8 | 78 - 132 |  |  |    |
| Dibromomethane                   | 16.7300 | 0.50 | 20.0000 |  | 83.6 | 76 - 122 |  |  |    |
| Dichlorodifluoromethane          | 26.2000 | 0.50 | 20.0000 |  | 131  | 17 - 171 |  |  |    |
| Ethylbenzene                     | 38.3400 | 0.50 | 40.0000 |  | 95.8 | 71 - 142 |  |  |    |
| Hexachlorobutadiene              | 20.3700 | 0.50 | 20.0000 |  | 102  | 54 - 169 |  |  |    |
| Isopropylbenzene                 | 20.5200 | 0.50 | 20.0000 |  | 103  | 76 - 146 |  |  |    |
| m,p-Xylene                       | 40.4700 | 1.0  | 40.0000 |  | 101  | 75 - 150 |  |  |    |
| Methylene chloride               | 20.6300 | 1.0  | 20.0000 |  | 103  | 66 - 130 |  |  |    |
| MTBE                             | 19.1400 | 0.50 | 20.0000 |  | 95.7 | 60 - 132 |  |  |    |
| n-Butylbenzene                   | 21.4600 | 0.50 | 20.0000 |  | 107  | 76 - 151 |  |  |    |
| n-Propylbenzene                  | 20.4700 | 0.50 | 20.0000 |  | 102  | 76 - 147 |  |  |    |
| Naphthalene                      | 14.6400 | 0.50 | 20.0000 |  | 73.2 | 36 - 180 |  |  |    |
| o-Xylene                         | 38.8700 | 0.50 | 40.0000 |  | 97.2 | 75 - 143 |  |  |    |
| sec-Butylbenzene                 | 21.0200 | 0.50 | 20.0000 |  | 105  | 77 - 147 |  |  |    |
| Styrene                          | 17.1900 | 0.50 | 20.0000 |  | 86.0 | 75 - 133 |  |  |    |
| tert-Butylbenzene                | 19.7500 | 0.50 | 20.0000 |  | 98.8 | 75 - 143 |  |  |    |
| Tetrachloroethene                | 18.4900 | 0.50 | 20.0000 |  | 92.4 | 58 - 139 |  |  |    |
| Toluene                          | 36.7100 | 0.50 | 40.0000 |  | 91.8 | 59 - 140 |  |  |    |
| trans-1,2-Dichloroethene         | 22.7800 | 0.50 | 20.0000 |  | 114  | 63 - 128 |  |  |    |
| Trichloroethene                  | 16.4100 | 0.50 | 20.0000 |  | 82.0 | 67 - 130 |  |  |    |
| Trichlorofluoromethane           | 29.1300 | 0.50 | 20.0000 |  | 146  | 56 - 168 |  |  |    |
| Vinyl chloride                   | 25.8600 | 0.50 | 20.0000 |  | 129  | 49 - 146 |  |  |    |
| Surrogate: 1,2-Dichloroethane-d4 | 30.76   |      | 25.0000 |  | 123  | 49 - 148 |  |  |    |
| Surrogate: 4-Bromofluorobenzene  | 27.62   |      | 25.0000 |  | 110  | 65 - 132 |  |  |    |



## Certificate of Analysis

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Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W (continued)**

**LCS (B6B0681-BS1) - Continued**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                                 |       |         |     |          |
|---------------------------------|-------|---------|-----|----------|
| Surrogate: Dibromofluoromethane | 28.51 | 25.0000 | 114 | 55 - 138 |
| Surrogate: Toluene-d8           | 26.83 | 25.0000 | 107 | 60 - 120 |

**LCS Dup (B6B0681-BS1)**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                             |         |      |         |      |          |       |    |
|-----------------------------|---------|------|---------|------|----------|-------|----|
| 1,1,1,2-Tetrachloroethane   | 17.0800 | 0.50 | 20.0000 | 85.4 | 71 - 142 | 4.41  | 20 |
| 1,1,1-Trichloroethane       | 20.5400 | 0.50 | 20.0000 | 103  | 68 - 141 | 7.09  | 20 |
| 1,1,2,2-Tetrachloroethane   | 18.2700 | 0.50 | 20.0000 | 91.4 | 72 - 123 | 1.52  | 20 |
| 1,1,2-Trichloroethane       | 16.6100 | 0.50 | 20.0000 | 83.0 | 63 - 129 | 0.720 | 20 |
| 1,1-Dichloroethane          | 22.1100 | 0.50 | 20.0000 | 111  | 65 - 133 | 6.35  | 20 |
| 1,1-Dichloroethene          | 23.2700 | 0.50 | 20.0000 | 116  | 61 - 136 | 6.12  | 20 |
| 1,1-Dichloropropene         | 17.5200 | 0.50 | 20.0000 | 87.6 | 62 - 137 | 9.67  | 20 |
| 1,2,3-Trichloropropane      | 16.8800 | 0.50 | 20.0000 | 84.4 | 71 - 128 | 1.94  | 20 |
| 1,2,3-Trichlorobenzene      | 15.3100 | 0.50 | 20.0000 | 76.6 | 47 - 187 | 1.65  | 20 |
| 1,2,4-Trichlorobenzene      | 15.3000 | 0.50 | 20.0000 | 76.5 | 53 - 154 | 0.716 | 20 |
| 1,2,4-Trimethylbenzene      | 17.9900 | 0.50 | 20.0000 | 90.0 | 80 - 139 | 5.25  | 20 |
| 1,2-Dibromo-3-chloropropane | 15.8200 | 0.50 | 20.0000 | 79.1 | 53 - 166 | 1.72  | 20 |
| 1,2-Dibromoethane           | 15.9400 | 0.50 | 20.0000 | 79.7 | 58 - 134 | 2.54  | 20 |
| 1,2-Dichlorobenzene         | 15.6500 | 0.50 | 20.0000 | 78.2 | 75 - 130 | 4.74  | 20 |
| 1,2-Dichloroethane          | 18.4600 | 0.50 | 20.0000 | 92.3 | 71 - 131 | 4.66  | 20 |
| 1,2-Dichloropropane         | 17.5400 | 0.50 | 20.0000 | 87.7 | 69 - 130 | 4.02  | 20 |
| 1,3,5-Trimethylbenzene      | 18.5000 | 0.50 | 20.0000 | 92.5 | 80 - 139 | 8.19  | 20 |
| 1,3-Dichlorobenzene         | 16.1800 | 0.50 | 20.0000 | 80.9 | 76 - 129 | 5.24  | 20 |
| 1,3-Dichloropropane         | 16.6000 | 0.50 | 20.0000 | 83.0 | 75 - 124 | 4.82  | 20 |
| 1,4-Dichlorobenzene         | 16.2300 | 0.50 | 20.0000 | 81.2 | 76 - 123 | 3.39  | 20 |
| 2,2-Dichloropropane         | 20.4400 | 0.50 | 20.0000 | 102  | 60 - 149 | 10.9  | 20 |
| 2-Chlorotoluene             | 18.2500 | 0.50 | 20.0000 | 91.2 | 78 - 137 | 5.80  | 20 |
| 4-Chlorotoluene             | 18.3600 | 0.50 | 20.0000 | 91.8 | 78 - 136 | 5.20  | 20 |
| 4-Isopropyltoluene          | 19.0700 | 0.50 | 20.0000 | 95.4 | 75 - 146 | 5.71  | 20 |
| Benzene                     | 33.4800 | 0.50 | 40.0000 | 83.7 | 72 - 127 | 7.20  | 20 |
| Bromobenzene                | 15.4800 | 0.50 | 20.0000 | 77.4 | 74 - 123 | 6.86  | 20 |
| Bromodichloromethane        | 18.3200 | 0.50 | 20.0000 | 91.6 | 74 - 130 | 4.95  | 20 |
| Bromoform                   | 15.2800 | 0.50 | 20.0000 | 76.4 | 74 - 135 | 2.52  | 20 |
| Bromomethane                | 31.0000 | 0.50 | 20.0000 | 155  | 14 - 166 | 5.28  | 20 |
| Carbon tetrachloride        | 19.3100 | 0.50 | 20.0000 | 96.6 | 57 - 162 | 6.66  | 20 |
| Chlorobenzene               | 16.4200 | 0.50 | 20.0000 | 82.1 | 78 - 125 | 7.28  | 20 |
| Chloroethane                | 27.8900 | 0.50 | 20.0000 | 139  | 54 - 144 | 5.44  | 20 |
| Chloroform                  | 18.8800 | 0.50 | 20.0000 | 94.4 | 66 - 132 | 7.30  | 20 |
| Chloromethane               | 28.5900 | 0.50 | 20.0000 | 143  | 31 - 128 | 8.91  | 20 |
| cis-1,2-Dichloroethene      | 19.6800 | 0.50 | 20.0000 | 98.4 | 68 - 124 | 7.95  | 20 |
| cis-1,3-Dichloropropene     | 17.3300 | 0.50 | 20.0000 | 86.6 | 63 - 139 | 5.01  | 20 |
| Dibromochloromethane        | 17.7300 | 0.50 | 20.0000 | 88.6 | 78 - 132 | 3.49  | 20 |
| Dibromomethane              | 16.5800 | 0.50 | 20.0000 | 82.9 | 76 - 122 | 0.901 | 20 |

L5



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W (continued)**

**LCS Dup (B6B0681-BSD1) - Continued**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                          |         |      |         |  |      |          |       |    |  |
|--------------------------|---------|------|---------|--|------|----------|-------|----|--|
| Dichlorodifluoromethane  | 25.1300 | 0.50 | 20.0000 |  | 126  | 17 - 171 | 4.17  | 20 |  |
| Ethylbenzene             | 35.5300 | 0.50 | 40.0000 |  | 88.8 | 71 - 142 | 7.61  | 20 |  |
| Hexachlorobutadiene      | 19.4700 | 0.50 | 20.0000 |  | 97.4 | 54 - 169 | 4.52  | 20 |  |
| Isopropylbenzene         | 19.2100 | 0.50 | 20.0000 |  | 96.0 | 76 - 146 | 6.59  | 20 |  |
| m,p-Xylene               | 37.5500 | 1.0  | 40.0000 |  | 93.9 | 75 - 150 | 7.49  | 20 |  |
| Methylene chloride       | 19.5200 | 1.0  | 20.0000 |  | 97.6 | 66 - 130 | 5.53  | 20 |  |
| MTBE                     | 19.2900 | 0.50 | 20.0000 |  | 96.4 | 60 - 132 | 0.781 | 20 |  |
| n-Butylbenzene           | 20.1900 | 0.50 | 20.0000 |  | 101  | 76 - 151 | 6.10  | 20 |  |
| n-Propylbenzene          | 19.3200 | 0.50 | 20.0000 |  | 96.6 | 76 - 147 | 5.78  | 20 |  |
| Naphthalene              | 14.9800 | 0.50 | 20.0000 |  | 74.9 | 36 - 180 | 2.30  | 20 |  |
| o-Xylene                 | 36.3400 | 0.50 | 40.0000 |  | 90.8 | 75 - 143 | 6.73  | 20 |  |
| sec-Butylbenzene         | 19.6300 | 0.50 | 20.0000 |  | 98.2 | 77 - 147 | 6.84  | 20 |  |
| Styrene                  | 16.0500 | 0.50 | 20.0000 |  | 80.2 | 75 - 133 | 6.86  | 20 |  |
| tert-Butylbenzene        | 18.3600 | 0.50 | 20.0000 |  | 91.8 | 75 - 143 | 7.29  | 20 |  |
| Tetrachloroethene        | 17.3300 | 0.50 | 20.0000 |  | 86.6 | 58 - 139 | 6.48  | 20 |  |
| Toluene                  | 34.6400 | 0.50 | 40.0000 |  | 86.6 | 59 - 140 | 5.80  | 20 |  |
| trans-1,2-Dichloroethene | 21.7700 | 0.50 | 20.0000 |  | 109  | 63 - 128 | 4.53  | 20 |  |
| Trichloroethene          | 15.3500 | 0.50 | 20.0000 |  | 76.8 | 67 - 130 | 6.68  | 20 |  |
| Trichlorofluoromethane   | 28.0200 | 0.50 | 20.0000 |  | 140  | 56 - 168 | 3.88  | 20 |  |
| Vinyl chloride           | 25.5100 | 0.50 | 20.0000 |  | 128  | 49 - 146 | 1.36  | 20 |  |

|   |              |  |                |  |            |                 |  |  |  |
|---|--------------|--|----------------|--|------------|-----------------|--|--|--|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>31.51</i> |  | <i>25.0000</i> |  | <i>126</i> | <i>49 - 148</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>27.47</i> |  | <i>25.0000</i> |  | <i>110</i> | <i>65 - 132</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>28.72</i> |  | <i>25.0000</i> |  | <i>115</i> | <i>55 - 138</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>26.93</i> |  | <i>25.0000</i> |  | <i>108</i> | <i>60 - 120</i> |  |  |  |

**Duplicate (B6B0681-DUP1)**

**Source: 1600683-18**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                             |    |      |  |    |    |  |  |    |  |
|-----------------------------|----|------|--|----|----|--|--|----|--|
| 1,1,1,2-Tetrachloroethane   | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1,1-Trichloroethane       | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1,2,2-Tetrachloroethane   | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1,2-Trichloroethane       | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloroethane          | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloroethene          | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloropropene         | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,3-Trichloropropane      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,3-Trichlorobenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,4-Trichlorobenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,4-Trimethylbenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dibromo-3-chloropropane | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dibromoethane           | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichlorobenzene         | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichloroethane          | ND | 0.50 |  | ND | NR |  |  | 20 |  |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W (continued)**

**Duplicate (B6B0681-DUP1) - Continued**

**Source: 1600683-18**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|                          |    |      |  |         |    |  |  |    |  |
|--------------------------|----|------|--|---------|----|--|--|----|--|
| 1,2-Dichloropropane      | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| 1,3,5-Trimethylbenzene   | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| 1,3-Dichlorobenzene      | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| 1,3-Dichloropropane      | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| 1,4-Dichlorobenzene      | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| 2,2-Dichloropropane      | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| 2-Chlorotoluene          | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| 4-Chlorotoluene          | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| 4-Isopropyltoluene       | ND | 0.50 |  | 1.52000 | NR |  |  | 20 |  |
| Benzene                  | ND | 0.50 |  | 17.2400 | NR |  |  | 20 |  |
| Bromobenzene             | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Bromodichloromethane     | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Bromoform                | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Bromomethane             | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Carbon tetrachloride     | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Chlorobenzene            | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Chloroethane             | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Chloroform               | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Chloromethane            | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| cis-1,2-Dichloroethene   | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| cis-1,3-Dichloropropene  | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Dibromochloromethane     | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Dibromomethane           | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Dichlorodifluoromethane  | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Ethylbenzene             | ND | 0.50 |  | 82.1600 | NR |  |  | 20 |  |
| Hexachlorobutadiene      | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Isopropylbenzene         | ND | 0.50 |  | 448.080 | NR |  |  | 20 |  |
| m,p-Xylene               | ND | 1.0  |  | ND      | NR |  |  | 20 |  |
| Methylene chloride       | ND | 1.0  |  | ND      | NR |  |  | 20 |  |
| MTBE                     | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| n-Butylbenzene           | ND | 0.50 |  | 11.4400 | NR |  |  | 20 |  |
| n-Propylbenzene          | ND | 0.50 |  | 108.720 | NR |  |  | 20 |  |
| Naphthalene              | ND | 0.50 |  | 7.84000 | NR |  |  | 20 |  |
| o-Xylene                 | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| sec-Butylbenzene         | ND | 0.50 |  | 10.4000 | NR |  |  | 20 |  |
| Styrene                  | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| tert-Butylbenzene        | ND | 0.50 |  | 2.36000 | NR |  |  | 20 |  |
| Tetrachloroethene        | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Toluene                  | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| trans-1,2-Dichloroethene | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Trichloroethene          | ND | 0.50 |  | ND      | NR |  |  | 20 |  |
| Trichlorofluoromethane   | ND | 0.50 |  | ND      | NR |  |  | 20 |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 02/26/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6B0681 - MSVOA\_LL\_W (continued)**

**Duplicate (B6B0681-DUP1) - Continued**

**Source: 1600683-18**

Prepared: 2/24/2016 Analyzed: 2/24/2016

|   |       |      |         |    |     |          |  |    |  |
|---|-------|------|---------|----|-----|----------|--|----|--|
| Vinyl chloride                          | ND    | 0.50 |         | ND | NR  |          |  | 20 |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 32.72 |      | 25.0000 |    | 131 | 49 - 148 |  |    |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 27.27 |      | 25.0000 |    | 109 | 65 - 132 |  |    |  |
| <i>Surrogate: Dibromofluoromethane</i>  | 29.26 |      | 25.0000 |    | 117 | 55 - 138 |  |    |  |
| <i>Surrogate: Toluene-d8</i>            | 26.57 |      | 25.0000 |    | 106 | 60 - 120 |  |    |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 02/26/2016

### Notes and Definitions

|     |   |
|-----|---|
| S7  | Surrogate recovery was outside of laboratory acceptance limit. Chromatogram shows high concentration of heavy hydrocarbons.   |
| S10 | Surrogate recovery was outside of laboratory acceptance limit due to possible matrix interference.  |
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| L5  | Laboratory Control Sample high biased. Sample result/s was non-detect (ND) for the target analyte; therefore reanalysis was not necessary.  |
| D6  | Sample required dilution due to high concentration of target analyte.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

# CHAIN OF CUSTODY RECORD



**Advanced Technology  
Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755  
Tel: (562) 989-4045 • Fax: (562) 989-4040

### FOR LABORATORY USE ONLY

P.O. #: \_\_\_\_\_

Logged By: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Transport:  
 Client   
 ATL   
 CA OverN   
 FedEx   
 Other: \_\_\_\_\_

Sample Condition Upon Receipt:  
 1. CHILLED  Y  N  4. SEALED  Y  N   
 2. HEADSPACE (VOA)  Y  N  5. # OF SPLS MATCH COC  Y  N   
 3. CONTAINER INTACT  Y  N  6. PRESERVED  Y  N

Client: Geocoin  
 Attention: Rick Day *Luanh Beadle*  
 Address: 6671 Brisa Street  
 City: Livermore State: CA Zip Code: 94550  
 Tel: 916-852-9118 Fax: 916-852-9132

Project Name: US 101/Holly Street - 82/92 Inter- Project #: ~~E8770-02-02~~ *E8721-02-36*  
 Relinquished by: (Signature and Printed Name) *Cord Dennig* Date: *2-18-16* Time: *6:50*  
 Received by: (Signature and Printed Name) *Luanh Beadle* Date: *2/19/16* Time: *9:20*

Relinquished by: (Signature and Printed Name) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received by: (Signature and Printed Name) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

I hereby authorize ATL to perform the work indicated below:  
 Project Mgr / Submitter: *Luanh Beadle 2-18-16*  
 Print Name: *Luanh Beadle* Date: \_\_\_\_\_  
 Signature: *Luanh Beadle*

Send Report To:  
 Attn: *beadle@geocoin.com*  
 Co: *day@geocoin.com*  
 Addr: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Bill To: *same*  
 Attn: \_\_\_\_\_  
 Co: \_\_\_\_\_  
 Addr: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Special Instructions/Comments: \_\_\_\_\_

**Sample/Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 ■ Sample: \$2.00 / sample /mo (after 45 days)  
 ■ Records: \$1 /ATL workorder /mo (after 1 year)

| Circle or Add Analysis(es) Requested | SPECIFY APPROPRIATE MATRIX |               |             |            |      |       |              | PRESERVATION | QA/QC |
|--------------------------------------|----------------------------|---------------|-------------|------------|------|-------|--------------|--------------|-------|
|                                      | Total Lead                 | CAM 17 Metals | TPH/TPH/TPH | Pesticides | SOIL | WATER | GROUND WATER |              |       |

| ITEM | LAB USE ONLY: |                      | Sample Description |      |              | Total Lead | CAM 17 Metals | TPH/TPH/TPH | Pesticides | SOIL | WATER | GROUND WATER | WASTEWATER | TAT # | Type | REMARKS |
|------|---------------|----------------------|--------------------|------|--------------|------------|---------------|-------------|------------|------|-------|--------------|------------|-------|------|---------|
|      | Lab No.       | Sample ID / Location | Date               | Time | Container(s) |            |               |             |            |      |       |              |            |       |      |         |
|      | 100083-1      | B67-0                | 2-18-16            | 0730 |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -2            | -1                   |                    |      |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -3            | -2                   |                    |      |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -4            | -10                  |                    | 750  |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -5            | -25                  |                    | 850  |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -6            | -30                  |                    | 930  |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -7            | B4-0                 |                    | 1015 |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -8            | -1                   |                    |      |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -9            | -2                   |                    |      |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -10           | -10                  |                    | 1070 |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -11           | -20                  |                    | 1100 |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -12           | B10-0                |                    | 1125 |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -13           | -1                   |                    |      |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -14           | -2                   |                    |      |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -15           | -10                  |                    | 1135 |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -16           | -11                  |                    |      |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -17           | -25                  |                    | 1235 |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -18           | B10-GW               |                    | 1330 |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -19           | B67-GW               |                    | 1400 |              |            |               |             |            |      |       |              |            |       |      |         |
|      | -20           |                      |                    |      |              |            |               |             |            |      |       |              |            |       |      |         |

■ TAT starts 8AM the following day if samples received after 3 PM

TAT:  A = Overnight ≤ 24 hrs  B = Emergency Next Workday  C = Critical 2 Workdays  D = Urgent 3 Workdays  E = Routine 7 Workdays

Preservatives: H=HCl N=HNO<sub>3</sub> S=H<sub>2</sub>SO<sub>4</sub> C=4°C  
 Z=Zn(AC)<sub>2</sub> O=NaOH T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal



March 14, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

RE: ATL Work Order Number : 1600683  
Client Reference : 82/92 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on February, 19 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

A handwritten signature in black ink, appearing to be the initials "GM" in a cursive, stylized font.

Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B10-25    | 1600683-17    | Soil   | 2/18/16 12:35 | 2/19/16 9:30  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 03/14/2016

**Client Sample ID B10-25**

**Lab ID: 1600683-17**

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Benzene                     | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Bromobenzene                | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Bromoform                   | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Bromomethane                | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Chlorobenzene               | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Chloroethane                | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Chloroform                  | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Chloromethane               | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 03/14/2016

**Client Sample ID B10-25**

**Lab ID: 1600683-17**

**Volatile Organic Compounds by EPA 8260B**

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| m,p-Xylene                              | ND                | 10              | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Methylene chloride                      | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Naphthalene                             | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| o-Xylene                                | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Styrene                                 | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Toluene                                 | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Trichloroethene                         | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6C0146 | 03/07/2016 | 03/07/16 14:52        | H4    |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>73.8 %</i>     | <i>20 - 189</i> |          | B6C0146 | 03/07/2016 | <i>03/07/16 14:52</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>106 %</i>      | <i>20 - 173</i> |          | B6C0146 | 03/07/2016 | <i>03/07/16 14:52</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>74.5 %</i>     | <i>26 - 178</i> |          | B6C0146 | 03/07/2016 | <i>03/07/16 14:52</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>97.4 %</i>     | <i>31 - 166</i> |          | B6C0146 | 03/07/2016 | <i>03/07/16 14:52</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### QUALITY CONTROL SECTION

#### Volatile Organic Compounds by EPA 8260B - Quality Control

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0146 - MSVOA\_S**

**Blank (B6C0146-BLK1)**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                             |    |     |  |  |    |
|-----------------------------|----|-----|--|--|----|
| 1,1,1,2-Tetrachloroethane   | ND | 5.0 |  |  | NR |
| 1,1,1-Trichloroethane       | ND | 5.0 |  |  | NR |
| 1,1,2,2-Tetrachloroethane   | ND | 5.0 |  |  | NR |
| 1,1,2-Trichloroethane       | ND | 5.0 |  |  | NR |
| 1,1-Dichloroethane          | ND | 5.0 |  |  | NR |
| 1,1-Dichloroethene          | ND | 5.0 |  |  | NR |
| 1,1-Dichloropropene         | ND | 5.0 |  |  | NR |
| 1,2,3-Trichloropropane      | ND | 5.0 |  |  | NR |
| 1,2,3-Trichlorobenzene      | ND | 5.0 |  |  | NR |
| 1,2,4-Trichlorobenzene      | ND | 5.0 |  |  | NR |
| 1,2,4-Trimethylbenzene      | ND | 5.0 |  |  | NR |
| 1,2-Dibromo-3-chloropropane | ND | 10  |  |  | NR |
| 1,2-Dibromoethane           | ND | 5.0 |  |  | NR |
| 1,2-Dichlorobenzene         | ND | 5.0 |  |  | NR |
| 1,2-Dichloroethane          | ND | 5.0 |  |  | NR |
| 1,2-Dichloropropane         | ND | 5.0 |  |  | NR |
| 1,3,5-Trimethylbenzene      | ND | 5.0 |  |  | NR |
| 1,3-Dichlorobenzene         | ND | 5.0 |  |  | NR |
| 1,3-Dichloropropane         | ND | 5.0 |  |  | NR |
| 1,4-Dichlorobenzene         | ND | 5.0 |  |  | NR |
| 2,2-Dichloropropane         | ND | 5.0 |  |  | NR |
| 2-Chlorotoluene             | ND | 5.0 |  |  | NR |
| 4-Chlorotoluene             | ND | 5.0 |  |  | NR |
| 4-Isopropyltoluene          | ND | 5.0 |  |  | NR |
| Benzene                     | ND | 5.0 |  |  | NR |
| Bromobenzene                | ND | 5.0 |  |  | NR |
| Bromodichloromethane        | ND | 5.0 |  |  | NR |
| Bromoform                   | ND | 5.0 |  |  | NR |
| Bromomethane                | ND | 5.0 |  |  | NR |
| Carbon tetrachloride        | ND | 5.0 |  |  | NR |
| Chlorobenzene               | ND | 5.0 |  |  | NR |
| Chloroethane                | ND | 5.0 |  |  | NR |
| Chloroform                  | ND | 5.0 |  |  | NR |
| Chloromethane               | ND | 5.0 |  |  | NR |
| cis-1,2-Dichloroethene      | ND | 5.0 |  |  | NR |
| cis-1,3-Dichloropropene     | ND | 5.0 |  |  | NR |
| Dibromochloromethane        | ND | 5.0 |  |  | NR |
| Dibromomethane              | ND | 5.0 |  |  | NR |
| Dichlorodifluoromethane     | ND | 5.0 |  |  | NR |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0146 - MSVOA\_S (continued)**

**Blank (B6C0146-BLK1) - Continued**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|   |              |     |                |  |             |                 |  |  |  |
|---|--------------|-----|----------------|--|-------------|-----------------|--|--|--|
| Ethylbenzene                            | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Hexachlorobutadiene                     | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Isopropylbenzene                        | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| m,p-Xylene                              | ND           | 10  |                |  | NR          |                 |  |  |  |
| Methylene chloride                      | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| n-Butylbenzene                          | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| n-Propylbenzene                         | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Naphthalene                             | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| o-Xylene                                | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| sec-Butylbenzene                        | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Styrene                                 | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| tert-Butylbenzene                       | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Tetrachloroethene                       | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Toluene                                 | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| trans-1,2-Dichloroethene                | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Trichloroethene                         | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Trichlorofluoromethane                  | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| Vinyl chloride                          | ND           | 5.0 |                |  | NR          |                 |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>41.17</i> |     | <i>50.0000</i> |  | <i>82.3</i> | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>50.97</i> |     | <i>50.0000</i> |  | <i>102</i>  | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>39.77</i> |     | <i>50.0000</i> |  | <i>79.5</i> | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>47.89</i> |     | <i>50.0000</i> |  | <i>95.8</i> | <i>31 - 166</i> |  |  |  |

**LCS (B6C0146-BS1)**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                             |         |     |         |  |      |          |  |  |  |
|-----------------------------|---------|-----|---------|--|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 50.6500 | 5.0 | 50.0000 |  | 101  | 74 - 117 |  |  |  |
| 1,1,1-Trichloroethane       | 42.9400 | 5.0 | 50.0000 |  | 85.9 | 65 - 130 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 46.7300 | 5.0 | 50.0000 |  | 93.5 | 63 - 123 |  |  |  |
| 1,1,2-Trichloroethane       | 48.4400 | 5.0 | 50.0000 |  | 96.9 | 66 - 122 |  |  |  |
| 1,1-Dichloroethane          | 41.6100 | 5.0 | 50.0000 |  | 83.2 | 65 - 124 |  |  |  |
| 1,1-Dichloroethene          | 44.9600 | 5.0 | 50.0000 |  | 89.9 | 60 - 130 |  |  |  |
| 1,1-Dichloropropene         | 51.8400 | 5.0 | 50.0000 |  | 104  | 75 - 121 |  |  |  |
| 1,2,3-Trichloropropane      | 47.4800 | 5.0 | 50.0000 |  | 95.0 | 62 - 126 |  |  |  |
| 1,2,3-Trichlorobenzene      | 47.7400 | 5.0 | 50.0000 |  | 95.5 | 72 - 120 |  |  |  |
| 1,2,4-Trichlorobenzene      | 49.7100 | 5.0 | 50.0000 |  | 99.4 | 75 - 121 |  |  |  |
| 1,2,4-Trimethylbenzene      | 53.5500 | 5.0 | 50.0000 |  | 107  | 82 - 118 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 49.1800 | 10  | 50.0000 |  | 98.4 | 67 - 121 |  |  |  |
| 1,2-Dibromoethane           | 48.5000 | 5.0 | 50.0000 |  | 97.0 | 69 - 123 |  |  |  |
| 1,2-Dichlorobenzene         | 49.6900 | 5.0 | 50.0000 |  | 99.4 | 81 - 114 |  |  |  |
| 1,2-Dichloroethane          | 50.2600 | 5.0 | 50.0000 |  | 101  | 71 - 119 |  |  |  |
| 1,2-Dichloropropane         | 49.9400 | 5.0 | 50.0000 |  | 99.9 | 71 - 118 |  |  |  |
| 1,3,5-Trimethylbenzene      | 53.5500 | 5.0 | 50.0000 |  | 107  | 81 - 120 |  |  |  |



## Certificate of Analysis

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Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte                                    | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec                        | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|------------------|---------------------------------------|-----------------|------------|--------------|-------|
| <b>Batch B6C0146 - MSVOA_S (continued)</b> |                   |                |                |                  |                                       |                 |            |              |       |
| <b>LCS (B6C0146-BS1) - Continued</b>       |                   |                |                |                  | Prepared: 3/7/2016 Analyzed: 3/7/2016 |                 |            |              |       |
| 1,3-Dichlorobenzene                        | 51.4800           | 5.0            | 50.0000        |                  | 103                                   | 80 - 115        |            |              |       |
| 1,3-Dichloropropane                        | 49.9300           | 5.0            | 50.0000        |                  | 99.9                                  | 77 - 117        |            |              |       |
| 1,4-Dichlorobenzene                        | 50.4600           | 5.0            | 50.0000        |                  | 101                                   | 80 - 115        |            |              |       |
| 2,2-Dichloropropane                        | 45.2100           | 5.0            | 50.0000        |                  | 90.4                                  | 58 - 141        |            |              |       |
| 2-Chlorotoluene                            | 53.1100           | 5.0            | 50.0000        |                  | 106                                   | 78 - 120        |            |              |       |
| 4-Chlorotoluene                            | 54.4900           | 5.0            | 50.0000        |                  | 109                                   | 79 - 119        |            |              |       |
| 4-Isopropyltoluene                         | 55.4100           | 5.0            | 50.0000        |                  | 111                                   | 81 - 125        |            |              |       |
| Benzene                                    | 99.9900           | 5.0            | 100.000        |                  | 100                                   | 73 - 116        |            |              |       |
| Bromobenzene                               | 50.0400           | 5.0            | 50.0000        |                  | 100                                   | 78 - 115        |            |              |       |
| Bromodichloromethane                       | 48.9600           | 5.0            | 50.0000        |                  | 97.9                                  | 73 - 120        |            |              |       |
| Bromoform                                  | 47.4900           | 5.0            | 50.0000        |                  | 95.0                                  | 68 - 124        |            |              |       |
| Bromomethane                               | 44.6300           | 5.0            | 50.0000        |                  | 89.3                                  | 26 - 163        |            |              |       |
| Carbon tetrachloride                       | 49.3200           | 5.0            | 50.0000        |                  | 98.6                                  | 67 - 130        |            |              |       |
| Chlorobenzene                              | 50.4400           | 5.0            | 50.0000        |                  | 101                                   | 82 - 114        |            |              |       |
| Chloroethane                               | 46.5800           | 5.0            | 50.0000        |                  | 93.2                                  | 40 - 151        |            |              |       |
| Chloroform                                 | 42.4400           | 5.0            | 50.0000        |                  | 84.9                                  | 68 - 124        |            |              |       |
| Chloromethane                              | 42.6800           | 5.0            | 50.0000        |                  | 85.4                                  | 18 - 144        |            |              |       |
| cis-1,2-Dichloroethene                     | 40.3000           | 5.0            | 50.0000        |                  | 80.6                                  | 66 - 125        |            |              |       |
| cis-1,3-Dichloropropene                    | 51.4700           | 5.0            | 50.0000        |                  | 103                                   | 77 - 120        |            |              |       |
| Dibromochloromethane                       | 49.1400           | 5.0            | 50.0000        |                  | 98.3                                  | 76 - 118        |            |              |       |
| Dibromomethane                             | 48.8800           | 5.0            | 50.0000        |                  | 97.8                                  | 69 - 122        |            |              |       |
| Dichlorodifluoromethane                    | 42.1300           | 5.0            | 50.0000        |                  | 84.3                                  | 0 - 155         |            |              |       |
| Ethylbenzene                               | 106.610           | 5.0            | 100.000        |                  | 107                                   | 79 - 115        |            |              |       |
| Hexachlorobutadiene                        | 50.4700           | 5.0            | 50.0000        |                  | 101                                   | 71 - 121        |            |              |       |
| Isopropylbenzene                           | 53.9800           | 5.0            | 50.0000        |                  | 108                                   | 78 - 126        |            |              |       |
| m,p-Xylene                                 | 110.480           | 10             | 100.000        |                  | 110                                   | 80 - 119        |            |              |       |
| Methylene chloride                         | 39.7500           | 5.0            | 50.0000        |                  | 79.5                                  | 56 - 129        |            |              |       |
| MTBE                                       | 41.5100           | 5.0            | 50.0000        |                  | 83.0                                  | 61 - 124        |            |              |       |
| n-Butylbenzene                             | 55.8300           | 5.0            | 50.0000        |                  | 112                                   | 78 - 127        |            |              |       |
| n-Propylbenzene                            | 55.1100           | 5.0            | 50.0000        |                  | 110                                   | 77 - 128        |            |              |       |
| Naphthalene                                | 45.9900           | 5.0            | 50.0000        |                  | 92.0                                  | 61 - 141        |            |              |       |
| o-Xylene                                   | 110.190           | 5.0            | 100.000        |                  | 110                                   | 81 - 116        |            |              |       |
| sec-Butylbenzene                           | 54.5800           | 5.0            | 50.0000        |                  | 109                                   | 81 - 125        |            |              |       |
| Styrene                                    | 54.7000           | 5.0            | 50.0000        |                  | 109                                   | 82 - 120        |            |              |       |
| tert-Butylbenzene                          | 53.9400           | 5.0            | 50.0000        |                  | 108                                   | 80 - 123        |            |              |       |
| Tetrachloroethene                          | 49.6000           | 5.0            | 50.0000        |                  | 99.2                                  | 75 - 123        |            |              |       |
| Toluene                                    | 104.900           | 5.0            | 100.000        |                  | 105                                   | 75 - 119        |            |              |       |
| trans-1,2-Dichloroethene                   | 41.4900           | 5.0            | 50.0000        |                  | 83.0                                  | 62 - 127        |            |              |       |
| Trichloroethene                            | 50.2200           | 5.0            | 50.0000        |                  | 100                                   | 73 - 119        |            |              |       |
| Trichlorofluoromethane                     | 41.8100           | 5.0            | 50.0000        |                  | 83.6                                  | 47 - 157        |            |              |       |
| Vinyl chloride                             | 44.9200           | 5.0            | 50.0000        |                  | 89.8                                  | 27 - 147        |            |              |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0146 - MSVOA\_S (continued)**

**LCS (B6C0146-BS1) - Continued**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                                  |       |  |         |  |      |          |
|----------------------------------|-------|--|---------|--|------|----------|
| Surrogate: 1,2-Dichloroethane-d4 | 47.18 |  | 50.0000 |  | 94.4 | 20 - 189 |
| Surrogate: 4-Bromofluorobenzene  | 53.54 |  | 50.0000 |  | 107  | 20 - 173 |
| Surrogate: Dibromofluoromethane  | 42.16 |  | 50.0000 |  | 84.3 | 26 - 178 |
| Surrogate: Toluene-d8            | 53.12 |  | 50.0000 |  | 106  | 31 - 166 |

**Duplicate (B6C0146-DUP1)**

**Source: 1600683-17**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                             |    |     |  |    |    |    |
|-----------------------------|----|-----|--|----|----|----|
| 1,1,1,2-Tetrachloroethane   | ND | 5.0 |  | ND | NR | 20 |
| 1,1,1-Trichloroethane       | ND | 5.0 |  | ND | NR | 20 |
| 1,1,2,2-Tetrachloroethane   | ND | 5.0 |  | ND | NR | 20 |
| 1,1,2-Trichloroethane       | ND | 5.0 |  | ND | NR | 20 |
| 1,1-Dichloroethane          | ND | 5.0 |  | ND | NR | 20 |
| 1,1-Dichloroethene          | ND | 5.0 |  | ND | NR | 20 |
| 1,1-Dichloropropene         | ND | 5.0 |  | ND | NR | 20 |
| 1,2,3-Trichloropropane      | ND | 5.0 |  | ND | NR | 20 |
| 1,2,3-Trichlorobenzene      | ND | 5.0 |  | ND | NR | 20 |
| 1,2,4-Trichlorobenzene      | ND | 5.0 |  | ND | NR | 20 |
| 1,2,4-Trimethylbenzene      | ND | 5.0 |  | ND | NR | 20 |
| 1,2-Dibromo-3-chloropropane | ND | 10  |  | ND | NR | 20 |
| 1,2-Dibromoethane           | ND | 5.0 |  | ND | NR | 20 |
| 1,2-Dichlorobenzene         | ND | 5.0 |  | ND | NR | 20 |
| 1,2-Dichloroethane          | ND | 5.0 |  | ND | NR | 20 |
| 1,2-Dichloropropane         | ND | 5.0 |  | ND | NR | 20 |
| 1,3,5-Trimethylbenzene      | ND | 5.0 |  | ND | NR | 20 |
| 1,3-Dichlorobenzene         | ND | 5.0 |  | ND | NR | 20 |
| 1,3-Dichloropropane         | ND | 5.0 |  | ND | NR | 20 |
| 1,4-Dichlorobenzene         | ND | 5.0 |  | ND | NR | 20 |
| 2,2-Dichloropropane         | ND | 5.0 |  | ND | NR | 20 |
| 2-Chlorotoluene             | ND | 5.0 |  | ND | NR | 20 |
| 4-Chlorotoluene             | ND | 5.0 |  | ND | NR | 20 |
| 4-Isopropyltoluene          | ND | 5.0 |  | ND | NR | 20 |
| Benzene                     | ND | 5.0 |  | ND | NR | 20 |
| Bromobenzene                | ND | 5.0 |  | ND | NR | 20 |
| Bromodichloromethane        | ND | 5.0 |  | ND | NR | 20 |
| Bromoform                   | ND | 5.0 |  | ND | NR | 20 |
| Bromomethane                | ND | 5.0 |  | ND | NR | 20 |
| Carbon tetrachloride        | ND | 5.0 |  | ND | NR | 20 |
| Chlorobenzene               | ND | 5.0 |  | ND | NR | 20 |
| Chloroethane                | ND | 5.0 |  | ND | NR | 20 |
| Chloroform                  | ND | 5.0 |  | ND | NR | 20 |
| Chloromethane               | ND | 5.0 |  | ND | NR | 20 |
| cis-1,2-Dichloroethene      | ND | 5.0 |  | ND | NR | 20 |
| cis-1,3-Dichloropropene     | ND | 5.0 |  | ND | NR | 20 |



## Certificate of Analysis

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Report To : Luann Beadle  
Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0146 - MSVOA\_S (continued)**

**Duplicate (B6C0146-DUP1) - Continued**

**Source: 1600683-17**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                          |    |     |  |    |    |  |  |    |  |
|--------------------------|----|-----|--|----|----|--|--|----|--|
| Dibromochloromethane     | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Dibromomethane           | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Dichlorodifluoromethane  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Ethylbenzene             | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Hexachlorobutadiene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Isopropylbenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| m,p-Xylene               | ND | 10  |  | ND | NR |  |  | 20 |  |
| Methylene chloride       | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| MTBE                     | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| n-Butylbenzene           | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| n-Propylbenzene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Naphthalene              | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| o-Xylene                 | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| sec-Butylbenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Styrene                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| tert-Butylbenzene        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Tetrachloroethene        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Toluene                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| trans-1,2-Dichloroethene | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Trichloroethene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Trichlorofluoromethane   | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Vinyl chloride           | ND | 5.0 |  | ND | NR |  |  | 20 |  |

|   |       |  |         |  |      |          |  |  |  |
|---|-------|--|---------|--|------|----------|--|--|--|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 40.92 |  | 50.0000 |  | 81.8 | 20 - 189 |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 53.69 |  | 50.0000 |  | 107  | 20 - 173 |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | 39.55 |  | 50.0000 |  | 79.1 | 26 - 178 |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | 49.89 |  | 50.0000 |  | 99.8 | 31 - 166 |  |  |  |

**Matrix Spike (B6C0146-MS1)**

**Source: 1600750-34**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                             |         |     |         |    |      |          |  |  |  |
|-----------------------------|---------|-----|---------|----|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 43.9400 | 5.0 | 50.0000 | ND | 87.9 | 45 - 122 |  |  |  |
| 1,1,1-Trichloroethane       | 40.3600 | 5.0 | 50.0000 | ND | 80.7 | 46 - 131 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 43.0700 | 5.0 | 50.0000 | ND | 86.1 | 34 - 133 |  |  |  |
| 1,1,2-Trichloroethane       | 40.7000 | 5.0 | 50.0000 | ND | 81.4 | 40 - 133 |  |  |  |
| 1,1-Dichloroethane          | 38.9100 | 5.0 | 50.0000 | ND | 77.8 | 50 - 120 |  |  |  |
| 1,1-Dichloroethene          | 43.1900 | 5.0 | 50.0000 | ND | 86.4 | 42 - 130 |  |  |  |
| 1,1-Dichloropropene         | 46.6000 | 5.0 | 50.0000 | ND | 93.2 | 49 - 125 |  |  |  |
| 1,2,3-Trichloropropane      | 44.0800 | 5.0 | 50.0000 | ND | 88.2 | 42 - 130 |  |  |  |
| 1,2,3-Trichlorobenzene      | 36.6600 | 5.0 | 50.0000 | ND | 73.3 | 2 - 136  |  |  |  |
| 1,2,4-Trichlorobenzene      | 38.0700 | 5.0 | 50.0000 | ND | 76.1 | 6 - 137  |  |  |  |
| 1,2,4-Trimethylbenzene      | 43.6300 | 5.0 | 50.0000 | ND | 87.3 | 37 - 129 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 43.8300 | 10  | 50.0000 | ND | 87.7 | 36 - 135 |  |  |  |
| 1,2-Dibromoethane           | 40.8800 | 5.0 | 50.0000 | ND | 81.8 | 43 - 129 |  |  |  |



## Certificate of Analysis

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Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0146 - MSVOA\_S (continued)**

**Matrix Spike (B6C0146-MS1) - Continued**

**Source: 1600750-34**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                          |         |     |         |    |      |          |  |  |  |
|--------------------------|---------|-----|---------|----|------|----------|--|--|--|
| 1,2-Dichlorobenzene      | 38.2100 | 5.0 | 50.0000 | ND | 76.4 | 31 - 129 |  |  |  |
| 1,2-Dichloroethane       | 43.0700 | 5.0 | 50.0000 | ND | 86.1 | 50 - 122 |  |  |  |
| 1,2-Dichloropropane      | 42.2800 | 5.0 | 50.0000 | ND | 84.6 | 51 - 119 |  |  |  |
| 1,3,5-Trimethylbenzene   | 44.0200 | 5.0 | 50.0000 | ND | 88.0 | 38 - 130 |  |  |  |
| 1,3-Dichlorobenzene      | 39.6100 | 5.0 | 50.0000 | ND | 79.2 | 31 - 128 |  |  |  |
| 1,3-Dichloropropane      | 43.8200 | 5.0 | 50.0000 | ND | 87.6 | 52 - 122 |  |  |  |
| 1,4-Dichlorobenzene      | 39.0700 | 5.0 | 50.0000 | ND | 78.1 | 31 - 128 |  |  |  |
| 2,2-Dichloropropane      | 41.9600 | 5.0 | 50.0000 | ND | 83.9 | 42 - 140 |  |  |  |
| 2-Chlorotoluene          | 44.0200 | 5.0 | 50.0000 | ND | 88.0 | 38 - 129 |  |  |  |
| 4-Chlorotoluene          | 43.9400 | 5.0 | 50.0000 | ND | 87.9 | 38 - 128 |  |  |  |
| 4-Isopropyltoluene       | 43.9800 | 5.0 | 50.0000 | ND | 88.0 | 31 - 137 |  |  |  |
| Benzene                  | 86.8400 | 5.0 | 100.000 | ND | 86.8 | 51 - 117 |  |  |  |
| Bromobenzene             | 41.5100 | 5.0 | 50.0000 | ND | 83.0 | 41 - 125 |  |  |  |
| Bromodichloromethane     | 42.1700 | 5.0 | 50.0000 | ND | 84.3 | 50 - 122 |  |  |  |
| Bromoform                | 40.9000 | 5.0 | 50.0000 | ND | 81.8 | 39 - 131 |  |  |  |
| Bromomethane             | 39.3200 | 5.0 | 50.0000 | ND | 78.6 | 10 - 154 |  |  |  |
| Carbon tetrachloride     | 45.3400 | 5.0 | 50.0000 | ND | 90.7 | 44 - 131 |  |  |  |
| Chlorobenzene            | 41.9700 | 5.0 | 50.0000 | ND | 83.9 | 46 - 123 |  |  |  |
| Chloroethane             | 41.9400 | 5.0 | 50.0000 | ND | 83.9 | 27 - 143 |  |  |  |
| Chloroform               | 37.8500 | 5.0 | 50.0000 | ND | 75.7 | 50 - 124 |  |  |  |
| Chloromethane            | 35.8400 | 5.0 | 50.0000 | ND | 71.7 | 8 - 139  |  |  |  |
| cis-1,2-Dichloroethene   | 38.3100 | 5.0 | 50.0000 | ND | 76.6 | 48 - 125 |  |  |  |
| cis-1,3-Dichloropropene  | 40.9300 | 5.0 | 50.0000 | ND | 81.9 | 51 - 123 |  |  |  |
| Dibromochloromethane     | 43.2500 | 5.0 | 50.0000 | ND | 86.5 | 48 - 124 |  |  |  |
| Dibromomethane           | 43.6200 | 5.0 | 50.0000 | ND | 87.2 | 48 - 124 |  |  |  |
| Dichlorodifluoromethane  | 37.2400 | 5.0 | 50.0000 | ND | 74.5 | 0 - 150  |  |  |  |
| Ethylbenzene             | 91.0400 | 5.0 | 100.000 | ND | 91.0 | 46 - 123 |  |  |  |
| Hexachlorobutadiene      | 33.3400 | 5.0 | 50.0000 | ND | 66.7 | 5 - 132  |  |  |  |
| Isopropylbenzene         | 47.7100 | 5.0 | 50.0000 | ND | 95.4 | 43 - 132 |  |  |  |
| m,p-Xylene               | 91.0700 | 10  | 100.000 | ND | 91.1 | 45 - 128 |  |  |  |
| Methylene chloride       | 36.7000 | 5.0 | 50.0000 | ND | 73.4 | 37 - 126 |  |  |  |
| MTBE                     | 38.0600 | 5.0 | 50.0000 | ND | 76.1 | 46 - 125 |  |  |  |
| n-Butylbenzene           | 42.9400 | 5.0 | 50.0000 | ND | 85.9 | 24 - 138 |  |  |  |
| n-Propylbenzene          | 46.7900 | 5.0 | 50.0000 | ND | 93.6 | 40 - 133 |  |  |  |
| Naphthalene              | 43.2000 | 5.0 | 50.0000 | ND | 86.4 | 10 - 149 |  |  |  |
| o-Xylene                 | 91.7200 | 5.0 | 100.000 | ND | 91.7 | 45 - 125 |  |  |  |
| sec-Butylbenzene         | 44.2700 | 5.0 | 50.0000 | ND | 88.5 | 33 - 136 |  |  |  |
| Styrene                  | 42.8500 | 5.0 | 50.0000 | ND | 85.7 | 43 - 128 |  |  |  |
| tert-Butylbenzene        | 44.7300 | 5.0 | 50.0000 | ND | 89.5 | 36 - 133 |  |  |  |
| Tetrachloroethene        | 44.2800 | 5.0 | 50.0000 | ND | 88.6 | 41 - 129 |  |  |  |
| Toluene                  | 88.4500 | 5.0 | 100.000 | ND | 88.4 | 49 - 124 |  |  |  |
| trans-1,2-Dichloroethene | 38.8100 | 5.0 | 50.0000 | ND | 77.6 | 44 - 126 |  |  |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0146 - MSVOA\_S (continued)**

**Matrix Spike (B6C0146-MS1) - Continued**

**Source: 1600750-34**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|   |              |     |                |    |             |                 |  |  |  |
|---|--------------|-----|----------------|----|-------------|-----------------|--|--|--|
| Trichloroethene                         | 45.3400      | 5.0 | 50.0000        | ND | 90.7        | 38 - 139        |  |  |  |
| Trichlorofluoromethane                  | 39.6900      | 5.0 | 50.0000        | ND | 79.4        | 30 - 157        |  |  |  |
| Vinyl chloride                          | 40.8400      | 5.0 | 50.0000        | ND | 81.7        | 19 - 142        |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>49.51</i> |     | <i>50.0000</i> |    | <i>99.0</i> | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>52.25</i> |     | <i>50.0000</i> |    | <i>104</i>  | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>43.94</i> |     | <i>50.0000</i> |    | <i>87.9</i> | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>51.89</i> |     | <i>50.0000</i> |    | <i>104</i>  | <i>31 - 166</i> |  |  |  |

**Matrix Spike Dup (B6C0146-MSD1)**

**Source: 1600750-34**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|                             |         |     |         |    |      |          |       |    |  |
|-----------------------------|---------|-----|---------|----|------|----------|-------|----|--|
| 1,1,1,2-Tetrachloroethane   | 44.9100 | 5.0 | 50.0000 | ND | 89.8 | 45 - 122 | 2.18  | 20 |  |
| 1,1,1-Trichloroethane       | 39.8000 | 5.0 | 50.0000 | ND | 79.6 | 46 - 131 | 1.40  | 20 |  |
| 1,1,2,2-Tetrachloroethane   | 44.7200 | 5.0 | 50.0000 | ND | 89.4 | 34 - 133 | 3.76  | 20 |  |
| 1,1,2-Trichloroethane       | 41.8400 | 5.0 | 50.0000 | ND | 83.7 | 40 - 133 | 2.76  | 20 |  |
| 1,1-Dichloroethane          | 38.8100 | 5.0 | 50.0000 | ND | 77.6 | 50 - 120 | 0.257 | 20 |  |
| 1,1-Dichloroethene          | 41.9300 | 5.0 | 50.0000 | ND | 83.9 | 42 - 130 | 2.96  | 20 |  |
| 1,1-Dichloropropene         | 44.8400 | 5.0 | 50.0000 | ND | 89.7 | 49 - 125 | 3.85  | 20 |  |
| 1,2,3-Trichloropropane      | 45.5800 | 5.0 | 50.0000 | ND | 91.2 | 42 - 130 | 3.35  | 20 |  |
| 1,2,3-Trichlorobenzene      | 36.3700 | 5.0 | 50.0000 | ND | 72.7 | 2 - 136  | 0.794 | 20 |  |
| 1,2,4-Trichlorobenzene      | 38.9400 | 5.0 | 50.0000 | ND | 77.9 | 6 - 137  | 2.26  | 20 |  |
| 1,2,4-Trimethylbenzene      | 44.1200 | 5.0 | 50.0000 | ND | 88.2 | 37 - 129 | 1.12  | 20 |  |
| 1,2-Dibromo-3-chloropropane | 47.0200 | 10  | 50.0000 | ND | 94.0 | 36 - 135 | 7.02  | 20 |  |
| 1,2-Dibromoethane           | 41.0400 | 5.0 | 50.0000 | ND | 82.1 | 43 - 129 | 0.391 | 20 |  |
| 1,2-Dichlorobenzene         | 39.9100 | 5.0 | 50.0000 | ND | 79.8 | 31 - 129 | 4.35  | 20 |  |
| 1,2-Dichloroethane          | 42.6400 | 5.0 | 50.0000 | ND | 85.3 | 50 - 122 | 1.00  | 20 |  |
| 1,2-Dichloropropane         | 42.0000 | 5.0 | 50.0000 | ND | 84.0 | 51 - 119 | 0.664 | 20 |  |
| 1,3,5-Trimethylbenzene      | 44.4300 | 5.0 | 50.0000 | ND | 88.9 | 38 - 130 | 0.927 | 20 |  |
| 1,3-Dichlorobenzene         | 40.7300 | 5.0 | 50.0000 | ND | 81.5 | 31 - 128 | 2.79  | 20 |  |
| 1,3-Dichloropropane         | 46.2700 | 5.0 | 50.0000 | ND | 92.5 | 52 - 122 | 5.44  | 20 |  |
| 1,4-Dichlorobenzene         | 39.3100 | 5.0 | 50.0000 | ND | 78.6 | 31 - 128 | 0.612 | 20 |  |
| 2,2-Dichloropropane         | 41.8700 | 5.0 | 50.0000 | ND | 83.7 | 42 - 140 | 0.215 | 20 |  |
| 2-Chlorotoluene             | 44.3000 | 5.0 | 50.0000 | ND | 88.6 | 38 - 129 | 0.634 | 20 |  |
| 4-Chlorotoluene             | 44.3100 | 5.0 | 50.0000 | ND | 88.6 | 38 - 128 | 0.839 | 20 |  |
| 4-Isopropyltoluene          | 44.3500 | 5.0 | 50.0000 | ND | 88.7 | 31 - 137 | 0.838 | 20 |  |
| Benzene                     | 85.8700 | 5.0 | 100.000 | ND | 85.9 | 51 - 117 | 1.12  | 20 |  |
| Bromobenzene                | 42.8500 | 5.0 | 50.0000 | ND | 85.7 | 41 - 125 | 3.18  | 20 |  |
| Bromodichloromethane        | 41.8200 | 5.0 | 50.0000 | ND | 83.6 | 50 - 122 | 0.833 | 20 |  |
| Bromoform                   | 42.0900 | 5.0 | 50.0000 | ND | 84.2 | 39 - 131 | 2.87  | 20 |  |
| Bromomethane                | 35.6700 | 5.0 | 50.0000 | ND | 71.3 | 10 - 154 | 9.73  | 20 |  |
| Carbon tetrachloride        | 43.4100 | 5.0 | 50.0000 | ND | 86.8 | 44 - 131 | 4.35  | 20 |  |
| Chlorobenzene               | 43.1000 | 5.0 | 50.0000 | ND | 86.2 | 46 - 123 | 2.66  | 20 |  |
| Chloroethane                | 40.1300 | 5.0 | 50.0000 | ND | 80.3 | 27 - 143 | 4.41  | 20 |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36

Report To : Luann Beadle

Reported : 03/14/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6C0146 - MSVOA\_S (continued)**

**Matrix Spike Dup (B6C0146-MSD1) - Continued**

**Source: 1600750-34**

Prepared: 3/7/2016 Analyzed: 3/7/2016

|   |              |     |                |    |             |                 |        |    |  |
|---|--------------|-----|----------------|----|-------------|-----------------|--------|----|--|
| Chloroform                              | 38.4500      | 5.0 | 50.0000        | ND | 76.9        | 50 - 124        | 1.57   | 20 |  |
| Chloromethane                           | 35.4700      | 5.0 | 50.0000        | ND | 70.9        | 8 - 139         | 1.04   | 20 |  |
| cis-1,2-Dichloroethene                  | 36.8900      | 5.0 | 50.0000        | ND | 73.8        | 48 - 125        | 3.78   | 20 |  |
| cis-1,3-Dichloropropene                 | 43.1400      | 5.0 | 50.0000        | ND | 86.3        | 51 - 123        | 5.26   | 20 |  |
| Dibromochloromethane                    | 44.7500      | 5.0 | 50.0000        | ND | 89.5        | 48 - 124        | 3.41   | 20 |  |
| Dibromomethane                          | 44.4400      | 5.0 | 50.0000        | ND | 88.9        | 48 - 124        | 1.86   | 20 |  |
| Dichlorodifluoromethane                 | 36.1300      | 5.0 | 50.0000        | ND | 72.3        | 0 - 150         | 3.03   | 20 |  |
| Ethylbenzene                            | 91.0300      | 5.0 | 100.000        | ND | 91.0        | 46 - 123        | 0.0110 | 20 |  |
| Hexachlorobutadiene                     | 34.9400      | 5.0 | 50.0000        | ND | 69.9        | 5 - 132         | 4.69   | 20 |  |
| Isopropylbenzene                        | 47.5800      | 5.0 | 50.0000        | ND | 95.2        | 43 - 132        | 0.273  | 20 |  |
| m,p-Xylene                              | 91.4000      | 10  | 100.000        | ND | 91.4        | 45 - 128        | 0.362  | 20 |  |
| Methylene chloride                      | 36.2800      | 5.0 | 50.0000        | ND | 72.6        | 37 - 126        | 1.15   | 20 |  |
| MTBE                                    | 39.9900      | 5.0 | 50.0000        | ND | 80.0        | 46 - 125        | 4.95   | 20 |  |
| n-Butylbenzene                          | 43.4100      | 5.0 | 50.0000        | ND | 86.8        | 24 - 138        | 1.09   | 20 |  |
| n-Propylbenzene                         | 46.6800      | 5.0 | 50.0000        | ND | 93.4        | 40 - 133        | 0.235  | 20 |  |
| Naphthalene                             | 44.7600      | 5.0 | 50.0000        | ND | 89.5        | 10 - 149        | 3.55   | 20 |  |
| o-Xylene                                | 93.6000      | 5.0 | 100.000        | ND | 93.6        | 45 - 125        | 2.03   | 20 |  |
| sec-Butylbenzene                        | 44.3200      | 5.0 | 50.0000        | ND | 88.6        | 33 - 136        | 0.113  | 20 |  |
| Styrene                                 | 43.6700      | 5.0 | 50.0000        | ND | 87.3        | 43 - 128        | 1.90   | 20 |  |
| tert-Butylbenzene                       | 45.0700      | 5.0 | 50.0000        | ND | 90.1        | 36 - 133        | 0.757  | 20 |  |
| Tetrachloroethene                       | 44.2500      | 5.0 | 50.0000        | ND | 88.5        | 41 - 129        | 0.0678 | 20 |  |
| Toluene                                 | 88.0100      | 5.0 | 100.000        | ND | 88.0        | 49 - 124        | 0.499  | 20 |  |
| trans-1,2-Dichloroethene                | 38.8400      | 5.0 | 50.0000        | ND | 77.7        | 44 - 126        | 0.0773 | 20 |  |
| Trichloroethene                         | 43.8900      | 5.0 | 50.0000        | ND | 87.8        | 38 - 139        | 3.25   | 20 |  |
| Trichlorofluoromethane                  | 38.0500      | 5.0 | 50.0000        | ND | 76.1        | 30 - 157        | 4.22   | 20 |  |
| Vinyl chloride                          | 39.2900      | 5.0 | 50.0000        | ND | 78.6        | 19 - 142        | 3.87   | 20 |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>50.78</i> |     | <i>50.0000</i> |    | <i>102</i>  | <i>20 - 189</i> |        |    |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>51.88</i> |     | <i>50.0000</i> |    | <i>104</i>  | <i>20 - 173</i> |        |    |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>44.81</i> |     | <i>50.0000</i> |    | <i>89.6</i> | <i>26 - 178</i> |        |    |  |
| <i>Surrogate: Toluene-d8</i>            | <i>51.22</i> |     | <i>50.0000</i> |    | <i>102</i>  | <i>31 - 166</i> |        |    |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/14/2016

### Notes and Definitions

|     |   |
|-----|---|
| H4  | Change order analysis requested past the sample holding time.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

## Diane Galvan

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Monday, March 07, 2016 11:02 AM  
**To:** Diane Galvan  
**Subject:** Lab Order 1600683 (82/92 Interchange)

Hi Diane,  
Could you analyze B10-25 for VOCs by 8260 on a regular TAT? I realize the hold time is a few days past.  
Thanks,  
Luann



**Luann Beadle** | *Project Scientist*

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P|925.371.5900 ext. 403 M|925.395.1669

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Institutional

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Construction Inspection

Natural Resources



March 18, 2016

Luann Beadle  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600683  
Client Reference : 82/92 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on February 19, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

A handwritten signature in black ink, appearing to read 'Eddie Rodriguez', with a small 'Er' monogram below it.

Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/18/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled  | Date Received |
|-----------|---------------|--------|---------------|---------------|
| B67-0     | 1600683-01    | Soil   | 2/18/16 7:30  | 2/19/16 9:30  |
| B10-0     | 1600683-12    | Soil   | 2/18/16 11:25 | 2/19/16 9:30  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/18/2016

### STLC Metals by ICP-AES by EPA 6010B

**Analyte: Lead**

**Analyst: SB**

| Laboratory ID | Client Sample ID | Result | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600683-01    | B67-0            | 3.6    | mg/L  | 1.0 | 20       | B6C0416 | 03/16/2016 | 03/16/16 11:28     |       |
| 1600683-12    | B10-0            | 3.4    | mg/L  | 1.0 | 20       | B6C0416 | 03/16/2016 | 03/16/16 11:34     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
 Report To : Luann Beadle  
 Reported : 03/18/2016

### QUALITY CONTROL SECTION

#### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---|-----------------|------|--------------|-------|
| <b>Batch B6C0416 - STLC_S Extraction</b> |                  |               |                |                  |   |                 |      |              |       |
| <b>Blank (B6C0416-BLK1)</b>              |                  |               |                |                  | Prepared: 3/16/2016 Analyzed: 3/16/2016 |                 |      |              |       |
| Lead                                     | ND               | 1.0           |                |                  |   |                 | NR   |              |       |
| <b>LCS (B6C0416-BS1)</b>                 |                  |               |                |                  | Prepared: 3/16/2016 Analyzed: 3/16/2016 |                 |      |              |       |
| Lead                                     | 1.94221          |               | 2.00000        |                  | 97.1                                    | 80 - 120        |      |              |       |
| <b>Duplicate (B6C0416-DUP1)</b>          |                  |               |                |                  | Prepared: 3/16/2016 Analyzed: 3/16/2016 |                 |      |              |       |
| Lead                                     | 9.36290          | 1.0           |                | 10.0499          | NR                                      |                 | 7.08 | 20           |       |
| <b>Matrix Spike (B6C0416-MS1)</b>        |                  |               |                |                  | Prepared: 3/16/2016 Analyzed: 3/16/2016 |                 |      |              |       |
| Lead                                     | 11.7195          |               | 2.50000        | 10.0499          | 66.8                                    | 44 - 130        |      |              |       |
| <b>Matrix Spike Dup (B6C0416-MSD1)</b>   |                  |               |                |                  | Prepared: 3/16/2016 Analyzed: 3/16/2016 |                 |      |              |       |
| Lead                                     | 11.5657          |               | 2.50000        | 10.0499          | 60.6                                    | 44 - 130        | 1.32 | 20           |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : 82/92 Interchange, E8721-02-36  
Report To : Luann Beadle  
Reported : 03/18/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

- Notes:
- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
  - (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
  - (3) Results are wet unless otherwise specified.

**Diane Galvan**

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Friday, March 11, 2016 12:26 PM  
**To:** Diane Galvan  
**Subject:** Lab Order 1600683 (82/92)

Hi Diane,

Please run WET lead for the following samples on a regular TAT:

1600683-01 B67-0  
1600683-12 B10-0

Thanks, L



**Luann Beadle** | *Project Scientist*

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P|925.371.5900 ext. 403 M|925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [LinkedIn](#)

*Bay Area ~ Sacramento ~ Fairfield ~ Los Angeles ~ Orange County ~ Riverside County ~ Palm Desert ~ San Diego*

Geotechnical Engineering

Land Development

Environmental Services

Transportation

Infrastructure

Institutional

Engineering Geology

Brownfields/Redevelopment

Construction Inspection

Natural Resources

March 16, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600966  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on March 12, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix      | Date Sampled  | Date Received |
|-----------|---------------|-------------|---------------|---------------|
| TB        | 1600966-01    | Water       | 3/10/16 12:00 | 3/12/16 9:35  |
| B25-0'    | 1600966-02    | Soil        | 3/10/16 22:15 | 3/12/16 9:35  |
| B25-1'    | 1600966-03    | Soil        | 3/10/16 22:16 | 3/12/16 9:35  |
| B25-2'    | 1600966-04    | Soil        | 3/10/16 22:17 | 3/12/16 9:35  |
| B25-10'   | 1600966-05    | Soil        | 3/10/16 22:30 | 3/12/16 9:35  |
| B25-25'   | 1600966-06    | Soil        | 3/10/16 23:20 | 3/12/16 9:35  |
| B42-0'    | 1600966-07    | Soil        | 3/11/16 0:18  | 3/12/16 9:35  |
| B42-1'    | 1600966-08    | Soil        | 3/11/16 0:19  | 3/12/16 9:35  |
| B42-2'    | 1600966-09    | Soil        | 3/11/16 0:20  | 3/12/16 9:35  |
| B42-10'   | 1600966-10    | Soil        | 3/11/16 0:45  | 3/12/16 9:35  |
| B42-25'   | 1600966-11    | Soil        | 3/11/16 1:45  | 3/12/16 9:35  |
| B42       | 1600966-12    | Groundwater | 3/11/16 2:15  | 3/12/16 9:35  |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID TB**  
**Lab ID: 1600966-01**

## Gasoline Range Organics by EPA 8015B (Modified)

Analyst: QP

| Analyte                                | Result (mg/L) | PQL (mg/L)      | Dilution | Batch   | Prepared   | Date/Time Analyzed    | Notes |
|--|---------------|-----------------|----------|---------|------------|-----------------------|-------|
| Gasoline Range Organics                | ND            | 0.05            | 1        | B6C0403 | 03/15/2016 | 03/15/16 15:37        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>87.3 %</i> | <i>70 - 130</i> |          | B6C0403 | 03/15/2016 | <i>03/15/16 15:37</i> |       |

## Volatile Organic Compounds by EPA 8260B

Analyst: SL

| Analyte                     | Result (ug/L) | PQL (ug/L) | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|-----------------------------|---------------|------------|----------|---------|------------|--------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,1,1-Trichloroethane       | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,1,2,2-Tetrachloroethane   | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,1,2-Trichloroethane       | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,1-Dichloroethane          | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,1-Dichloroethene          | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,1-Dichloropropene         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2,3-Trichloropropane      | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2,3-Trichlorobenzene      | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2,4-Trichlorobenzene      | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2,4-Trimethylbenzene      | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2-Dibromo-3-chloropropane | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2-Dibromoethane           | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2-Dichlorobenzene         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2-Dichloroethane          | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,2-Dichloropropane         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,3,5-Trimethylbenzene      | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,3-Dichlorobenzene         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,3-Dichloropropane         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 1,4-Dichlorobenzene         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 2,2-Dichloropropane         | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 2-Chlorotoluene             | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 4-Chlorotoluene             | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| 4-Isopropyltoluene          | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| Benzene                     | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| Bromobenzene                | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| Bromodichloromethane        | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| Bromoform                   | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| Bromomethane                | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |
| Carbon tetrachloride        | ND            | 0.50       | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34     |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/16/2016

**Client Sample ID TB**  
**Lab ID: 1600966-01**

## Volatile Organic Compounds by EPA 8260B

Analyst: SL

| Analyte                                 | Result<br>(ug/L) | PQL<br>(ug/L)   | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Chlorobenzene                           | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Chloroethane                            | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Chloroform                              | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Chloromethane                           | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| cis-1,2-Dichloroethene                  | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| cis-1,3-Dichloropropene                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Dibromochloromethane                    | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Dibromomethane                          | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Dichlorodifluoromethane                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Ethylbenzene                            | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Hexachlorobutadiene                     | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Isopropylbenzene                        | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| m,p-Xylene                              | ND               | 1.0             | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Methylene chloride                      | ND               | 1.0             | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| n-Butylbenzene                          | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| n-Propylbenzene                         | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Naphthalene                             | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| o-Xylene                                | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| sec-Butylbenzene                        | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Styrene                                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| tert-Butylbenzene                       | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Tetrachloroethene                       | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Toluene                                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| trans-1,2-Dichloroethene                | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Trichloroethene                         | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Trichlorofluoromethane                  | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| Vinyl chloride                          | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:34        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>115 %</i>     | <i>49 - 148</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:34</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>96.8 %</i>    | <i>65 - 132</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:34</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>111 %</i>     | <i>55 - 138</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:34</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>104 %</i>     | <i>60 - 120</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:34</i> |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B25-0'**

**Lab ID: 1600966-02**

## Title 22 Metals by ICP-AES EPA 6010B

**Analyst: RR**

| Analyte         | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Antimony        | ND                | 2.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Arsenic</b>  | <b>4.9</b>        | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Barium</b>   | <b>130</b>        | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| Beryllium       | ND                | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:21        |       |
| Cadmium         | ND                | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Chromium</b> | <b>42</b>         | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Cobalt</b>   | <b>11</b>         | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Copper</b>   | <b>21</b>         | 2.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Lead</b>     | <b>12</b>         | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| Molybdenum      | ND                | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Nickel</b>   | <b>63</b>         | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| Selenium        | ND                | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| Silver          | ND                | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| Thallium        | ND                | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Vanadium</b> | <b>36</b>         | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |
| <b>Zinc</b>     | <b>41</b>         | 1.0            | 1        | B6C0336 | 03/14/2016 | 03/14/16 14:22        |       |

## Mercury by AA (Cold Vapor) EPA 7471A

**Analyst: SB**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Mercury | ND                | 0.10           | 1        | B6C0338 | 03/14/2016 | 03/15/16 08:13        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B25-1'**

**Lab ID: 1600966-03**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 6.8               | 1.0            | 1        | B6C0340 | 03/14/2016 | 03/14/16 12:05        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B25-2'**

**Lab ID: 1600966-04**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 10                | 1.0            | 1        | B6C0340 | 03/14/2016 | 03/14/16 12:06        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B25-10'**

**Lab ID: 1600966-05**

**Gasoline Range Organics by EPA 8015B (Modified)**

**Analyst: QP**

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Gasoline Range Organics                | ND                | 1.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>107 %</i>      | <i>37 - 153</i> |          | B6C0344 | 03/14/2016 | <i>03/14/16 13:41</i> |       |

**BTEX/MTBE by EPA 8021**

**Analyst: QP**

| Analyte                                | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| MTBE                                   | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| Benzene                                | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| Toluene                                | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| Ethylbenzene                           | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| m,p-Xylene                             | ND                | 10              | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| o-Xylene                               | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 13:41        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>99.4 %</i>     | <i>62 - 128</i> |          | B6C0344 | 03/14/2016 | <i>03/14/16 13:41</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B25-25'**

**Lab ID: 1600966-06**

### Gasoline Range Organics by EPA 8015B (Modified)

**Analyst: QP**

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Gasoline Range Organics                | ND                | 1.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>106 %</i>      | <i>37 - 153</i> |          | B6C0344 | 03/14/2016 | <i>03/14/16 14:13</i> |       |

### BTEX/MTBE by EPA 8021

**Analyst: QP**

| Analyte                                | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|--|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| MTBE                                   | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| Benzene                                | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| Toluene                                | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| Ethylbenzene                           | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| m,p-Xylene                             | ND                | 10              | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| o-Xylene                               | ND                | 5.0             | 1        | B6C0344 | 03/14/2016 | 03/14/16 14:13        |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>97.4 %</i>     | <i>62 - 128</i> |          | B6C0344 | 03/14/2016 | <i>03/14/16 14:13</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B42-0'**

**Lab ID: 1600966-07**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 58                | 1.0            | 1        | B6C0340 | 03/14/2016 | 03/14/16 12:08        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B42-1'**

**Lab ID: 1600966-08**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 21                | 1.0            | 1        | B6C0340 | 03/14/2016 | 03/14/16 12:10        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B42-2'**

**Lab ID: 1600966-09**

**Lead by ICP-AES EPA 6010B**

**Analyst: RR**

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| Lead    | 400               | 1.0            | 1        | B6C0340 | 03/14/2016 | 03/14/16 12:11        |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

**Client Sample ID B42-10'**

**Lab ID: 1600966-10**

### Volatile Organic Compounds by EPA 8260B

Analyst: AG

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Benzene                     | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Bromobenzene                | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Bromoform                   | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Bromomethane                | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Chlorobenzene               | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Chloroethane                | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Chloroform                  | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Chloromethane               | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B42-10'**

**Lab ID: 1600966-10**

## Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| m,p-Xylene                              | ND                | 10              | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Methylene chloride                      | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Naphthalene                             | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| o-Xylene                                | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Styrene                                 | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Toluene                                 | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Trichloroethene                         | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 20:57        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>93.8 %</i>     | <i>20 - 189</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 20:57</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>93.9 %</i>     | <i>20 - 173</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 20:57</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>98.2 %</i>     | <i>26 - 178</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 20:57</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>97.6 %</i>     | <i>31 - 166</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 20:57</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

**Client Sample ID B42-25'**

**Lab ID: 1600966-11**

### Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                     | Result<br>(ug/kg) | PQL<br>(ug/kg) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|-------------------|----------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,1,1-Trichloroethane       | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,1,2,2-Tetrachloroethane   | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,1,2-Trichloroethane       | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,1-Dichloroethane          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,1-Dichloroethene          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,1-Dichloropropene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2,3-Trichloropropane      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2,3-Trichlorobenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2,4-Trichlorobenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2,4-Trimethylbenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2-Dibromo-3-chloropropane | ND                | 10             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2-Dibromoethane           | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2-Dichloroethane          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,2-Dichloropropane         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,3,5-Trimethylbenzene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,3-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,3-Dichloropropane         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 1,4-Dichlorobenzene         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 2,2-Dichloropropane         | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 2-Chlorotoluene             | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 4-Chlorotoluene             | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| 4-Isopropyltoluene          | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Benzene                     | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Bromobenzene                | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Bromodichloromethane        | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Bromoform                   | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Bromomethane                | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Carbon tetrachloride        | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Chlorobenzene               | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Chloroethane                | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Chloroform                  | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Chloromethane               | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| cis-1,2-Dichloroethene      | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| cis-1,3-Dichloropropene     | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Dibromochloromethane        | ND                | 5.0            | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/16/2016

**Client Sample ID B42-25'**

**Lab ID: 1600966-11**

## Volatile Organic Compounds by EPA 8260B

**Analyst: AG**

| Analyte                                 | Result<br>(ug/kg) | PQL<br>(ug/kg)  | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|-------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Dichlorodifluoromethane                 | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Ethylbenzene                            | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Hexachlorobutadiene                     | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Isopropylbenzene                        | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| m,p-Xylene                              | ND                | 10              | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Methylene chloride                      | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| n-Butylbenzene                          | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| n-Propylbenzene                         | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Naphthalene                             | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| o-Xylene                                | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| sec-Butylbenzene                        | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Styrene                                 | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| tert-Butylbenzene                       | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Tetrachloroethene                       | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Toluene                                 | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| trans-1,2-Dichloroethene                | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Trichloroethene                         | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Trichlorofluoromethane                  | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| Vinyl chloride                          | ND                | 5.0             | 1        | B6C0331 | 03/14/2016 | 03/14/16 21:34        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>92.8 %</i>     | <i>20 - 189</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 21:34</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>93.7 %</i>     | <i>20 - 173</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 21:34</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>101 %</i>      | <i>26 - 178</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 21:34</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>98.9 %</i>     | <i>31 - 166</i> |          | B6C0331 | 03/14/2016 | <i>03/14/16 21:34</i> |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

**Client Sample ID B42**

**Lab ID: 1600966-12**

### Volatile Organic Compounds by EPA 8260B

Analyst: SL

| Analyte                     | Result<br>(ug/L) | PQL<br>(ug/L) | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|-----------------------------|------------------|---------------|----------|---------|------------|-----------------------|-------|
| 1,1,1,2-Tetrachloroethane   | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,1,1-Trichloroethane       | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,1,2,2-Tetrachloroethane   | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,1,2-Trichloroethane       | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,1-Dichloroethane          | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,1-Dichloroethene          | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,1-Dichloropropene         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2,3-Trichloropropane      | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2,3-Trichlorobenzene      | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2,4-Trichlorobenzene      | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2,4-Trimethylbenzene      | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2-Dibromo-3-chloropropane | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2-Dibromoethane           | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2-Dichlorobenzene         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2-Dichloroethane          | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,2-Dichloropropane         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,3,5-Trimethylbenzene      | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,3-Dichlorobenzene         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,3-Dichloropropane         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 1,4-Dichlorobenzene         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 2,2-Dichloropropane         | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 2-Chlorotoluene             | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 4-Chlorotoluene             | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| 4-Isopropyltoluene          | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Benzene                     | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Bromobenzene                | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Bromodichloromethane        | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Bromoform                   | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Bromomethane                | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Carbon tetrachloride        | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Chlorobenzene               | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Chloroethane                | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Chloroform                  | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Chloromethane               | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| cis-1,2-Dichloroethene      | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| cis-1,3-Dichloropropene     | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Dibromochloromethane        | ND               | 0.50          | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |



# Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/16/2016

**Client Sample ID B42**

**Lab ID: 1600966-12**

## Volatile Organic Compounds by EPA 8260B

**Analyst: SL**

| Analyte                                 | Result<br>(ug/L) | PQL<br>(ug/L)   | Dilution | Batch   | Prepared   | Date/Time<br>Analyzed | Notes |
|---|------------------|-----------------|----------|---------|------------|-----------------------|-------|
| Dibromomethane                          | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Dichlorodifluoromethane                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Ethylbenzene                            | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Hexachlorobutadiene                     | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Isopropylbenzene                        | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| m,p-Xylene                              | ND               | 1.0             | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Methylene chloride                      | ND               | 1.0             | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| n-Butylbenzene                          | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| n-Propylbenzene                         | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Naphthalene                             | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| o-Xylene                                | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| sec-Butylbenzene                        | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Styrene                                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| tert-Butylbenzene                       | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Tetrachloroethene                       | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Toluene                                 | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| trans-1,2-Dichloroethene                | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Trichloroethene                         | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Trichlorofluoromethane                  | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| Vinyl chloride                          | ND               | 0.50            | 1        | B6C0369 | 03/15/2016 | 03/15/16 15:55        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>106 %</i>     | <i>49 - 148</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:55</i> |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>86.0 %</i>    | <i>65 - 132</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:55</i> |       |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>101 %</i>     | <i>55 - 138</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:55</i> |       |
| <i>Surrogate: Toluene-d8</i>            | <i>90.6 %</i>    | <i>60 - 120</i> |          | B6C0369 | 03/15/2016 | <i>03/15/16 15:55</i> |       |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### QUALITY CONTROL SECTION

#### Title 22 Metals by ICP-AES EPA 6010B - Quality Control

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0336 - EPA 3050B\_S**

**Blank (B6C0336-BLK1)**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|            |    |     |  |    |
|------------|----|-----|--|----|
| Antimony   | ND | 2.0 |  | NR |
| Arsenic    | ND | 1.0 |  | NR |
| Barium     | ND | 1.0 |  | NR |
| Beryllium  | ND | 1.0 |  | NR |
| Cadmium    | ND | 1.0 |  | NR |
| Chromium   | ND | 1.0 |  | NR |
| Cobalt     | ND | 1.0 |  | NR |
| Copper     | ND | 2.0 |  | NR |
| Lead       | ND | 1.0 |  | NR |
| Molybdenum | ND | 1.0 |  | NR |
| Nickel     | ND | 1.0 |  | NR |
| Selenium   | ND | 1.0 |  | NR |
| Silver     | ND | 1.0 |  | NR |
| Thallium   | ND | 1.0 |  | NR |
| Vanadium   | ND | 1.0 |  | NR |
| Zinc       | ND | 1.0 |  | NR |

**LCS (B6C0336-BS1)**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|            |         |     |         |      |          |
|------------|---------|-----|---------|------|----------|
| Antimony   | 46.2560 | 2.0 | 50.0000 | 92.5 | 80 - 120 |
| Arsenic    | 47.7499 | 1.0 | 50.0000 | 95.5 | 80 - 120 |
| Barium     | 50.6388 | 1.0 | 50.0000 | 101  | 80 - 120 |
| Beryllium  | 49.5219 | 1.0 | 50.0000 | 99.0 | 80 - 120 |
| Cadmium    | 48.2974 | 1.0 | 50.0000 | 96.6 | 80 - 120 |
| Chromium   | 47.1480 | 1.0 | 50.0000 | 94.3 | 80 - 120 |
| Cobalt     | 49.1289 | 1.0 | 50.0000 | 98.3 | 80 - 120 |
| Copper     | 49.6513 | 2.0 | 50.0000 | 99.3 | 80 - 120 |
| Lead       | 49.7353 | 1.0 | 50.0000 | 99.5 | 80 - 120 |
| Molybdenum | 48.6967 | 1.0 | 50.0000 | 97.4 | 80 - 120 |
| Nickel     | 48.4174 | 1.0 | 50.0000 | 96.8 | 80 - 120 |
| Selenium   | 46.1071 | 1.0 | 50.0000 | 92.2 | 80 - 120 |
| Silver     | 48.0367 | 1.0 | 50.0000 | 96.1 | 80 - 120 |
| Thallium   | 49.1002 | 1.0 | 50.0000 | 98.2 | 80 - 120 |
| Vanadium   | 51.8464 | 1.0 | 50.0000 | 104  | 80 - 120 |
| Zinc       | 47.2801 | 1.0 | 50.0000 | 94.6 | 80 - 120 |

**Duplicate (B6C0336-DUP1)**

Source: 1600911-01

Prepared: 3/14/2016 Analyzed: 3/14/2016

|           |          |     |          |    |         |
|-----------|----------|-----|----------|----|---------|
| Antimony  | ND       | 2.0 | ND       | NR | 20      |
| Arsenic   | 3.97855  | 1.0 | 4.06981  | NR | 2.27 20 |
| Barium    | 112.636  | 1.0 | 114.207  | NR | 1.39 20 |
| Beryllium | 0.196817 | 1.0 | 0.209471 | NR | 6.23 20 |



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Reported : 03/16/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0336 - EPA 3050B\_S (continued)**

**Duplicate (B6C0336-DUP1) - Continued**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|            |          |     |  |          |    |  |      |    |   |
|------------|----------|-----|--|----------|----|--|------|----|---|
| Cadmium    | 0.223509 | 1.0 |  | 0.250332 | NR |  | 11.3 | 20 |   |
| Chromium   | 14.7933  | 1.0 |  | 15.0589  | NR |  | 1.78 | 20 |   |
| Cobalt     | 7.63974  | 1.0 |  | 7.31582  | NR |  | 4.33 | 20 |   |
| Copper     | 20.4844  | 2.0 |  | 21.6074  | NR |  | 5.34 | 20 |   |
| Lead       | 10.3120  | 1.0 |  | 12.7026  | NR |  | 20.8 | 20 | R |
| Molybdenum | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Nickel     | 12.1941  | 1.0 |  | 12.3394  | NR |  | 1.18 | 20 |   |
| Selenium   | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Silver     | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Thallium   | ND       | 1.0 |  | ND       | NR |  |      | 20 |   |
| Vanadium   | 32.3888  | 1.0 |  | 33.1247  | NR |  | 2.25 | 20 |   |
| Zinc       | 55.9828  | 1.0 |  | 60.9591  | NR |  | 8.51 | 20 |   |

**Matrix Spike (B6C0336-MS1)**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|            |         |     |         |          |      |          |  |  |  |
|------------|---------|-----|---------|----------|------|----------|--|--|--|
| Antimony   | 77.3172 | 2.0 | 125.000 | ND       | 61.9 | 28 - 106 |  |  |  |
| Arsenic    | 101.951 | 1.0 | 125.000 | 4.06981  | 78.3 | 57 - 109 |  |  |  |
| Barium     | 216.156 | 1.0 | 125.000 | 114.207  | 81.6 | 18 - 159 |  |  |  |
| Beryllium  | 97.3236 | 1.0 | 125.000 | 0.209471 | 77.7 | 61 - 107 |  |  |  |
| Cadmium    | 93.4282 | 1.0 | 125.000 | 0.250332 | 74.5 | 53 - 104 |  |  |  |
| Chromium   | 107.823 | 1.0 | 125.000 | 15.0589  | 74.2 | 53 - 121 |  |  |  |
| Cobalt     | 101.474 | 1.0 | 125.000 | 7.31582  | 75.3 | 55 - 109 |  |  |  |
| Copper     | 128.363 | 2.0 | 125.000 | 21.6074  | 85.4 | 58 - 124 |  |  |  |
| Lead       | 106.823 | 1.0 | 125.000 | 12.7026  | 75.3 | 35 - 129 |  |  |  |
| Molybdenum | 91.9534 | 1.0 | 125.000 | ND       | 73.6 | 57 - 108 |  |  |  |
| Nickel     | 105.388 | 1.0 | 125.000 | 12.3394  | 74.4 | 44 - 122 |  |  |  |
| Selenium   | 91.8084 | 1.0 | 125.000 | ND       | 73.4 | 54 - 104 |  |  |  |
| Silver     | 100.128 | 1.0 | 125.000 | ND       | 80.1 | 60 - 112 |  |  |  |
| Thallium   | 89.8308 | 1.0 | 125.000 | ND       | 71.9 | 50 - 103 |  |  |  |
| Vanadium   | 138.792 | 1.0 | 125.000 | 33.1247  | 84.5 | 54 - 123 |  |  |  |
| Zinc       | 149.994 | 1.0 | 125.000 | 60.9591  | 71.2 | 29 - 132 |  |  |  |

**Matrix Spike Dup (B6C0336-MSD1)**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|            |         |     |         |          |      |          |      |    |  |
|------------|---------|-----|---------|----------|------|----------|------|----|--|
| Antimony   | 86.5283 | 2.0 | 125.000 | ND       | 69.2 | 28 - 106 | 11.2 | 20 |  |
| Arsenic    | 110.988 | 1.0 | 125.000 | 4.06981  | 85.5 | 57 - 109 | 8.49 | 20 |  |
| Barium     | 236.924 | 1.0 | 125.000 | 114.207  | 98.2 | 18 - 159 | 9.17 | 20 |  |
| Beryllium  | 107.997 | 1.0 | 125.000 | 0.209471 | 86.2 | 61 - 107 | 10.4 | 20 |  |
| Cadmium    | 100.861 | 1.0 | 125.000 | 0.250332 | 80.5 | 53 - 104 | 7.65 | 20 |  |
| Chromium   | 120.111 | 1.0 | 125.000 | 15.0589  | 84.0 | 53 - 121 | 10.8 | 20 |  |
| Cobalt     | 112.150 | 1.0 | 125.000 | 7.31582  | 83.9 | 55 - 109 | 10.0 | 20 |  |
| Copper     | 139.955 | 2.0 | 125.000 | 21.6074  | 94.7 | 58 - 124 | 8.64 | 20 |  |
| Lead       | 114.283 | 1.0 | 125.000 | 12.7026  | 81.3 | 35 - 129 | 6.75 | 20 |  |
| Molybdenum | 100.370 | 1.0 | 125.000 | ND       | 80.3 | 57 - 108 | 8.75 | 20 |  |



## Certificate of Analysis

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 Report To : Rick Day  
 Reported : 03/16/2016

### Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

| Analyte | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0336 - EPA 3050B\_S (continued)**

**Matrix Spike Dup (B6C0336-MSD1) - Continued**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|          |         |     |         |         |      |          |      |    |  |
|----------|---------|-----|---------|---------|------|----------|------|----|--|
| Nickel   | 116.317 | 1.0 | 125.000 | 12.3394 | 83.2 | 44 - 122 | 9.86 | 20 |  |
| Selenium | 99.9862 | 1.0 | 125.000 | ND      | 80.0 | 54 - 104 | 8.53 | 20 |  |
| Silver   | 109.156 | 1.0 | 125.000 | ND      | 87.3 | 60 - 112 | 8.63 | 20 |  |
| Thallium | 98.2094 | 1.0 | 125.000 | ND      | 78.6 | 50 - 103 | 8.91 | 20 |  |
| Vanadium | 151.468 | 1.0 | 125.000 | 33.1247 | 94.7 | 54 - 123 | 8.73 | 20 |  |
| Zinc     | 162.299 | 1.0 | 125.000 | 60.9591 | 81.1 | 29 - 132 | 7.88 | 20 |  |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
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 Reported : 03/16/2016

### Lead by ICP-AES EPA 6010B - Quality Control

| Analyte                                    | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result  | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|-------|-----------------|------|--------------|-------|
| <b>Batch B6C0340 - EPA 3050 Modified_S</b> |                   |                |                |   |       |                 |      |              |       |
| <b>Blank (B6C0340-BLK1)</b>                |                   |                |                | Prepared: 3/14/2016 Analyzed: 3/14/2016                           |       |                 |      |              |       |
| Lead                                       | ND                | 1.0            |                |   | NR    |                 |      |              |       |
| <b>LCS (B6C0340-BS1)</b>                   |                   |                |                | Prepared: 3/14/2016 Analyzed: 3/14/2016                           |       |                 |      |              |       |
| Lead                                       | 47.5700           | 1.0            | 50.0000        |   | 95.1  | 80 - 120        |      |              |       |
| <b>Duplicate (B6C0340-DUP1)</b>            |                   |                |                | <b>Source: 1600966-09</b> Prepared: 3/14/2016 Analyzed: 3/14/2016 |       |                 |      |              |       |
| Lead                                       | 466.883           | 1.0            |                | 397.411   | NR    |                 | 16.1 | 20           |       |
| <b>Matrix Spike (B6C0340-MS1)</b>          |                   |                |                | <b>Source: 1600966-09</b> Prepared: 3/14/2016 Analyzed: 3/14/2016 |       |                 |      |              |       |
| Lead                                       | 1052.96           | 1.0            | 250.000        | 397.411   | 262   | 35 - 129        |      |              | M1    |
| <b>Matrix Spike Dup (B6C0340-MSD1)</b>     |                   |                |                | <b>Source: 1600966-09</b> Prepared: 3/14/2016 Analyzed: 3/14/2016 |       |                 |      |              |       |
| Lead                                       | 998.734           | 1.0            | 250.000        | 397.411   | 241   | 35 - 129        | 5.29 | 20           | M1    |



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 Reported : 03/16/2016

### Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result   | % Rec | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|--|-------|-----------------|------|--------------|-------|
| <b>Batch B6C0338 - EPA 7471_S</b>      |                   |                |                |  |       |                 |      |              |       |
| <b>Blank (B6C0338-BLK1)</b>            |                   |                |                | Prepared: 3/14/2016 Analyzed: 3/15/2016                    |       |                 |      |              |       |
| Mercury                                | ND                | 0.10           |                |  | NR    |                 |      |              |       |
| <b>LCS (B6C0338-BS1)</b>               |                   |                |                | Prepared: 3/14/2016 Analyzed: 3/15/2016                    |       |                 |      |              |       |
| Mercury                                | 0.776183          | 0.10           | 0.833333       |  | 93.1  | 80 - 120        |      |              |       |
| <b>Duplicate (B6C0338-DUP1)</b>        |                   |                |                | Source: 1600911-01 Prepared: 3/14/2016 Analyzed: 3/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.049406          | 0.10           |                | 0.040485   | NR    |                 | 19.8 | 20           |       |
| <b>Matrix Spike (B6C0338-MS1)</b>      |                   |                |                | Source: 1600911-01 Prepared: 3/14/2016 Analyzed: 3/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.828802          | 0.10           | 0.833333       | 0.040485   | 94.6  | 70 - 130        |      |              |       |
| <b>Matrix Spike Dup (B6C0338-MSD1)</b> |                   |                |                | Source: 1600911-01 Prepared: 3/14/2016 Analyzed: 3/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.867708          | 0.10           | 0.833333       | 0.040485   | 99.3  | 70 - 130        | 4.59 | 20           |       |
| <b>Post Spike (B6C0338-PS1)</b>        |                   |                |                | Source: 1600911-01 Prepared: 3/14/2016 Analyzed: 3/15/2016 |       |                 |      |              |       |
| Mercury                                | 0.005760          |                | 5.00000E-3     | ND   | 105   | 85 - 115        |      |              |       |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

| Analyte                                | Result<br>(mg/kg) | PQL<br>(mg/kg) | Spike<br>Level | Source<br>Result                        | % Rec<br>% Rec | % Rec<br>Limits                         | RPD  | RPD<br>Limit | Notes |
|--|-------------------|----------------|----------------|---|----------------|---|------|--------------|-------|
| <b>Batch B6C0344 - GCVOA_S</b>         |                   |                |                |   |                |   |      |              |       |
| <b>Blank (B6C0344-BLK1)</b>            |                   |                |                | Prepared: 3/14/2016 Analyzed: 3/14/2016 |                |   |      |              |       |
| Gasoline Range Organics                | ND                | 1.0            |                |   | NR             |   |      |              |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2057            |                | 0.199892       |   | 103            | 37 - 153                                |      |              |       |
| <b>LCS (B6C0344-BS1)</b>               |                   |                |                | Prepared: 3/14/2016 Analyzed: 3/14/2016 |                |   |      |              |       |
| Gasoline Range Organics                | 4.44900           | 1.0            | 5.00000        |   | 89.0           | 70 - 130                                |      |              |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2058            |                | 0.199892       |   | 103            | 37 - 153                                |      |              |       |
| <b>Duplicate (B6C0344-DUP1)</b>        |                   |                |                | <b>Source: 1600966-05</b>               |                | Prepared: 3/14/2016 Analyzed: 3/14/2016 |      |              |       |
| Gasoline Range Organics                | ND                | 1.0            |                | ND                                      | NR             |   |      | 20           |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.2143            |                | 0.199892       |   | 107            | 37 - 153                                |      |              |       |
| <b>Matrix Spike (B6C0344-MS1)</b>      |                   |                |                | <b>Source: 1600949-01</b>               |                | Prepared: 3/14/2016 Analyzed: 3/14/2016 |      |              |       |
| Gasoline Range Organics                | 2.42800           | 1.0            | 5.00000        | ND                                      | 48.6           | 20 - 130                                |      |              |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.1984            |                | 0.199892       |   | 99.2           | 37 - 153                                |      |              |       |
| <b>Matrix Spike Dup (B6C0344-MSD1)</b> |                   |                |                | <b>Source: 1600949-01</b>               |                | Prepared: 3/14/2016 Analyzed: 3/14/2016 |      |              |       |
| Gasoline Range Organics                | 2.35400           | 1.0            | 5.00000        | ND                                      | 47.1           | 20 - 130                                | 3.09 | 20           |       |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.1986            |                | 0.199892       |   | 99.4           | 37 - 153                                |      |              |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/16/2016

### Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

| Analyte | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0403 - GCVOA\_W**

**Blank (B6C0403-BLK1)**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                         |    |      |  |  |  |    |  |  |  |
|-------------------------|----|------|--|--|--|----|--|--|--|
| Gasoline Range Organics | ND | 0.05 |  |  |  | NR |  |  |  |
|-------------------------|----|------|--|--|--|----|--|--|--|

*Surrogate: 4-Bromofluorobenzene*

0.08685

9.99460E-2

86.9

70 - 130

**LCS (B6C0403-BS1)**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                         |          |      |         |  |      |          |  |  |  |
|-------------------------|----------|------|---------|--|------|----------|--|--|--|
| Gasoline Range Organics | 0.929000 | 0.05 | 1.00000 |  | 92.9 | 70 - 130 |  |  |  |
|-------------------------|----------|------|---------|--|------|----------|--|--|--|

*Surrogate: 4-Bromofluorobenzene*

0.09531

9.99460E-2

95.4

70 - 130

**LCS Dup (B6C0403-BSD1)**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                         |          |      |         |  |      |          |      |    |  |
|-------------------------|----------|------|---------|--|------|----------|------|----|--|
| Gasoline Range Organics | 0.955000 | 0.05 | 1.00000 |  | 95.5 | 70 - 130 | 2.76 | 20 |  |
|-------------------------|----------|------|---------|--|------|----------|------|----|--|

*Surrogate: 4-Bromofluorobenzene*

0.08473

9.99460E-2

84.8

70 - 130



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### BTEX/MTBE by EPA 8021 - Quality Control

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

#### Batch B6C0344 - GCVOA\_S

##### Blank (B6C0344-BLK1)

Prepared: 3/14/2016 Analyzed: 3/14/2016

|              |    |     |  |  |    |  |  |  |  |
|--------------|----|-----|--|--|----|--|--|--|--|
| MTBE         | ND | 5.0 |  |  | NR |  |  |  |  |
| Benzene      | ND | 5.0 |  |  | NR |  |  |  |  |
| Toluene      | ND | 5.0 |  |  | NR |  |  |  |  |
| Ethylbenzene | ND | 5.0 |  |  | NR |  |  |  |  |
| m,p-Xylene   | ND | 10  |  |  | NR |  |  |  |  |
| o-Xylene     | ND | 5.0 |  |  | NR |  |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      191.5      199.892      95.8      62 - 128

##### LCS (B6C0344-BS2)

Prepared: 3/14/2016 Analyzed: 3/14/2016

|              |         |     |         |  |     |          |  |  |  |
|--------------|---------|-----|---------|--|-----|----------|--|--|--|
| MTBE         | 103.172 | 5.0 | 100.000 |  | 103 | 70 - 130 |  |  |  |
| Benzene      | 108.485 | 5.0 | 100.000 |  | 108 | 70 - 130 |  |  |  |
| Toluene      | 106.244 | 5.0 | 100.000 |  | 106 | 70 - 130 |  |  |  |
| Ethylbenzene | 108.433 | 5.0 | 100.000 |  | 108 | 70 - 130 |  |  |  |
| m,p-Xylene   | 220.844 | 10  | 200.000 |  | 110 | 70 - 130 |  |  |  |
| o-Xylene     | 104.235 | 5.0 | 100.000 |  | 104 | 70 - 130 |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      196.3      199.892      98.2      62 - 128

##### Duplicate (B6C0344-DUP1)

Source: 1600966-05

Prepared: 3/14/2016 Analyzed: 3/14/2016

|              |          |     |          |    |  |      |    |   |  |
|--------------|----------|-----|----------|----|--|------|----|---|--|
| MTBE         | 1.73500  | 5.0 | 3.16300  | NR |  | 58.3 | 20 | R |  |
| Benzene      | ND       | 5.0 | 0.545000 | NR |  |      | 20 |   |  |
| Toluene      | 0.598000 | 5.0 | 1.47800  | NR |  | 84.8 | 20 | R |  |
| Ethylbenzene | ND       | 5.0 | ND       | NR |  |      | 20 |   |  |
| m,p-Xylene   | 0.482000 | 10  | 1.17500  | NR |  | 83.6 | 20 | R |  |
| o-Xylene     | ND       | 5.0 | ND       | NR |  |      | 20 |   |  |

*Surrogate: 4-Bromofluorobenzene*      198.5      199.892      99.3      62 - 128

##### Matrix Spike (B6C0344-MS1)

Source: 1600949-01

Prepared: 3/14/2016 Analyzed: 3/14/2016

|              |         |     |         |          |      |          |  |  |  |
|--------------|---------|-----|---------|----------|------|----------|--|--|--|
| MTBE         | 419.724 | 5.0 | 430.000 | 1.73800  | 97.2 | 37 - 135 |  |  |  |
| Benzene      | 31.8210 | 5.0 | 40.7500 | 0.281000 | 77.4 | 29 - 143 |  |  |  |
| Toluene      | 118.998 | 5.0 | 202.250 | ND       | 58.8 | 24 - 125 |  |  |  |
| Ethylbenzene | 31.8190 | 5.0 | 76.0000 | ND       | 41.9 | 13 - 99  |  |  |  |
| m,p-Xylene   | 113.698 | 10  | 206.500 | 0.656000 | 54.7 | 15 - 141 |  |  |  |
| o-Xylene     | 41.8270 | 5.0 | 73.5000 | ND       | 56.9 | 16 - 144 |  |  |  |

*Surrogate: 4-Bromofluorobenzene*      186.0      199.892      93.0      62 - 128

##### Matrix Spike Dup (B6C0344-MSD1)

Source: 1600949-01

Prepared: 3/14/2016 Analyzed: 3/14/2016

|              |         |     |         |          |      |          |       |    |  |
|--------------|---------|-----|---------|----------|------|----------|-------|----|--|
| MTBE         | 430.372 | 5.0 | 430.000 | 1.73800  | 99.7 | 37 - 135 | 2.51  | 20 |  |
| Benzene      | 29.0930 | 5.0 | 40.7500 | 0.281000 | 70.7 | 29 - 143 | 8.96  | 20 |  |
| Toluene      | 119.983 | 5.0 | 202.250 | ND       | 59.3 | 24 - 125 | 0.824 | 20 |  |
| Ethylbenzene | 31.0770 | 5.0 | 76.0000 | ND       | 40.9 | 13 - 99  | 2.36  | 20 |  |
| m,p-Xylene   | 110.602 | 10  | 206.500 | 0.656000 | 53.2 | 15 - 141 | 2.76  | 20 |  |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/16/2016

### BTEX/MTBE by EPA 8021 - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0344 - GCVOA\_S (continued)**

**Matrix Spike Dup (B6C0344-MSD1) - Continued**

**Source: 1600949-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|  |              |     |                |    |             |                 |      |    |  |
|--|--------------|-----|----------------|----|-------------|-----------------|------|----|--|
| o-Xylene                               | 40.5180      | 5.0 | 73.5000        | ND | 55.1        | 16 - 144        | 3.18 | 20 |  |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>187.1</i> |     | <i>199.892</i> |    | <i>93.6</i> | <i>62 - 128</i> |      |    |  |



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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|---------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|---------------|--------------|-------|

**Batch B6C0331 - MSVOA\_S**

**Blank (B6C0331-BLK1)**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                             |    |     |  |    |
|-----------------------------|----|-----|--|----|
| 1,1,1,2-Tetrachloroethane   | ND | 5.0 |  | NR |
| 1,1,1-Trichloroethane       | ND | 5.0 |  | NR |
| 1,1,2,2-Tetrachloroethane   | ND | 5.0 |  | NR |
| 1,1,2-Trichloroethane       | ND | 5.0 |  | NR |
| 1,1-Dichloroethane          | ND | 5.0 |  | NR |
| 1,1-Dichloroethene          | ND | 5.0 |  | NR |
| 1,1-Dichloropropene         | ND | 5.0 |  | NR |
| 1,2,3-Trichloropropane      | ND | 5.0 |  | NR |
| 1,2,3-Trichlorobenzene      | ND | 5.0 |  | NR |
| 1,2,4-Trichlorobenzene      | ND | 5.0 |  | NR |
| 1,2,4-Trimethylbenzene      | ND | 5.0 |  | NR |
| 1,2-Dibromo-3-chloropropane | ND | 10  |  | NR |
| 1,2-Dibromoethane           | ND | 5.0 |  | NR |
| 1,2-Dichlorobenzene         | ND | 5.0 |  | NR |
| 1,2-Dichloroethane          | ND | 5.0 |  | NR |
| 1,2-Dichloropropane         | ND | 5.0 |  | NR |
| 1,3,5-Trimethylbenzene      | ND | 5.0 |  | NR |
| 1,3-Dichlorobenzene         | ND | 5.0 |  | NR |
| 1,3-Dichloropropane         | ND | 5.0 |  | NR |
| 1,4-Dichlorobenzene         | ND | 5.0 |  | NR |
| 2,2-Dichloropropane         | ND | 5.0 |  | NR |
| 2-Chlorotoluene             | ND | 5.0 |  | NR |
| 4-Chlorotoluene             | ND | 5.0 |  | NR |
| 4-Isopropyltoluene          | ND | 5.0 |  | NR |
| Benzene                     | ND | 5.0 |  | NR |
| Bromobenzene                | ND | 5.0 |  | NR |
| Bromodichloromethane        | ND | 5.0 |  | NR |
| Bromoform                   | ND | 5.0 |  | NR |
| Bromomethane                | ND | 5.0 |  | NR |
| Carbon tetrachloride        | ND | 5.0 |  | NR |
| Chlorobenzene               | ND | 5.0 |  | NR |
| Chloroethane                | ND | 5.0 |  | NR |
| Chloroform                  | ND | 5.0 |  | NR |
| Chloromethane               | ND | 5.0 |  | NR |
| cis-1,2-Dichloroethene      | ND | 5.0 |  | NR |
| cis-1,3-Dichloropropene     | ND | 5.0 |  | NR |
| Dibromochloromethane        | ND | 5.0 |  | NR |
| Dibromomethane              | ND | 5.0 |  | NR |
| Dichlorodifluoromethane     | ND | 5.0 |  | NR |
| Ethylbenzene                | ND | 5.0 |  | NR |
| Hexachlorobutadiene         | ND | 5.0 |  | NR |



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### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0331 - MSVOA\_S (continued)**

**Blank (B6C0331-BLK1) - Continued**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                          |    |     |  |  |  |    |  |  |  |
|--------------------------|----|-----|--|--|--|----|--|--|--|
| Isopropylbenzene         | ND | 5.0 |  |  |  | NR |  |  |  |
| m,p-Xylene               | ND | 10  |  |  |  | NR |  |  |  |
| Methylene chloride       | ND | 5.0 |  |  |  | NR |  |  |  |
| n-Butylbenzene           | ND | 5.0 |  |  |  | NR |  |  |  |
| n-Propylbenzene          | ND | 5.0 |  |  |  | NR |  |  |  |
| Naphthalene              | ND | 5.0 |  |  |  | NR |  |  |  |
| o-Xylene                 | ND | 5.0 |  |  |  | NR |  |  |  |
| sec-Butylbenzene         | ND | 5.0 |  |  |  | NR |  |  |  |
| Styrene                  | ND | 5.0 |  |  |  | NR |  |  |  |
| tert-Butylbenzene        | ND | 5.0 |  |  |  | NR |  |  |  |
| Tetrachloroethene        | ND | 5.0 |  |  |  | NR |  |  |  |
| Toluene                  | ND | 5.0 |  |  |  | NR |  |  |  |
| trans-1,2-Dichloroethene | ND | 5.0 |  |  |  | NR |  |  |  |
| Trichloroethene          | ND | 5.0 |  |  |  | NR |  |  |  |
| Trichlorofluoromethane   | ND | 5.0 |  |  |  | NR |  |  |  |
| Vinyl chloride           | ND | 5.0 |  |  |  | NR |  |  |  |

|   |              |  |                |  |             |                 |  |  |  |
|---|--------------|--|----------------|--|-------------|-----------------|--|--|--|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>40.53</i> |  | <i>50.0000</i> |  | <i>81.1</i> | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>49.65</i> |  | <i>50.0000</i> |  | <i>99.3</i> | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>44.01</i> |  | <i>50.0000</i> |  | <i>88.0</i> | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>49.18</i> |  | <i>50.0000</i> |  | <i>98.4</i> | <i>31 - 166</i> |  |  |  |

**LCS (B6C0331-BS1)**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                             |         |     |         |  |      |          |  |  |  |
|-----------------------------|---------|-----|---------|--|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 53.2700 | 5.0 | 50.0000 |  | 107  | 74 - 117 |  |  |  |
| 1,1,1-Trichloroethane       | 53.5700 | 5.0 | 50.0000 |  | 107  | 65 - 130 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 45.5200 | 5.0 | 50.0000 |  | 91.0 | 63 - 123 |  |  |  |
| 1,1,2-Trichloroethane       | 47.8400 | 5.0 | 50.0000 |  | 95.7 | 66 - 122 |  |  |  |
| 1,1-Dichloroethane          | 52.3900 | 5.0 | 50.0000 |  | 105  | 65 - 124 |  |  |  |
| 1,1-Dichloroethene          | 50.0600 | 5.0 | 50.0000 |  | 100  | 60 - 130 |  |  |  |
| 1,1-Dichloropropene         | 56.5100 | 5.0 | 50.0000 |  | 113  | 75 - 121 |  |  |  |
| 1,2,3-Trichloropropane      | 46.6800 | 5.0 | 50.0000 |  | 93.4 | 62 - 126 |  |  |  |
| 1,2,3-Trichlorobenzene      | 51.9000 | 5.0 | 50.0000 |  | 104  | 72 - 120 |  |  |  |
| 1,2,4-Trichlorobenzene      | 55.2400 | 5.0 | 50.0000 |  | 110  | 75 - 121 |  |  |  |
| 1,2,4-Trimethylbenzene      | 55.5700 | 5.0 | 50.0000 |  | 111  | 82 - 118 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 49.9800 | 10  | 50.0000 |  | 100  | 67 - 121 |  |  |  |
| 1,2-Dibromoethane           | 49.0900 | 5.0 | 50.0000 |  | 98.2 | 69 - 123 |  |  |  |
| 1,2-Dichlorobenzene         | 52.0700 | 5.0 | 50.0000 |  | 104  | 81 - 114 |  |  |  |
| 1,2-Dichloroethane          | 50.6200 | 5.0 | 50.0000 |  | 101  | 71 - 119 |  |  |  |
| 1,2-Dichloropropane         | 48.6700 | 5.0 | 50.0000 |  | 97.3 | 71 - 118 |  |  |  |
| 1,3,5-Trimethylbenzene      | 55.8200 | 5.0 | 50.0000 |  | 112  | 81 - 120 |  |  |  |
| 1,3-Dichlorobenzene         | 54.6700 | 5.0 | 50.0000 |  | 109  | 80 - 115 |  |  |  |
| 1,3-Dichloropropane         | 50.8900 | 5.0 | 50.0000 |  | 102  | 77 - 117 |  |  |  |



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Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0331 - MSVOA\_S (continued)**

**LCS (B6C0331-BS1) - Continued**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                                  |         |     |         |  |      |          |  |  |    |
|----------------------------------|---------|-----|---------|--|------|----------|--|--|----|
| 1,4-Dichlorobenzene              | 52.9100 | 5.0 | 50.0000 |  | 106  | 80 - 115 |  |  |    |
| 2,2-Dichloropropane              | 54.6400 | 5.0 | 50.0000 |  | 109  | 58 - 141 |  |  |    |
| 2-Chlorotoluene                  | 54.0800 | 5.0 | 50.0000 |  | 108  | 78 - 120 |  |  |    |
| 4-Chlorotoluene                  | 54.6200 | 5.0 | 50.0000 |  | 109  | 79 - 119 |  |  |    |
| 4-Isopropyltoluene               | 57.8800 | 5.0 | 50.0000 |  | 116  | 81 - 125 |  |  |    |
| Benzene                          | 102.190 | 5.0 | 100.000 |  | 102  | 73 - 116 |  |  |    |
| Bromobenzene                     | 53.3200 | 5.0 | 50.0000 |  | 107  | 78 - 115 |  |  |    |
| Bromodichloromethane             | 48.4500 | 5.0 | 50.0000 |  | 96.9 | 73 - 120 |  |  |    |
| Bromoform                        | 51.4800 | 5.0 | 50.0000 |  | 103  | 68 - 124 |  |  |    |
| Bromomethane                     | 101.210 | 5.0 | 50.0000 |  | 202  | 26 - 163 |  |  | L5 |
| Carbon tetrachloride             | 54.1600 | 5.0 | 50.0000 |  | 108  | 67 - 130 |  |  |    |
| Chlorobenzene                    | 54.4100 | 5.0 | 50.0000 |  | 109  | 82 - 114 |  |  |    |
| Chloroethane                     | 69.5700 | 5.0 | 50.0000 |  | 139  | 40 - 151 |  |  |    |
| Chloroform                       | 50.8300 | 5.0 | 50.0000 |  | 102  | 68 - 124 |  |  |    |
| Chloromethane                    | 67.6400 | 5.0 | 50.0000 |  | 135  | 18 - 144 |  |  |    |
| cis-1,2-Dichloroethene           | 52.6500 | 5.0 | 50.0000 |  | 105  | 66 - 125 |  |  |    |
| cis-1,3-Dichloropropene          | 55.1900 | 5.0 | 50.0000 |  | 110  | 77 - 120 |  |  |    |
| Dibromochloromethane             | 50.5900 | 5.0 | 50.0000 |  | 101  | 76 - 118 |  |  |    |
| Dibromomethane                   | 47.9300 | 5.0 | 50.0000 |  | 95.9 | 69 - 122 |  |  |    |
| Dichlorodifluoromethane          | 55.7000 | 5.0 | 50.0000 |  | 111  | 0 - 155  |  |  |    |
| Ethylbenzene                     | 107.450 | 5.0 | 100.000 |  | 107  | 79 - 115 |  |  |    |
| Hexachlorobutadiene              | 56.1100 | 5.0 | 50.0000 |  | 112  | 71 - 121 |  |  |    |
| Isopropylbenzene                 | 59.3800 | 5.0 | 50.0000 |  | 119  | 78 - 126 |  |  |    |
| m,p-Xylene                       | 110.140 | 10  | 100.000 |  | 110  | 80 - 119 |  |  |    |
| Methylene chloride               | 44.1300 | 5.0 | 50.0000 |  | 88.3 | 56 - 129 |  |  |    |
| MTBE                             | 48.7500 | 5.0 | 50.0000 |  | 97.5 | 61 - 124 |  |  |    |
| n-Butylbenzene                   | 58.5800 | 5.0 | 50.0000 |  | 117  | 78 - 127 |  |  |    |
| n-Propylbenzene                  | 55.5000 | 5.0 | 50.0000 |  | 111  | 77 - 128 |  |  |    |
| Naphthalene                      | 47.7700 | 5.0 | 50.0000 |  | 95.5 | 61 - 141 |  |  |    |
| o-Xylene                         | 110.840 | 5.0 | 100.000 |  | 111  | 81 - 116 |  |  |    |
| sec-Butylbenzene                 | 56.5800 | 5.0 | 50.0000 |  | 113  | 81 - 125 |  |  |    |
| Styrene                          | 58.4200 | 5.0 | 50.0000 |  | 117  | 82 - 120 |  |  |    |
| tert-Butylbenzene                | 56.5500 | 5.0 | 50.0000 |  | 113  | 80 - 123 |  |  |    |
| Tetrachloroethene                | 57.0200 | 5.0 | 50.0000 |  | 114  | 75 - 123 |  |  |    |
| Toluene                          | 105.960 | 5.0 | 100.000 |  | 106  | 75 - 119 |  |  |    |
| trans-1,2-Dichloroethene         | 51.3700 | 5.0 | 50.0000 |  | 103  | 62 - 127 |  |  |    |
| Trichloroethene                  | 54.8400 | 5.0 | 50.0000 |  | 110  | 73 - 119 |  |  |    |
| Trichlorofluoromethane           | 51.6000 | 5.0 | 50.0000 |  | 103  | 47 - 157 |  |  |    |
| Vinyl chloride                   | 59.3300 | 5.0 | 50.0000 |  | 119  | 27 - 147 |  |  |    |
| Surrogate: 1,2-Dichloroethane-d4 | 41.72   |     | 50.0000 |  | 83.4 | 20 - 189 |  |  |    |
| Surrogate: 4-Bromofluorobenzene  | 50.38   |     | 50.0000 |  | 101  | 20 - 173 |  |  |    |



# Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

## Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

### Batch B6C0331 - MSVOA\_S (continued)

#### LCS (B6C0331-BS1) - Continued

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                                 |       |  |         |  |      |          |  |  |  |
|---------------------------------|-------|--|---------|--|------|----------|--|--|--|
| Surrogate: Dibromofluoromethane | 46.72 |  | 50.0000 |  | 93.4 | 26 - 178 |  |  |  |
| Surrogate: Toluene-d8           | 48.95 |  | 50.0000 |  | 97.9 | 31 - 166 |  |  |  |

#### Duplicate (B6C0331-DUP1)

Source: 1600966-10

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                             |    |     |  |    |    |  |  |    |  |
|-----------------------------|----|-----|--|----|----|--|--|----|--|
| 1,1,1,2-Tetrachloroethane   | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,1,1-Trichloroethane       | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,1,2,2-Tetrachloroethane   | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,1,2-Trichloroethane       | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloroethane          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloroethene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloropropene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2,3-Trichloropropane      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2,3-Trichlorobenzene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2,4-Trichlorobenzene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2,4-Trimethylbenzene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2-Dibromo-3-chloropropane | ND | 10  |  | ND | NR |  |  | 20 |  |
| 1,2-Dibromoethane           | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichlorobenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichloroethane          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichloropropane         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,3,5-Trimethylbenzene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,3-Dichlorobenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,3-Dichloropropane         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 1,4-Dichlorobenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 2,2-Dichloropropane         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 2-Chlorotoluene             | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 4-Chlorotoluene             | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| 4-Isopropyltoluene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Benzene                     | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Bromobenzene                | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Bromodichloromethane        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Bromoform                   | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Bromomethane                | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Carbon tetrachloride        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Chlorobenzene               | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Chloroethane                | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Chloroform                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Chloromethane               | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| cis-1,2-Dichloroethene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| cis-1,3-Dichloropropene     | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Dibromochloromethane        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Dibromomethane              | ND | 5.0 |  | ND | NR |  |  | 20 |  |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0331 - MSVOA\_S (continued)**

**Duplicate (B6C0331-DUP1) - Continued**

**Source: 1600966-10**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                          |    |     |  |    |    |  |  |    |  |
|--------------------------|----|-----|--|----|----|--|--|----|--|
| Dichlorodifluoromethane  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Ethylbenzene             | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Hexachlorobutadiene      | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Isopropylbenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| m,p-Xylene               | ND | 10  |  | ND | NR |  |  | 20 |  |
| Methylene chloride       | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| MTBE                     | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| n-Butylbenzene           | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| n-Propylbenzene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Naphthalene              | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| o-Xylene                 | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| sec-Butylbenzene         | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Styrene                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| tert-Butylbenzene        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Tetrachloroethene        | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Toluene                  | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| trans-1,2-Dichloroethene | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Trichloroethene          | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Trichlorofluoromethane   | ND | 5.0 |  | ND | NR |  |  | 20 |  |
| Vinyl chloride           | ND | 5.0 |  | ND | NR |  |  | 20 |  |

|   |              |  |                |  |             |                 |  |  |  |
|---|--------------|--|----------------|--|-------------|-----------------|--|--|--|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>47.94</i> |  | <i>50.0000</i> |  | <i>95.9</i> | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>45.89</i> |  | <i>50.0000</i> |  | <i>91.8</i> | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>49.66</i> |  | <i>50.0000</i> |  | <i>99.3</i> | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>50.14</i> |  | <i>50.0000</i> |  | <i>100</i>  | <i>31 - 166</i> |  |  |  |

**Matrix Spike (B6C0331-MS1)**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                             |         |     |         |    |      |          |  |  |  |
|-----------------------------|---------|-----|---------|----|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 41.5800 | 5.0 | 50.0000 | ND | 83.2 | 45 - 122 |  |  |  |
| 1,1,1-Trichloroethane       | 43.1500 | 5.0 | 50.0000 | ND | 86.3 | 46 - 131 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 36.3400 | 5.0 | 50.0000 | ND | 72.7 | 34 - 133 |  |  |  |
| 1,1,2-Trichloroethane       | 40.1800 | 5.0 | 50.0000 | ND | 80.4 | 40 - 133 |  |  |  |
| 1,1-Dichloroethane          | 42.8100 | 5.0 | 50.0000 | ND | 85.6 | 50 - 120 |  |  |  |
| 1,1-Dichloroethene          | 37.2600 | 5.0 | 50.0000 | ND | 74.5 | 42 - 130 |  |  |  |
| 1,1-Dichloropropene         | 45.5000 | 5.0 | 50.0000 | ND | 91.0 | 49 - 125 |  |  |  |
| 1,2,3-Trichloropropane      | 38.8400 | 5.0 | 50.0000 | ND | 77.7 | 42 - 130 |  |  |  |
| 1,2,3-Trichlorobenzene      | 26.0000 | 5.0 | 50.0000 | ND | 52.0 | 2 - 136  |  |  |  |
| 1,2,4-Trichlorobenzene      | 29.3600 | 5.0 | 50.0000 | ND | 58.7 | 6 - 137  |  |  |  |
| 1,2,4-Trimethylbenzene      | 38.7300 | 5.0 | 50.0000 | ND | 77.5 | 37 - 129 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 38.1100 | 10  | 50.0000 | ND | 76.2 | 36 - 135 |  |  |  |
| 1,2-Dibromoethane           | 42.0500 | 5.0 | 50.0000 | ND | 84.1 | 43 - 129 |  |  |  |
| 1,2-Dichlorobenzene         | 33.9900 | 5.0 | 50.0000 | ND | 68.0 | 31 - 129 |  |  |  |
| 1,2-Dichloroethane          | 41.0000 | 5.0 | 50.0000 | ND | 82.0 | 50 - 122 |  |  |  |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0331 - MSVOA\_S (continued)**

**Matrix Spike (B6C0331-MS1) - Continued**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                          |         |     |         |    |      |          |  |  |  |
|--------------------------|---------|-----|---------|----|------|----------|--|--|--|
| 1,2-Dichloropropane      | 40.7900 | 5.0 | 50.0000 | ND | 81.6 | 51 - 119 |  |  |  |
| 1,3,5-Trimethylbenzene   | 38.5900 | 5.0 | 50.0000 | ND | 77.2 | 38 - 130 |  |  |  |
| 1,3-Dichlorobenzene      | 35.8500 | 5.0 | 50.0000 | ND | 71.7 | 31 - 128 |  |  |  |
| 1,3-Dichloropropane      | 42.6800 | 5.0 | 50.0000 | ND | 85.4 | 52 - 122 |  |  |  |
| 1,4-Dichlorobenzene      | 34.9600 | 5.0 | 50.0000 | ND | 69.9 | 31 - 128 |  |  |  |
| 2,2-Dichloropropane      | 44.3700 | 5.0 | 50.0000 | ND | 88.7 | 42 - 140 |  |  |  |
| 2-Chlorotoluene          | 37.5700 | 5.0 | 50.0000 | ND | 75.1 | 38 - 129 |  |  |  |
| 4-Chlorotoluene          | 37.2100 | 5.0 | 50.0000 | ND | 74.4 | 38 - 128 |  |  |  |
| 4-Isopropyltoluene       | 37.3000 | 5.0 | 50.0000 | ND | 74.6 | 31 - 137 |  |  |  |
| Benzene                  | 83.8300 | 5.0 | 100.000 | ND | 83.8 | 51 - 117 |  |  |  |
| Bromobenzene             | 38.4200 | 5.0 | 50.0000 | ND | 76.8 | 41 - 125 |  |  |  |
| Bromodichloromethane     | 39.9000 | 5.0 | 50.0000 | ND | 79.8 | 50 - 122 |  |  |  |
| Bromoform                | 41.0900 | 5.0 | 50.0000 | ND | 82.2 | 39 - 131 |  |  |  |
| Bromomethane             | 61.3600 | 5.0 | 50.0000 | ND | 123  | 10 - 154 |  |  |  |
| Carbon tetrachloride     | 43.9800 | 5.0 | 50.0000 | ND | 88.0 | 44 - 131 |  |  |  |
| Chlorobenzene            | 40.4900 | 5.0 | 50.0000 | ND | 81.0 | 46 - 123 |  |  |  |
| Chloroethane             | 51.1400 | 5.0 | 50.0000 | ND | 102  | 27 - 143 |  |  |  |
| Chloroform               | 41.4600 | 5.0 | 50.0000 | ND | 82.9 | 50 - 124 |  |  |  |
| Chloromethane            | 48.7700 | 5.0 | 50.0000 | ND | 97.5 | 8 - 139  |  |  |  |
| cis-1,2-Dichloroethene   | 42.5400 | 5.0 | 50.0000 | ND | 85.1 | 48 - 125 |  |  |  |
| cis-1,3-Dichloropropene  | 45.0500 | 5.0 | 50.0000 | ND | 90.1 | 51 - 123 |  |  |  |
| Dibromochloromethane     | 41.2600 | 5.0 | 50.0000 | ND | 82.5 | 48 - 124 |  |  |  |
| Dibromomethane           | 41.6200 | 5.0 | 50.0000 | ND | 83.2 | 48 - 124 |  |  |  |
| Dichlorodifluoromethane  | 44.2100 | 5.0 | 50.0000 | ND | 88.4 | 0 - 150  |  |  |  |
| Ethylbenzene             | 80.9500 | 5.0 | 100.000 | ND | 81.0 | 46 - 123 |  |  |  |
| Hexachlorobutadiene      | 28.3400 | 5.0 | 50.0000 | ND | 56.7 | 5 - 132  |  |  |  |
| Isopropylbenzene         | 42.3400 | 5.0 | 50.0000 | ND | 84.7 | 43 - 132 |  |  |  |
| m,p-Xylene               | 81.3300 | 10  | 100.000 | ND | 81.3 | 45 - 128 |  |  |  |
| Methylene chloride       | 35.2100 | 5.0 | 50.0000 | ND | 70.4 | 37 - 126 |  |  |  |
| MTBE                     | 42.4300 | 5.0 | 50.0000 | ND | 84.9 | 46 - 125 |  |  |  |
| n-Butylbenzene           | 35.9200 | 5.0 | 50.0000 | ND | 71.8 | 24 - 138 |  |  |  |
| n-Propylbenzene          | 38.2200 | 5.0 | 50.0000 | ND | 76.4 | 40 - 133 |  |  |  |
| Naphthalene              | 30.9400 | 5.0 | 50.0000 | ND | 61.9 | 10 - 149 |  |  |  |
| o-Xylene                 | 82.4800 | 5.0 | 100.000 | ND | 82.5 | 45 - 125 |  |  |  |
| sec-Butylbenzene         | 36.7600 | 5.0 | 50.0000 | ND | 73.5 | 33 - 136 |  |  |  |
| Styrene                  | 43.0300 | 5.0 | 50.0000 | ND | 86.1 | 43 - 128 |  |  |  |
| tert-Butylbenzene        | 38.2100 | 5.0 | 50.0000 | ND | 76.4 | 36 - 133 |  |  |  |
| Tetrachloroethene        | 42.6200 | 5.0 | 50.0000 | ND | 85.2 | 41 - 129 |  |  |  |
| Toluene                  | 84.2900 | 5.0 | 100.000 | ND | 84.3 | 49 - 124 |  |  |  |
| trans-1,2-Dichloroethene | 41.6200 | 5.0 | 50.0000 | ND | 83.2 | 44 - 126 |  |  |  |
| Trichloroethene          | 43.5000 | 5.0 | 50.0000 | ND | 87.0 | 38 - 139 |  |  |  |
| Trichlorofluoromethane   | 40.9400 | 5.0 | 50.0000 | ND | 81.9 | 30 - 157 |  |  |  |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0331 - MSVOA\_S (continued)**

**Matrix Spike (B6C0331-MS1) - Continued**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|   |              |     |                |    |             |                 |  |  |  |
|---|--------------|-----|----------------|----|-------------|-----------------|--|--|--|
| Vinyl chloride                          | 46.3200      | 5.0 | 50.0000        | ND | 92.6        | 19 - 142        |  |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>42.55</i> |     | <i>50.0000</i> |    | <i>85.1</i> | <i>20 - 189</i> |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>48.65</i> |     | <i>50.0000</i> |    | <i>97.3</i> | <i>20 - 173</i> |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>46.80</i> |     | <i>50.0000</i> |    | <i>93.6</i> | <i>26 - 178</i> |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | <i>48.61</i> |     | <i>50.0000</i> |    | <i>97.2</i> | <i>31 - 166</i> |  |  |  |

**Matrix Spike Dup (B6C0331-MSD1)**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|                             |         |     |         |    |      |          |        |    |  |
|-----------------------------|---------|-----|---------|----|------|----------|--------|----|--|
| 1,1,1,2-Tetrachloroethane   | 41.3100 | 5.0 | 50.0000 | ND | 82.6 | 45 - 122 | 0.651  | 20 |  |
| 1,1,1-Trichloroethane       | 43.9300 | 5.0 | 50.0000 | ND | 87.9 | 46 - 131 | 1.79   | 20 |  |
| 1,1,2,2-Tetrachloroethane   | 36.3500 | 5.0 | 50.0000 | ND | 72.7 | 34 - 133 | 0.0275 | 20 |  |
| 1,1,2-Trichloroethane       | 40.0400 | 5.0 | 50.0000 | ND | 80.1 | 40 - 133 | 0.349  | 20 |  |
| 1,1-Dichloroethane          | 44.0000 | 5.0 | 50.0000 | ND | 88.0 | 50 - 120 | 2.74   | 20 |  |
| 1,1-Dichloroethene          | 40.7200 | 5.0 | 50.0000 | ND | 81.4 | 42 - 130 | 8.87   | 20 |  |
| 1,1-Dichloropropene         | 45.7400 | 5.0 | 50.0000 | ND | 91.5 | 49 - 125 | 0.526  | 20 |  |
| 1,2,3-Trichloropropane      | 38.4100 | 5.0 | 50.0000 | ND | 76.8 | 42 - 130 | 1.11   | 20 |  |
| 1,2,3-Trichlorobenzene      | 22.8100 | 5.0 | 50.0000 | ND | 45.6 | 2 - 136  | 13.1   | 20 |  |
| 1,2,4-Trichlorobenzene      | 26.2900 | 5.0 | 50.0000 | ND | 52.6 | 6 - 137  | 11.0   | 20 |  |
| 1,2,4-Trimethylbenzene      | 38.0600 | 5.0 | 50.0000 | ND | 76.1 | 37 - 129 | 1.75   | 20 |  |
| 1,2-Dibromo-3-chloropropane | 38.9200 | 10  | 50.0000 | ND | 77.8 | 36 - 135 | 2.10   | 20 |  |
| 1,2-Dibromoethane           | 40.4600 | 5.0 | 50.0000 | ND | 80.9 | 43 - 129 | 3.85   | 20 |  |
| 1,2-Dichlorobenzene         | 33.1200 | 5.0 | 50.0000 | ND | 66.2 | 31 - 129 | 2.59   | 20 |  |
| 1,2-Dichloroethane          | 42.6800 | 5.0 | 50.0000 | ND | 85.4 | 50 - 122 | 4.02   | 20 |  |
| 1,2-Dichloropropane         | 40.6800 | 5.0 | 50.0000 | ND | 81.4 | 51 - 119 | 0.270  | 20 |  |
| 1,3,5-Trimethylbenzene      | 37.4200 | 5.0 | 50.0000 | ND | 74.8 | 38 - 130 | 3.08   | 20 |  |
| 1,3-Dichlorobenzene         | 34.3400 | 5.0 | 50.0000 | ND | 68.7 | 31 - 128 | 4.30   | 20 |  |
| 1,3-Dichloropropane         | 42.2100 | 5.0 | 50.0000 | ND | 84.4 | 52 - 122 | 1.11   | 20 |  |
| 1,4-Dichlorobenzene         | 33.5800 | 5.0 | 50.0000 | ND | 67.2 | 31 - 128 | 4.03   | 20 |  |
| 2,2-Dichloropropane         | 45.4700 | 5.0 | 50.0000 | ND | 90.9 | 42 - 140 | 2.45   | 20 |  |
| 2-Chlorotoluene             | 36.4100 | 5.0 | 50.0000 | ND | 72.8 | 38 - 129 | 3.14   | 20 |  |
| 4-Chlorotoluene             | 36.3100 | 5.0 | 50.0000 | ND | 72.6 | 38 - 128 | 2.45   | 20 |  |
| 4-Isopropyltoluene          | 35.6800 | 5.0 | 50.0000 | ND | 71.4 | 31 - 137 | 4.44   | 20 |  |
| Benzene                     | 83.5000 | 5.0 | 100.000 | ND | 83.5 | 51 - 117 | 0.394  | 20 |  |
| Bromobenzene                | 37.9600 | 5.0 | 50.0000 | ND | 75.9 | 41 - 125 | 1.20   | 20 |  |
| Bromodichloromethane        | 39.6700 | 5.0 | 50.0000 | ND | 79.3 | 50 - 122 | 0.578  | 20 |  |
| Bromoform                   | 41.4200 | 5.0 | 50.0000 | ND | 82.8 | 39 - 131 | 0.800  | 20 |  |
| Bromomethane                | 55.0700 | 5.0 | 50.0000 | ND | 110  | 10 - 154 | 10.8   | 20 |  |
| Carbon tetrachloride        | 44.3300 | 5.0 | 50.0000 | ND | 88.7 | 44 - 131 | 0.793  | 20 |  |
| Chlorobenzene               | 40.2500 | 5.0 | 50.0000 | ND | 80.5 | 46 - 123 | 0.595  | 20 |  |
| Chloroethane                | 48.7500 | 5.0 | 50.0000 | ND | 97.5 | 27 - 143 | 4.79   | 20 |  |
| Chloroform                  | 42.7400 | 5.0 | 50.0000 | ND | 85.5 | 50 - 124 | 3.04   | 20 |  |
| Chloromethane               | 47.8200 | 5.0 | 50.0000 | ND | 95.6 | 8 - 139  | 1.97   | 20 |  |



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/kg) | PQL<br>(ug/kg) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|-------------------|----------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0331 - MSVOA\_S (continued)**

**Matrix Spike Dup (B6C0331-MSD1) - Continued**

**Source: 1600911-01**

Prepared: 3/14/2016 Analyzed: 3/14/2016

|   |              |     |                |    |             |                 |       |    |  |
|---|--------------|-----|----------------|----|-------------|-----------------|-------|----|--|
| cis-1,2-Dichloroethene                  | 43.2300      | 5.0 | 50.0000        | ND | 86.5        | 48 - 125        | 1.61  | 20 |  |
| cis-1,3-Dichloropropene                 | 44.5500      | 5.0 | 50.0000        | ND | 89.1        | 51 - 123        | 1.12  | 20 |  |
| Dibromochloromethane                    | 40.8200      | 5.0 | 50.0000        | ND | 81.6        | 48 - 124        | 1.07  | 20 |  |
| Dibromomethane                          | 41.1700      | 5.0 | 50.0000        | ND | 82.3        | 48 - 124        | 1.09  | 20 |  |
| Dichlorodifluoromethane                 | 45.6400      | 5.0 | 50.0000        | ND | 91.3        | 0 - 150         | 3.18  | 20 |  |
| Ethylbenzene                            | 80.1300      | 5.0 | 100.000        | ND | 80.1        | 46 - 123        | 1.02  | 20 |  |
| Hexachlorobutadiene                     | 25.4200      | 5.0 | 50.0000        | ND | 50.8        | 5 - 132         | 10.9  | 20 |  |
| Isopropylbenzene                        | 41.5700      | 5.0 | 50.0000        | ND | 83.1        | 43 - 132        | 1.84  | 20 |  |
| m,p-Xylene                              | 80.0000      | 10  | 100.000        | ND | 80.0        | 45 - 128        | 1.65  | 20 |  |
| Methylene chloride                      | 35.9500      | 5.0 | 50.0000        | ND | 71.9        | 37 - 126        | 2.08  | 20 |  |
| MTBE                                    | 43.4000      | 5.0 | 50.0000        | ND | 86.8        | 46 - 125        | 2.26  | 20 |  |
| n-Butylbenzene                          | 33.4200      | 5.0 | 50.0000        | ND | 66.8        | 24 - 138        | 7.21  | 20 |  |
| n-Propylbenzene                         | 36.9000      | 5.0 | 50.0000        | ND | 73.8        | 40 - 133        | 3.51  | 20 |  |
| Naphthalene                             | 29.3300      | 5.0 | 50.0000        | ND | 58.7        | 10 - 149        | 5.34  | 20 |  |
| o-Xylene                                | 80.9100      | 5.0 | 100.000        | ND | 80.9        | 45 - 125        | 1.92  | 20 |  |
| sec-Butylbenzene                        | 35.2000      | 5.0 | 50.0000        | ND | 70.4        | 33 - 136        | 4.34  | 20 |  |
| Styrene                                 | 41.8500      | 5.0 | 50.0000        | ND | 83.7        | 43 - 128        | 2.78  | 20 |  |
| tert-Butylbenzene                       | 37.2500      | 5.0 | 50.0000        | ND | 74.5        | 36 - 133        | 2.54  | 20 |  |
| Tetrachloroethene                       | 41.6700      | 5.0 | 50.0000        | ND | 83.3        | 41 - 129        | 2.25  | 20 |  |
| Toluene                                 | 84.6300      | 5.0 | 100.000        | ND | 84.6        | 49 - 124        | 0.403 | 20 |  |
| trans-1,2-Dichloroethene                | 43.1400      | 5.0 | 50.0000        | ND | 86.3        | 44 - 126        | 3.59  | 20 |  |
| Trichloroethene                         | 43.9600      | 5.0 | 50.0000        | ND | 87.9        | 38 - 139        | 1.05  | 20 |  |
| Trichlorofluoromethane                  | 40.5800      | 5.0 | 50.0000        | ND | 81.2        | 30 - 157        | 0.883 | 20 |  |
| Vinyl chloride                          | 44.3200      | 5.0 | 50.0000        | ND | 88.6        | 19 - 142        | 4.41  | 20 |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>47.55</i> |     | <i>50.0000</i> |    | <i>95.1</i> | <i>20 - 189</i> |       |    |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>50.26</i> |     | <i>50.0000</i> |    | <i>101</i>  | <i>20 - 173</i> |       |    |  |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>48.11</i> |     | <i>50.0000</i> |    | <i>96.2</i> | <i>26 - 178</i> |       |    |  |
| <i>Surrogate: Toluene-d8</i>            | <i>48.93</i> |     | <i>50.0000</i> |    | <i>97.9</i> | <i>31 - 166</i> |       |    |  |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>Limits | RPD<br>RPD | Limit<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|------------------|------------|----------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|------------------|------------|----------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W**

**Blank (B6C0369-BLK1)**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                             |    |      |  |    |
|-----------------------------|----|------|--|----|
| 1,1,1,2-Tetrachloroethane   | ND | 0.50 |  | NR |
| 1,1,1-Trichloroethane       | ND | 0.50 |  | NR |
| 1,1,2,2-Tetrachloroethane   | ND | 0.50 |  | NR |
| 1,1,2-Trichloroethane       | ND | 0.50 |  | NR |
| 1,1-Dichloroethane          | ND | 0.50 |  | NR |
| 1,1-Dichloroethene          | ND | 0.50 |  | NR |
| 1,1-Dichloropropene         | ND | 0.50 |  | NR |
| 1,2,3-Trichloropropane      | ND | 0.50 |  | NR |
| 1,2,3-Trichlorobenzene      | ND | 0.50 |  | NR |
| 1,2,4-Trichlorobenzene      | ND | 0.50 |  | NR |
| 1,2,4-Trimethylbenzene      | ND | 0.50 |  | NR |
| 1,2-Dibromo-3-chloropropane | ND | 0.50 |  | NR |
| 1,2-Dibromoethane           | ND | 0.50 |  | NR |
| 1,2-Dichlorobenzene         | ND | 0.50 |  | NR |
| 1,2-Dichloroethane          | ND | 0.50 |  | NR |
| 1,2-Dichloropropane         | ND | 0.50 |  | NR |
| 1,3,5-Trimethylbenzene      | ND | 0.50 |  | NR |
| 1,3-Dichlorobenzene         | ND | 0.50 |  | NR |
| 1,3-Dichloropropane         | ND | 0.50 |  | NR |
| 1,4-Dichlorobenzene         | ND | 0.50 |  | NR |
| 2,2-Dichloropropane         | ND | 0.50 |  | NR |
| 2-Chlorotoluene             | ND | 0.50 |  | NR |
| 4-Chlorotoluene             | ND | 0.50 |  | NR |
| 4-Isopropyltoluene          | ND | 0.50 |  | NR |
| Benzene                     | ND | 0.50 |  | NR |
| Bromobenzene                | ND | 0.50 |  | NR |
| Bromodichloromethane        | ND | 0.50 |  | NR |
| Bromoform                   | ND | 0.50 |  | NR |
| Bromomethane                | ND | 0.50 |  | NR |
| Carbon tetrachloride        | ND | 0.50 |  | NR |
| Chlorobenzene               | ND | 0.50 |  | NR |
| Chloroethane                | ND | 0.50 |  | NR |
| Chloroform                  | ND | 0.50 |  | NR |
| Chloromethane               | ND | 0.50 |  | NR |
| cis-1,2-Dichloroethene      | ND | 0.50 |  | NR |
| cis-1,3-Dichloropropene     | ND | 0.50 |  | NR |
| Dibromochloromethane        | ND | 0.50 |  | NR |
| Dibromomethane              | ND | 0.50 |  | NR |
| Dichlorodifluoromethane     | ND | 0.50 |  | NR |
| Ethylbenzene                | ND | 0.50 |  | NR |
| Hexachlorobutadiene         | ND | 0.50 |  | NR |



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### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W (continued)**

**Blank (B6C0369-BLK1) - Continued**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                          |    |      |  |  |    |  |  |  |  |
|--------------------------|----|------|--|--|----|--|--|--|--|
| Isopropylbenzene         | ND | 0.50 |  |  | NR |  |  |  |  |
| m,p-Xylene               | ND | 1.0  |  |  | NR |  |  |  |  |
| Methylene chloride       | ND | 1.0  |  |  | NR |  |  |  |  |
| n-Butylbenzene           | ND | 0.50 |  |  | NR |  |  |  |  |
| n-Propylbenzene          | ND | 0.50 |  |  | NR |  |  |  |  |
| Naphthalene              | ND | 0.50 |  |  | NR |  |  |  |  |
| o-Xylene                 | ND | 0.50 |  |  | NR |  |  |  |  |
| sec-Butylbenzene         | ND | 0.50 |  |  | NR |  |  |  |  |
| Styrene                  | ND | 0.50 |  |  | NR |  |  |  |  |
| tert-Butylbenzene        | ND | 0.50 |  |  | NR |  |  |  |  |
| Tetrachloroethene        | ND | 0.50 |  |  | NR |  |  |  |  |
| Toluene                  | ND | 0.50 |  |  | NR |  |  |  |  |
| trans-1,2-Dichloroethene | ND | 0.50 |  |  | NR |  |  |  |  |
| Trichloroethene          | ND | 0.50 |  |  | NR |  |  |  |  |
| Trichlorofluoromethane   | ND | 0.50 |  |  | NR |  |  |  |  |
| Vinyl chloride           | ND | 0.50 |  |  | NR |  |  |  |  |

|   |       |  |         |  |     |          |  |  |  |
|---|-------|--|---------|--|-----|----------|--|--|--|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 30.73 |  | 25.0000 |  | 123 | 49 - 148 |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 26.17 |  | 25.0000 |  | 105 | 65 - 132 |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | 30.15 |  | 25.0000 |  | 121 | 55 - 138 |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | 27.10 |  | 25.0000 |  | 108 | 60 - 120 |  |  |  |

**LCS (B6C0369-BS1)**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                             |         |      |         |  |      |          |  |  |  |
|-----------------------------|---------|------|---------|--|------|----------|--|--|--|
| 1,1,1,2-Tetrachloroethane   | 21.4500 | 0.50 | 20.0000 |  | 107  | 71 - 142 |  |  |  |
| 1,1,1-Trichloroethane       | 24.3100 | 0.50 | 20.0000 |  | 122  | 68 - 141 |  |  |  |
| 1,1,2,2-Tetrachloroethane   | 17.9100 | 0.50 | 20.0000 |  | 89.6 | 72 - 123 |  |  |  |
| 1,1,2-Trichloroethane       | 19.6500 | 0.50 | 20.0000 |  | 98.2 | 63 - 129 |  |  |  |
| 1,1-Dichloroethane          | 20.5100 | 0.50 | 20.0000 |  | 103  | 65 - 133 |  |  |  |
| 1,1-Dichloroethene          | 24.3100 | 0.50 | 20.0000 |  | 122  | 61 - 136 |  |  |  |
| 1,1-Dichloropropene         | 22.6200 | 0.50 | 20.0000 |  | 113  | 62 - 137 |  |  |  |
| 1,2,3-Trichloropropane      | 18.4200 | 0.50 | 20.0000 |  | 92.1 | 71 - 128 |  |  |  |
| 1,2,3-Trichlorobenzene      | 20.3300 | 0.50 | 20.0000 |  | 102  | 47 - 187 |  |  |  |
| 1,2,4-Trichlorobenzene      | 19.5200 | 0.50 | 20.0000 |  | 97.6 | 53 - 154 |  |  |  |
| 1,2,4-Trimethylbenzene      | 21.2300 | 0.50 | 20.0000 |  | 106  | 80 - 139 |  |  |  |
| 1,2-Dibromo-3-chloropropane | 20.0200 | 0.50 | 20.0000 |  | 100  | 53 - 166 |  |  |  |
| 1,2-Dibromoethane           | 19.7500 | 0.50 | 20.0000 |  | 98.8 | 58 - 134 |  |  |  |
| 1,2-Dichlorobenzene         | 19.5200 | 0.50 | 20.0000 |  | 97.6 | 75 - 130 |  |  |  |
| 1,2-Dichloroethane          | 20.1600 | 0.50 | 20.0000 |  | 101  | 71 - 131 |  |  |  |
| 1,2-Dichloropropane         | 18.9500 | 0.50 | 20.0000 |  | 94.8 | 69 - 130 |  |  |  |
| 1,3,5-Trimethylbenzene      | 21.2800 | 0.50 | 20.0000 |  | 106  | 80 - 139 |  |  |  |
| 1,3-Dichlorobenzene         | 19.4700 | 0.50 | 20.0000 |  | 97.4 | 76 - 129 |  |  |  |
| 1,3-Dichloropropane         | 19.1600 | 0.50 | 20.0000 |  | 95.8 | 75 - 124 |  |  |  |



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Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|------------|--------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W (continued)**

**LCS (B6C0369-BS1) - Continued**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                                  |         |      |         |  |      |          |  |  |    |
|----------------------------------|---------|------|---------|--|------|----------|--|--|----|
| 1,4-Dichlorobenzene              | 18.6600 | 0.50 | 20.0000 |  | 93.3 | 76 - 123 |  |  |    |
| 2,2-Dichloropropane              | 27.5000 | 0.50 | 20.0000 |  | 138  | 60 - 149 |  |  |    |
| 2-Chlorotoluene                  | 20.6200 | 0.50 | 20.0000 |  | 103  | 78 - 137 |  |  |    |
| 4-Chlorotoluene                  | 20.0200 | 0.50 | 20.0000 |  | 100  | 78 - 136 |  |  |    |
| 4-Isopropyltoluene               | 22.0500 | 0.50 | 20.0000 |  | 110  | 75 - 146 |  |  |    |
| Benzene                          | 41.0400 | 0.50 | 40.0000 |  | 103  | 72 - 127 |  |  |    |
| Bromobenzene                     | 18.6000 | 0.50 | 20.0000 |  | 93.0 | 74 - 123 |  |  |    |
| Bromodichloromethane             | 20.0400 | 0.50 | 20.0000 |  | 100  | 74 - 130 |  |  |    |
| Bromoform                        | 20.8700 | 0.50 | 20.0000 |  | 104  | 74 - 135 |  |  |    |
| Bromomethane                     | 33.9400 | 0.50 | 20.0000 |  | 170  | 14 - 166 |  |  | L4 |
| Carbon tetrachloride             | 28.4000 | 0.50 | 20.0000 |  | 142  | 57 - 162 |  |  |    |
| Chlorobenzene                    | 19.7000 | 0.50 | 20.0000 |  | 98.5 | 78 - 125 |  |  |    |
| Chloroethane                     | 24.4300 | 0.50 | 20.0000 |  | 122  | 54 - 144 |  |  |    |
| Chloroform                       | 21.7900 | 0.50 | 20.0000 |  | 109  | 66 - 132 |  |  |    |
| Chloromethane                    | 21.5100 | 0.50 | 20.0000 |  | 108  | 31 - 128 |  |  |    |
| cis-1,2-Dichloroethene           | 21.6600 | 0.50 | 20.0000 |  | 108  | 68 - 124 |  |  |    |
| cis-1,3-Dichloropropene          | 22.4100 | 0.50 | 20.0000 |  | 112  | 63 - 139 |  |  |    |
| Dibromochloromethane             | 20.1300 | 0.50 | 20.0000 |  | 101  | 78 - 132 |  |  |    |
| Dibromomethane                   | 19.7300 | 0.50 | 20.0000 |  | 98.6 | 76 - 122 |  |  |    |
| Dichlorodifluoromethane          | 28.6500 | 0.50 | 20.0000 |  | 143  | 17 - 171 |  |  |    |
| Ethylbenzene                     | 42.2400 | 0.50 | 40.0000 |  | 106  | 71 - 142 |  |  |    |
| Hexachlorobutadiene              | 20.6700 | 0.50 | 20.0000 |  | 103  | 54 - 169 |  |  |    |
| Isopropylbenzene                 | 23.1500 | 0.50 | 20.0000 |  | 116  | 76 - 146 |  |  |    |
| m,p-Xylene                       | 44.0200 | 1.0  | 40.0000 |  | 110  | 75 - 150 |  |  |    |
| Methylene chloride               | 18.9100 | 1.0  | 20.0000 |  | 94.6 | 66 - 130 |  |  |    |
| MTBE                             | 20.3300 | 0.50 | 20.0000 |  | 102  | 60 - 132 |  |  |    |
| n-Butylbenzene                   | 22.9100 | 0.50 | 20.0000 |  | 115  | 76 - 151 |  |  |    |
| n-Propylbenzene                  | 22.0100 | 0.50 | 20.0000 |  | 110  | 76 - 147 |  |  |    |
| Naphthalene                      | 19.7500 | 0.50 | 20.0000 |  | 98.8 | 36 - 180 |  |  |    |
| o-Xylene                         | 44.2300 | 0.50 | 40.0000 |  | 111  | 75 - 143 |  |  |    |
| sec-Butylbenzene                 | 22.3700 | 0.50 | 20.0000 |  | 112  | 77 - 147 |  |  |    |
| Styrene                          | 20.5200 | 0.50 | 20.0000 |  | 103  | 75 - 133 |  |  |    |
| tert-Butylbenzene                | 22.0300 | 0.50 | 20.0000 |  | 110  | 75 - 143 |  |  |    |
| Tetrachloroethene                | 21.4000 | 0.50 | 20.0000 |  | 107  | 58 - 139 |  |  |    |
| Toluene                          | 41.1600 | 0.50 | 40.0000 |  | 103  | 59 - 140 |  |  |    |
| trans-1,2-Dichloroethene         | 22.1400 | 0.50 | 20.0000 |  | 111  | 63 - 128 |  |  |    |
| Trichloroethene                  | 21.3800 | 0.50 | 20.0000 |  | 107  | 67 - 130 |  |  |    |
| Trichlorofluoromethane           | 28.6500 | 0.50 | 20.0000 |  | 143  | 56 - 168 |  |  |    |
| Vinyl chloride                   | 24.5300 | 0.50 | 20.0000 |  | 123  | 49 - 146 |  |  |    |
| Surrogate: 1,2-Dichloroethane-d4 | 28.94   |      | 25.0000 |  | 116  | 49 - 148 |  |  |    |
| Surrogate: 4-Bromofluorobenzene  | 26.50   |      | 25.0000 |  | 106  | 65 - 132 |  |  |    |



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Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|-----------------|-----|--------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W (continued)**

**LCS (B6C0369-BS1) - Continued**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                                 |       |         |     |          |
|---------------------------------|-------|---------|-----|----------|
| Surrogate: Dibromofluoromethane | 28.51 | 25.0000 | 114 | 55 - 138 |
| Surrogate: Toluene-d8           | 27.08 | 25.0000 | 108 | 60 - 120 |

**LCS Dup (B6C0369-BS1)**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                             |         |      |         |      |          |        |    |
|-----------------------------|---------|------|---------|------|----------|--------|----|
| 1,1,1,2-Tetrachloroethane   | 21.6500 | 0.50 | 20.0000 | 108  | 71 - 142 | 0.928  | 20 |
| 1,1,1-Trichloroethane       | 24.7500 | 0.50 | 20.0000 | 124  | 68 - 141 | 1.79   | 20 |
| 1,1,2,2-Tetrachloroethane   | 18.1400 | 0.50 | 20.0000 | 90.7 | 72 - 123 | 1.28   | 20 |
| 1,1,2-Trichloroethane       | 19.7800 | 0.50 | 20.0000 | 98.9 | 63 - 129 | 0.659  | 20 |
| 1,1-Dichloroethane          | 20.6500 | 0.50 | 20.0000 | 103  | 65 - 133 | 0.680  | 20 |
| 1,1-Dichloroethene          | 25.5600 | 0.50 | 20.0000 | 128  | 61 - 136 | 5.01   | 20 |
| 1,1-Dichloropropene         | 23.4100 | 0.50 | 20.0000 | 117  | 62 - 137 | 3.43   | 20 |
| 1,2,3-Trichloropropane      | 18.4300 | 0.50 | 20.0000 | 92.2 | 71 - 128 | 0.0543 | 20 |
| 1,2,3-Trichlorobenzene      | 19.5900 | 0.50 | 20.0000 | 98.0 | 47 - 187 | 3.71   | 20 |
| 1,2,4-Trichlorobenzene      | 20.1000 | 0.50 | 20.0000 | 100  | 53 - 154 | 2.93   | 20 |
| 1,2,4-Trimethylbenzene      | 21.6500 | 0.50 | 20.0000 | 108  | 80 - 139 | 1.96   | 20 |
| 1,2-Dibromo-3-chloropropane | 19.4600 | 0.50 | 20.0000 | 97.3 | 53 - 166 | 2.84   | 20 |
| 1,2-Dibromoethane           | 19.6100 | 0.50 | 20.0000 | 98.0 | 58 - 134 | 0.711  | 20 |
| 1,2-Dichlorobenzene         | 19.5600 | 0.50 | 20.0000 | 97.8 | 75 - 130 | 0.205  | 20 |
| 1,2-Dichloroethane          | 19.9300 | 0.50 | 20.0000 | 99.6 | 71 - 131 | 1.15   | 20 |
| 1,2-Dichloropropane         | 19.7700 | 0.50 | 20.0000 | 98.8 | 69 - 130 | 4.24   | 20 |
| 1,3,5-Trimethylbenzene      | 21.8600 | 0.50 | 20.0000 | 109  | 80 - 139 | 2.69   | 20 |
| 1,3-Dichlorobenzene         | 19.5300 | 0.50 | 20.0000 | 97.6 | 76 - 129 | 0.308  | 20 |
| 1,3-Dichloropropane         | 19.0400 | 0.50 | 20.0000 | 95.2 | 75 - 124 | 0.628  | 20 |
| 1,4-Dichlorobenzene         | 19.1900 | 0.50 | 20.0000 | 96.0 | 76 - 123 | 2.80   | 20 |
| 2,2-Dichloropropane         | 25.5400 | 0.50 | 20.0000 | 128  | 60 - 149 | 7.39   | 20 |
| 2-Chlorotoluene             | 21.2200 | 0.50 | 20.0000 | 106  | 78 - 137 | 2.87   | 20 |
| 4-Chlorotoluene             | 20.5300 | 0.50 | 20.0000 | 103  | 78 - 136 | 2.52   | 20 |
| 4-Isopropyltoluene          | 22.8200 | 0.50 | 20.0000 | 114  | 75 - 146 | 3.43   | 20 |
| Benzene                     | 41.9800 | 0.50 | 40.0000 | 105  | 72 - 127 | 2.26   | 20 |
| Bromobenzene                | 19.3500 | 0.50 | 20.0000 | 96.8 | 74 - 123 | 3.95   | 20 |
| Bromodichloromethane        | 20.2900 | 0.50 | 20.0000 | 101  | 74 - 130 | 1.24   | 20 |
| Bromoform                   | 21.0000 | 0.50 | 20.0000 | 105  | 74 - 135 | 0.621  | 20 |
| Bromomethane                | 35.7800 | 0.50 | 20.0000 | 179  | 14 - 166 | 5.28   | 20 |
| Carbon tetrachloride        | 27.8900 | 0.50 | 20.0000 | 139  | 57 - 162 | 1.81   | 20 |
| Chlorobenzene               | 19.7500 | 0.50 | 20.0000 | 98.8 | 78 - 125 | 0.253  | 20 |
| Chloroethane                | 25.3700 | 0.50 | 20.0000 | 127  | 54 - 144 | 3.78   | 20 |
| Chloroform                  | 20.8500 | 0.50 | 20.0000 | 104  | 66 - 132 | 4.41   | 20 |
| Chloromethane               | 22.4200 | 0.50 | 20.0000 | 112  | 31 - 128 | 4.14   | 20 |
| cis-1,2-Dichloroethene      | 21.8700 | 0.50 | 20.0000 | 109  | 68 - 124 | 0.965  | 20 |
| cis-1,3-Dichloropropene     | 22.4700 | 0.50 | 20.0000 | 112  | 63 - 139 | 0.267  | 20 |
| Dibromochloromethane        | 20.3500 | 0.50 | 20.0000 | 102  | 78 - 132 | 1.09   | 20 |
| Dibromomethane              | 19.0900 | 0.50 | 20.0000 | 95.4 | 76 - 122 | 3.30   | 20 |

L4



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>Limits | RPD<br>RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|------------------|------------|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|------------------|------------|--------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W (continued)**

**LCS Dup (B6C0369-BSD1) - Continued**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                          |         |      |         |  |      |          |       |    |  |
|--------------------------|---------|------|---------|--|------|----------|-------|----|--|
| Dichlorodifluoromethane  | 28.5500 | 0.50 | 20.0000 |  | 143  | 17 - 171 | 0.350 | 20 |  |
| Ethylbenzene             | 42.5900 | 0.50 | 40.0000 |  | 106  | 71 - 142 | 0.825 | 20 |  |
| Hexachlorobutadiene      | 21.9100 | 0.50 | 20.0000 |  | 110  | 54 - 169 | 5.82  | 20 |  |
| Isopropylbenzene         | 24.2900 | 0.50 | 20.0000 |  | 121  | 76 - 146 | 4.81  | 20 |  |
| m,p-Xylene               | 44.1900 | 1.0  | 40.0000 |  | 110  | 75 - 150 | 0.385 | 20 |  |
| Methylene chloride       | 18.8300 | 1.0  | 20.0000 |  | 94.2 | 66 - 130 | 0.424 | 20 |  |
| MTBE                     | 20.2600 | 0.50 | 20.0000 |  | 101  | 60 - 132 | 0.345 | 20 |  |
| n-Butylbenzene           | 23.5600 | 0.50 | 20.0000 |  | 118  | 76 - 151 | 2.80  | 20 |  |
| n-Propylbenzene          | 22.6300 | 0.50 | 20.0000 |  | 113  | 76 - 147 | 2.78  | 20 |  |
| Naphthalene              | 19.3600 | 0.50 | 20.0000 |  | 96.8 | 36 - 180 | 1.99  | 20 |  |
| o-Xylene                 | 44.3800 | 0.50 | 40.0000 |  | 111  | 75 - 143 | 0.339 | 20 |  |
| sec-Butylbenzene         | 23.4500 | 0.50 | 20.0000 |  | 117  | 77 - 147 | 4.71  | 20 |  |
| Styrene                  | 20.5800 | 0.50 | 20.0000 |  | 103  | 75 - 133 | 0.292 | 20 |  |
| tert-Butylbenzene        | 22.9100 | 0.50 | 20.0000 |  | 115  | 75 - 143 | 3.92  | 20 |  |
| Tetrachloroethene        | 22.3700 | 0.50 | 20.0000 |  | 112  | 58 - 139 | 4.43  | 20 |  |
| Toluene                  | 41.7100 | 0.50 | 40.0000 |  | 104  | 59 - 140 | 1.33  | 20 |  |
| trans-1,2-Dichloroethene | 22.0500 | 0.50 | 20.0000 |  | 110  | 63 - 128 | 0.407 | 20 |  |
| Trichloroethene          | 22.6800 | 0.50 | 20.0000 |  | 113  | 67 - 130 | 5.90  | 20 |  |
| Trichlorofluoromethane   | 29.0200 | 0.50 | 20.0000 |  | 145  | 56 - 168 | 1.28  | 20 |  |
| Vinyl chloride           | 25.1300 | 0.50 | 20.0000 |  | 126  | 49 - 146 | 2.42  | 20 |  |

|   |       |  |         |  |     |          |  |  |  |
|---|-------|--|---------|--|-----|----------|--|--|--|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 27.88 |  | 25.0000 |  | 112 | 49 - 148 |  |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 25.50 |  | 25.0000 |  | 102 | 65 - 132 |  |  |  |
| <i>Surrogate: Dibromofluoromethane</i>  | 26.92 |  | 25.0000 |  | 108 | 55 - 138 |  |  |  |
| <i>Surrogate: Toluene-d8</i>            | 26.08 |  | 25.0000 |  | 104 | 60 - 120 |  |  |  |

**Duplicate (B6C0369-DUP1)**

Source: 1600966-12

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                             |    |      |  |    |    |  |  |    |  |
|-----------------------------|----|------|--|----|----|--|--|----|--|
| 1,1,1,2-Tetrachloroethane   | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1,1-Trichloroethane       | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1,2,2-Tetrachloroethane   | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1,2-Trichloroethane       | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloroethane          | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloroethene          | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,1-Dichloropropene         | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,3-Trichloropropane      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,3-Trichlorobenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,4-Trichlorobenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2,4-Trimethylbenzene      | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dibromo-3-chloropropane | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dibromoethane           | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichlorobenzene         | ND | 0.50 |  | ND | NR |  |  | 20 |  |
| 1,2-Dichloroethane          | ND | 0.50 |  | ND | NR |  |  | 20 |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec<br>% Rec | Limits<br>RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|----------------|---------------|--------------|-------|
|---------|------------------|---------------|----------------|------------------|----------------|---------------|--------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W (continued)**

**Duplicate (B6C0369-DUP1) - Continued**

**Source: 1600966-12**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|                          |    |      |  |    |    |  |    |  |
|--------------------------|----|------|--|----|----|--|----|--|
| 1,2-Dichloropropane      | ND | 0.50 |  | ND | NR |  | 20 |  |
| 1,3,5-Trimethylbenzene   | ND | 0.50 |  | ND | NR |  | 20 |  |
| 1,3-Dichlorobenzene      | ND | 0.50 |  | ND | NR |  | 20 |  |
| 1,3-Dichloropropane      | ND | 0.50 |  | ND | NR |  | 20 |  |
| 1,4-Dichlorobenzene      | ND | 0.50 |  | ND | NR |  | 20 |  |
| 2,2-Dichloropropane      | ND | 0.50 |  | ND | NR |  | 20 |  |
| 2-Chlorotoluene          | ND | 0.50 |  | ND | NR |  | 20 |  |
| 4-Chlorotoluene          | ND | 0.50 |  | ND | NR |  | 20 |  |
| 4-Isopropyltoluene       | ND | 0.50 |  | ND | NR |  | 20 |  |
| Benzene                  | ND | 0.50 |  | ND | NR |  | 20 |  |
| Bromobenzene             | ND | 0.50 |  | ND | NR |  | 20 |  |
| Bromodichloromethane     | ND | 0.50 |  | ND | NR |  | 20 |  |
| Bromoform                | ND | 0.50 |  | ND | NR |  | 20 |  |
| Bromomethane             | ND | 0.50 |  | ND | NR |  | 20 |  |
| Carbon tetrachloride     | ND | 0.50 |  | ND | NR |  | 20 |  |
| Chlorobenzene            | ND | 0.50 |  | ND | NR |  | 20 |  |
| Chloroethane             | ND | 0.50 |  | ND | NR |  | 20 |  |
| Chloroform               | ND | 0.50 |  | ND | NR |  | 20 |  |
| Chloromethane            | ND | 0.50 |  | ND | NR |  | 20 |  |
| cis-1,2-Dichloroethene   | ND | 0.50 |  | ND | NR |  | 20 |  |
| cis-1,3-Dichloropropene  | ND | 0.50 |  | ND | NR |  | 20 |  |
| Dibromochloromethane     | ND | 0.50 |  | ND | NR |  | 20 |  |
| Dibromomethane           | ND | 0.50 |  | ND | NR |  | 20 |  |
| Dichlorodifluoromethane  | ND | 0.50 |  | ND | NR |  | 20 |  |
| Ethylbenzene             | ND | 0.50 |  | ND | NR |  | 20 |  |
| Hexachlorobutadiene      | ND | 0.50 |  | ND | NR |  | 20 |  |
| Isopropylbenzene         | ND | 0.50 |  | ND | NR |  | 20 |  |
| m,p-Xylene               | ND | 1.0  |  | ND | NR |  | 20 |  |
| Methylene chloride       | ND | 1.0  |  | ND | NR |  | 20 |  |
| MTBE                     | ND | 0.50 |  | ND | NR |  | 20 |  |
| n-Butylbenzene           | ND | 0.50 |  | ND | NR |  | 20 |  |
| n-Propylbenzene          | ND | 0.50 |  | ND | NR |  | 20 |  |
| Naphthalene              | ND | 0.50 |  | ND | NR |  | 20 |  |
| o-Xylene                 | ND | 0.50 |  | ND | NR |  | 20 |  |
| sec-Butylbenzene         | ND | 0.50 |  | ND | NR |  | 20 |  |
| Styrene                  | ND | 0.50 |  | ND | NR |  | 20 |  |
| tert-Butylbenzene        | ND | 0.50 |  | ND | NR |  | 20 |  |
| Tetrachloroethene        | ND | 0.50 |  | ND | NR |  | 20 |  |
| Toluene                  | ND | 0.50 |  | ND | NR |  | 20 |  |
| trans-1,2-Dichloroethene | ND | 0.50 |  | ND | NR |  | 20 |  |
| Trichloroethene          | ND | 0.50 |  | ND | NR |  | 20 |  |
| Trichlorofluoromethane   | ND | 0.50 |  | ND | NR |  | 20 |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/16/2016

### Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

| Analyte | Result<br>(ug/L) | PQL<br>(ug/L) | Spike<br>Level | Source<br>Result | % Rec | % Rec<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|
|---------|------------------|---------------|----------------|------------------|-------|-----------------|-----|--------------|-------|

**Batch B6C0369 - MSVOA\_LL\_W (continued)**

**Duplicate (B6C0369-DUP1) - Continued**

**Source: 1600966-12**

Prepared: 3/15/2016 Analyzed: 3/15/2016

|   |       |      |         |    |      |          |  |    |  |
|---|-------|------|---------|----|------|----------|--|----|--|
| Vinyl chloride                          | ND    | 0.50 |         | ND | NR   |          |  | 20 |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 29.83 |      | 25.0000 |    | 119  | 49 - 148 |  |    |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 23.91 |      | 25.0000 |    | 95.6 | 65 - 132 |  |    |  |
| <i>Surrogate: Dibromofluoromethane</i>  | 28.17 |      | 25.0000 |    | 113  | 55 - 138 |  |    |  |
| <i>Surrogate: Toluene-d8</i>            | 25.25 |      | 25.0000 |    | 101  | 60 - 120 |  |    |  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/16/2016

### Notes and Definitions

|     |   |
|-----|---|
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| M1  | Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.   |
| L5  | Laboratory Control Sample high biased. Sample result/s was non-detect (ND) for the target analyte; therefore reanalysis was not necessary.  |
| L4  | Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.   |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

- Notes:
- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
  - (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
  - (3) Results are wet unless otherwise specified.

# CHAIN OF CUSTODY RECORD



**Advanced Technology  
Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755  
Tel: (562) 989-4045 • Fax: (562) 989-4040

**FOR LABORATORY USE ONLY**

P.O. #: \_\_\_\_\_  
Logged By: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Transport  
Client   
ATL   
CA OverN   
FedEx   
Other: Other

Sample Condition Upon Receipt  
1. CHILLED  Y  N  4. SEALED  Y  N   
2. HEADSPACE (VOA)  Y  N  5. # OF SPLS MATCH COC  Y  N   
3. CONTAINER INTACT  Y  N  6. PRESERVED  Y  N

Client: Geocon Address: 6671 Brisa Street Tel: 916-852-9118  
Attention: Rick Day City: Livermore State: CA Zip Code: 94550 Fax: 916-852-9132

Project Name: SR92/SR82 Interchange Project #: E8721-02-36 Sampler: Cord Dennig

Relinquished by: (Signature and Printed Name) Cord Dennig Date: 3/11/16 Time: 1500 Received by: (Signature and Printed Name) OnTrac Date: 3/11/16 Time: 1500

Relinquished by: (Signature and Printed Name) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: (Signature and Printed Name) FDW Date: 3/12/16 Time: 0935

I hereby authorize ATL to perform the work indicated below:  
Project Mgr /Submitter: \_\_\_\_\_  
Send Report To: Attn: \_\_\_\_\_ Co: \_\_\_\_\_ Addr: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Bill To: Attn: \_\_\_\_\_ Co: \_\_\_\_\_ Addr: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Special Instructions/Comments: \*48-hr TAT  
Cathous contract  
04A4336

**Sample/Records - Archival & Disposal**  
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.  
**Storage Fees (applies when storage is requested):**  
■ Sample: \$2.00 / sample /mo (after 45 days)  
■ Records: \$1 /ATL workorder /mo (after 1 year)

| Circle or Add Analysis(es) Requested | SPECIFY APPROPRIATE MATRIX |               |               |            |      |       |      |       |              |            | Container(s) | PRESERVATION | QA/QC |       |      |                               |
|--------------------------------------|----------------------------|---------------|---------------|------------|------|-------|------|-------|--------------|------------|--------------|--------------|-------|-------|------|-------------------------------|
|                                      | Total Lead                 | CAM 17 Metals | TPH/BTEX/MTBE | TPH/TPH/mo | VOCs | APHCs | SOIL | WATER | GROUND WATER | WASTEWATER |              |              |       | TAT # | Type | RTNE <input type="checkbox"/> |

| ITEM | LAB USE ONLY: |                      | Sample Description |  | Date | Time  |
|------|---------------|----------------------|--------------------|--|------|-------|
|      | Lab No.       | Sample ID / Location |                    |  |      |       |
|      | 16009CC -1    | IB                   |                    |  | 3/10 | 1200  |
|      | -2            | B25-0'               |                    |  |      | 11245 |
|      | -3            | -1'                  |                    |  |      | 2216  |
|      | -4            | -2'                  |                    |  |      | 2217  |
|      | -5            | -10'                 |                    |  |      | 2230  |
|      | -6            | -25'                 |                    |  |      | 3320  |
|      | -7            | B42-0'               |                    |  | 3/11 | 00118 |
|      | -8            | -1'                  |                    |  |      | 00119 |
|      | -9            | -2'                  |                    |  |      | 00120 |
|      | -10           | -10'                 |                    |  |      | 00148 |
|      | -11           | -25'                 |                    |  |      | 01148 |
|      | -12           | B42                  |                    |  |      | 02115 |

■ TAT starts 8AM the following day if samples received after 3 PM  
TAT:  A = Overnight ≤ 24 hrs  B = Emergency Next Workday  C = Critical 2 Workdays  D = Urgent 3 Workdays  E = Routine 7 Workdays  
Preservatives: H=HCl N=HNO<sub>3</sub> S=H<sub>2</sub>SO<sub>4</sub> C=4°C  
Z=Zn(AC)<sub>2</sub> O=NaOH T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal



March 21, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600966  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on March 12, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

A handwritten signature in black ink, appearing to read 'E. Rodriguez', written in a cursive style.

Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/21/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|--------------|---------------|
| B42-0'    | 1600966-07    | Soil   | 3/11/16 0:18 | 3/12/16 9:35  |
| B42-2'    | 1600966-09    | Soil   | 3/11/16 0:20 | 3/12/16 9:35  |



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/21/2016

### STLC Metals by ICP-AES by EPA 6010B

**Analyte: Lead**

**Analyst: RR**

| Laboratory ID | Client Sample ID | Result     | Units | PQL | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|------------|-------|-----|----------|---------|------------|--------------------|-------|
| 1600966-07    | B42-0'           | <b>2.1</b> | mg/L  | 1.0 | 20       | B6C0517 | 03/18/2016 | 03/18/16 14:13     |       |
| 1600966-09    | B42-2'           | <b>15</b>  | mg/L  | 1.0 | 20       | B6C0517 | 03/18/2016 | 03/18/16 14:23     |       |



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/21/2016

### QUALITY CONTROL SECTION

#### STLC Metals by ICP-AES by EPA 6010B - Quality Control

| Analyte                                  | Result<br>(mg/L) | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|------------------|---------------|----------------|------------------|---|-----------------|------|--------------|-------|
| <b>Batch B6C0517 - STLC_S Extraction</b> |                  |               |                |                  |   |                 |      |              |       |
| <b>Blank (B6C0517-BLK1)</b>              |                  |               |                |                  | Prepared: 3/18/2016 Analyzed: 3/18/2016 |                 |      |              |       |
| Lead                                     | ND               | 1.0           |                |                  |   |                 | NR   |              |       |
| <b>LCS (B6C0517-BS1)</b>                 |                  |               |                |                  | Prepared: 3/18/2016 Analyzed: 3/18/2016 |                 |      |              |       |
| Lead                                     | 1.92059          |               | 2.00000        |                  | 96.0                                    | 80 - 120        |      |              |       |
| <b>Duplicate (B6C0517-DUP1)</b>          |                  |               |                |                  | Prepared: 3/18/2016 Analyzed: 3/18/2016 |                 |      |              |       |
| Lead                                     | 2.91602          |               |                | 2.10918          | NR                                      |                 | 32.1 | 20           | R     |
| <b>Matrix Spike (B6C0517-MS1)</b>        |                  |               |                |                  | Prepared: 3/18/2016 Analyzed: 3/18/2016 |                 |      |              |       |
| Lead                                     | 4.30552          |               | 2.50000        | 2.10918          | 87.9                                    | 44 - 130        |      |              |       |
| <b>Matrix Spike Dup (B6C0517-MSD1)</b>   |                  |               |                |                  | Prepared: 3/18/2016 Analyzed: 3/18/2016 |                 |      |              |       |
| Lead                                     | 4.39410          |               | 2.50000        | 2.10918          | 91.4                                    | 44 - 130        | 2.04 | 20           |       |



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Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/21/2016

### Notes and Definitions

|     |   |
|-----|---|
| R   | RPD value outside acceptance criteria. Calculation is based on raw values.  |
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

## Diane Galvan

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Wednesday, March 16, 2016 11:05 AM  
**To:** Diane Galvan  
**Subject:** RE: Results/EDD/Invoice - SR92/SR82 Interchange (1600966)

Hi Diane,  
Please analyze B42-0 and B42-2 for WET lead on a 48-hr TAT.

Thank you,  
Luann



**Luann Beadle | Project Scientist**

**GEOCON CONSULTANTS, INC.**

6671 Brisa Street, Livermore, California 94550

P | 925.371.5900 ext. 403 M | 925.395.1669

[beadle@geoconinc.com](mailto:beadle@geoconinc.com) / [www.geoconinc.com](http://www.geoconinc.com) / [Facebook](#) / [Linkedin](#)

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Brownfields/Redevelopment

Construction Inspection

Natural Resources

March 23, 2016

Rick Day  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5270  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1600966  
Client Reference : SR92/SR82 Interchange, E8721-02-36

Enclosed are the results for sample(s) received on March 12, 2016 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/23/2016

### SUMMARY OF SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|--------------|---------------|
| B42-2'    | 1600966-09    | Soil   | 3/11/16 0:20 | 3/12/16 9:35  |



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Project Number : SR92/SR82 Interchange, E8721-02-36  
Report To : Rick Day  
Reported : 03/23/2016

### TCLP Metals by ICP-AES EPA 6010B

**Analyte: Lead**

**Analyst: RR**

| Laboratory ID | Client Sample ID | Result       | Units | PQL   | Dilution | Batch   | Prepared   | Date/Time Analyzed | Notes |
|---------------|------------------|--------------|-------|-------|----------|---------|------------|--------------------|-------|
| 1600966-09    | B42-2'           | <b>0.085</b> | mg/L  | 0.050 | 1        | B6C0593 | 03/22/2016 | 03/22/16 13:57     |       |



## Certificate of Analysis

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 Livermore, CA 94550

Project Number : SR92/SR82 Interchange, E8721-02-36  
 Report To : Rick Day  
 Reported : 03/23/2016

### QUALITY CONTROL SECTION

#### TCLP Metals by ICP-AES EPA 6010B - Quality Control

| Analyte                                | Result<br>(mg/L)          | PQL<br>(mg/L) | Spike<br>Level | Source<br>Result | % Rec                                   | % Rec<br>Limits | RPD  | RPD<br>Limit | Notes |
|--|---------------------------|---------------|----------------|------------------|---|-----------------|------|--------------|-------|
| <b>Batch B6C0593 - EPA 3010A_S</b>     |                           |               |                |                  |   |                 |      |              |       |
| <b>Blank (B6C0593-BLK1)</b>            |                           |               |                |                  | Prepared: 3/22/2016 Analyzed: 3/22/2016 |                 |      |              |       |
| Lead                                   | ND                        | 0.050         |                |                  |   |                 |      |              | NR    |
| <b>LCS (B6C0593-BS1)</b>               |                           |               |                |                  | Prepared: 3/22/2016 Analyzed: 3/22/2016 |                 |      |              |       |
| Lead                                   | 0.922086                  | 0.050         | 1.00000        |                  | 92.2                                    | 80 - 120        |      |              |       |
| <b>Duplicate (B6C0593-DUP1)</b>        |                           |               |                |                  | Prepared: 3/22/2016 Analyzed: 3/22/2016 |                 |      |              |       |
|  | <b>Source: 1600966-09</b> |               |                |                  |   |                 |      |              |       |
| Lead                                   | 0.096335                  | 0.050         |                | 0.084942         | NR                                      |                 | 12.6 | 20           |       |
| <b>Matrix Spike (B6C0593-MS1)</b>      |                           |               |                |                  | Prepared: 3/22/2016 Analyzed: 3/22/2016 |                 |      |              |       |
|  | <b>Source: 1600966-09</b> |               |                |                  |   |                 |      |              |       |
| Lead                                   | 2.13955                   | 0.050         | 2.50000        | 0.084942         | 82.2                                    | 77 - 121        |      |              |       |
| <b>Matrix Spike Dup (B6C0593-MSD1)</b> |                           |               |                |                  | Prepared: 3/22/2016 Analyzed: 3/22/2016 |                 |      |              |       |
|  | <b>Source: 1600966-09</b> |               |                |                  |   |                 |      |              |       |
| Lead                                   | 2.19106                   | 0.050         | 2.50000        | 0.084942         | 84.2                                    | 77 - 121        | 2.38 | 20           |       |



## Certificate of Analysis

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Project Number : SR92/SR82 Interchange, E8721-02-36

Report To : Rick Day

Reported : 03/23/2016

### Notes and Definitions

|     |   |
|-----|---|
| ND  | Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL) |
| PQL | Practical Quantitation Limit  |
| MDL | Method Detection Limit  |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| CA2 | CA-ELAP (CDPH)  |
| OR1 | OR-NELAP (OSPHL)  |
| TX1 | TX-NELAP (TCEQ)   |

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

**Diane Galvan**

---

**From:** Luann Beadle [beadle@geoconinc.com]  
**Sent:** Monday, March 21, 2016 11:28 AM  
**To:** Diane Galvan  
**Subject:** RE: Additional Results/EDD/Invoice - SR92/SR82 Interchange (1600966)

Hi Diane,  
Please run TCLP lead on sample B42-2 on a 48-hr TAT (plus extraction).  
Thank you,  
Luann

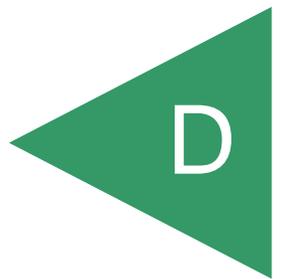


**Luann Beadle | Project Scientist**  
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APPENDIX



| DEPTH<br>IN<br>FEET         | SAMPLE<br>NO. | LITHOLOGY | GROUNDWATER | SOIL<br>CLASS<br>(USCS) | <b>BORING B4</b>  |                                 |                     | PENETRATION<br>RESISTANCE<br>(BLOWS/FT.) | DRY DENSITY<br>(P.C.F.) | MOISTURE<br>CONTENT (%) |                       |
|-----------------------------|---------------|-----------|-------------|-------------------------|---|---------------------------------|---------------------|--|-------------------------|-------------------------|-----------------------|
|                             |               |           |             |                         | ELEV. (MSL.) _____  | DATE COMPLETED <u>2/18/2016</u> | ENG./GEO. <u>LB</u> |  |                         |                         | DRILLER <u>GEOCON</u> |
| <b>MATERIAL DESCRIPTION</b> |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 0                           |               |           |             | SM                      | Approximately 3 inches of Asphalt   |                                 |                     |  |                         |                         |                       |
| 1                           |               |           |             |                         | Dense, dry, light gray-brown, SAND with little silt (LIKELY FILL MATERIALS) |                                 |                     |  |                         |                         |                       |
| 2                           |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 3                           |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 4                           |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 5                           |               |           |             | CL                      | Damp, gray, CLAY with little gravel   |                                 |                     |  |                         |                         |                       |
| 6                           |               |           |             |                         | -reddish-gray<br>-dark gray   |                                 |                     |  |                         |                         |                       |
| 7                           |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 8                           |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 9                           |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 10                          |               |           |             |                         | Moist, reddish, Silty SAND with little gravel                               |                                 |                     |  |                         |                         |                       |
| 11                          |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 12                          |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 13                          |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 14                          |               |           |             |                         | Hard, SANDSTONE with some clay, degraded                                    |                                 |                     |  |                         |                         |                       |
| 15                          |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 16                          |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 17                          |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 18                          |               |           |             |                         | END OF BORING AT APPROXIMATELY 20.5 FEET<br>NO FREE WATER ENCOUNTERED       |                                 |                     |  |                         |                         |                       |
| 19                          |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
| 20                          |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |
|                             |               |           |             |                         |   |                                 |                     |  |                         |                         |                       |

Figure , Log of Boring B4, page 1 of 1



| SAMPLE SYMBOLS                      |                                |                          |
|-------------------------------------|--------------------------------|--------------------------|
| <input type="checkbox"/>            | ... SAMPLING UNSUCCESSFUL      | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | ... DISTURBED OR BAG SAMPLE    | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... STANDARD PENETRATION TEST  | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... CHUNK SAMPLE               | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... DRIVE SAMPLE (UNDISTURBED) | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... WATER TABLE OR SEEPAGE     | <input type="checkbox"/> |

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

| DEPTH<br>IN<br>FEET  | SAMPLE<br>NO. | LITHOLOGY | GROUNDWATER | SOIL<br>CLASS<br>(USCS) | BORING B10   |                                 |                     | PENETRATION<br>RESISTANCE<br>(BLOWS/FT.) | DRY DENSITY<br>(P.C.F.) | MOISTURE<br>CONTENT (%) |                       |
|----------------------|---------------|-----------|-------------|-------------------------|--|---------------------------------|---------------------|--|-------------------------|-------------------------|-----------------------|
|                      |               |           |             |                         | ELEV. (MSL.) _____   | DATE COMPLETED <u>2/18/2016</u> | ENG./GEO. <u>LB</u> |  |                         |                         | DRILLER <u>GEOCON</u> |
| MATERIAL DESCRIPTION |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 0                    |               |           |             | CL                      | Approximately 2 inches Asphalt   |                                 |                     |  |                         |                         |                       |
| 1                    |               |           |             |                         | Moist, medium brown, Silty Sandy CLAY  |                                 |                     |  |                         |                         |                       |
| 2                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 3                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 4                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 5                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 6                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 7                    |               |           |             |                         | -less silt   |                                 |                     |  |                         |                         |                       |
| 8                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 9                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 10                   |               |           |             |                         | -with little gravel  |                                 |                     |  |                         |                         |                       |
| 11                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 12                   |               |           |             |                         | -dark olive-brown with occasional red, more gravel, less sand<br>-strong hydrocarbon odor  |                                 |                     |  |                         |                         |                       |
| 13                   |               |           |             |                         | Hard, moist, reddish, SANDSTONE, fragmented, slight odor                                   |                                 |                     |  |                         |                         |                       |
| 14                   |               |           |             | CL                      | Red-gray CLAY  |                                 |                     |  |                         |                         |                       |
| 15                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 16                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 17                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 18                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 19                   |               |           |             |                         | -hard, moist, with silt and sandstone  |                                 |                     |  |                         |                         |                       |
| 20                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 21                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 22                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                       |
| 23                   |               |           |             | CL                      | Saturated, gray, CLAY with occasional gravel   |                                 |                     |  |                         |                         |                       |
| 24                   |               |           |             |                         | - moist, reddish, more gravel  |                                 |                     |  |                         |                         |                       |
| 25                   |               |           |             |                         | END OF BORING AT APPROXIMATELY 25 FEET<br>GROUNDWATER ENCOUNTERED AT APPROXIMATELY 23 FEET |                                 |                     |  |                         |                         |                       |

Figure , Log of Boring B10, page 1 of 1



| SAMPLE SYMBOLS |                             |  |                               |
|----------------|-----------------------------|--|-------------------------------|
|                | ... SAMPLING UNSUCCESSFUL   |  | ... STANDARD PENETRATION TEST |
|                | ... DISTURBED OR BAG SAMPLE |  | ... CHUNK SAMPLE              |
|                |                             |  | ... WATER TABLE OR SEEPAGE    |

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

| DEPTH<br>IN<br>FEET  | SAMPLE<br>NO. | LITHOLOGY | GROUNDWATER | SOIL<br>CLASS<br>(USCS) | BORING B25  |                                 |                     | PENETRATION<br>RESISTANCE<br>(BLOWS/FT.) | DRY DENSITY<br>(P.C.F.) | MOISTURE<br>CONTENT (%) |
|----------------------|---------------|-----------|-------------|-------------------------|---|---------------------------------|---------------------|--|-------------------------|-------------------------|
|                      |               |           |             |                         | ELEV. (MSL.) _____  | DATE COMPLETED <u>3/10/2016</u> | ENG./GEO. <u>CD</u> |  |                         |                         |
| MATERIAL DESCRIPTION |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 0                    |               |           |             | ML                      | Moist, Sandy SILT   |                                 |                     |  |                         |                         |
| 1                    |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 2                    |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 3                    |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 4                    |               |           |             | SM                      | Silty SAND with gravel  |                                 |                     |  |                         |                         |
| 5                    |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 6                    |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 7                    |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 8                    |               |           |             | ML                      | Light brown mottled, Sandy SILT                                     |                                 |                     |  |                         |                         |
| 9                    |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 10                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 11                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 12                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 13                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 14                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 15                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 16                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 17                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 18                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 19                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 20                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 21                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 22                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 23                   |               |           |             | SM                      | Tan (f) SAND  |                                 |                     |  |                         |                         |
| 24                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 25                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 26                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 27                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 28                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 29                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
| 30                   |               |           |             |                         |   |                                 |                     |  |                         |                         |
|                      |               |           |             |                         | END OF BORING AT APPROXIMATELY 30 FEET<br>NO FREE WATER ENCOUNTERED |                                 |                     |  |                         |                         |

Figure , Log of Boring B25, page 1 of 1



| SAMPLE SYMBOLS |                             |  |                               |  |                                |
|----------------|-----------------------------|--|-------------------------------|--|--------------------------------|
|                | ... SAMPLING UNSUCCESSFUL   |  | ... STANDARD PENETRATION TEST |  | ... DRIVE SAMPLE (UNDISTURBED) |
|                | ... DISTURBED OR BAG SAMPLE |  | ... CHUNK SAMPLE              |  | ... WATER TABLE OR SEEPAGE     |

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

| DEPTH<br>IN<br>FEET  | SAMPLE<br>NO. | LITHOLOGY | GROUNDWATER | SOIL<br>CLASS<br>(USCS) | <b>BORING B42</b>  |                                 |                     | PENETRATION<br>RESISTANCE<br>(BLOWS/FT.) | DRY DENSITY<br>(P.C.F.) | MOISTURE<br>CONTENT (%) |                               |
|----------------------|---------------|-----------|-------------|-------------------------|--|---------------------------------|---------------------|--|-------------------------|-------------------------|-------------------------------|
|                      |               |           |             |                         | ELEV. (MSL.) _____   | DATE COMPLETED <u>3/11/2016</u> | ENG./GEO. <u>CD</u> |  |                         |                         | DRILLER <u>Gregg Drilling</u> |
| MATERIAL DESCRIPTION |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 0                    |               |           |             | ML                      | Moist, dark brown, Sandy SILT  |                                 |                     |  |                         |                         |                               |
| 1                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 2                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 3                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 4                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 5                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 6                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 7                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 8                    |               |           |             | CL                      | Medium-brown, Silty CLAY   |                                 |                     |  |                         |                         |                               |
| 9                    |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 10                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 11                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 12                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 13                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 14                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 15                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 16                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 17                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 18                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 19                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 20                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 21                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 22                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 23                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 24                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 25                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 26                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 27                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 28                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 29                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 30                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 31                   |               |           |             |                         |  |                                 |                     |  |                         |                         |                               |
| 32                   |               |           |             |                         | END OF BORING AT APPROXIMATELY 32 FEET<br>GROUNDWATER ENCOUNTERED AT APPROXIMATELY 32 FEET |                                 |                     |  |                         |                         |                               |

Figure , Log of Boring B42, page 1 of 1



| SAMPLE SYMBOLS                      |                                |                          |
|-------------------------------------|--------------------------------|--------------------------|
| <input type="checkbox"/>            | ... SAMPLING UNSUCCESSFUL      | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | ... DISTURBED OR BAG SAMPLE    | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... STANDARD PENETRATION TEST  | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... CHUNK SAMPLE               | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... DRIVE SAMPLE (UNDISTURBED) | <input type="checkbox"/> |
| <input type="checkbox"/>            | ... WATER TABLE OR SEEPAGE     | <input type="checkbox"/> |

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

| DEPTH<br>IN<br>FEET                    | SAMPLE<br>NO. | LITHOLOGY   | GROUNDWATER | SOIL<br>CLASS<br>(USCS) | <b>BORING B67</b>  |   | PENETRATION<br>RESISTANCE<br>(BLOWS/FT.) | DRY DENSITY<br>(P.C.F.) | MOISTURE<br>CONTENT (%) |
|--|---------------|---|-------------|-------------------------|--------------------|---|--|-------------------------|-------------------------|
|  |               |   |             |                         | ELEV. (MSL.) _____ | DATE COMPLETED <u>2/18/2016</u>   |  |                         |                         |
| MATERIAL DESCRIPTION                   |               |   |             |                         |                    |   |  |                         |                         |
| 0                                      |               |    |             |                         |                    | Surface grass, medium-dark brown, loose organic matter  |  |                         |                         |
| 1                                      |               |    |             | CH                      |                    | Dense, moist, medium to dark brown, CLAY  |  |                         |                         |
| 2                                      |               |    |             |                         |                    |   |  |                         |                         |
| 3                                      |               |    |             |                         |                    |   |  |                         |                         |
| 4                                      |               |    |             |                         |                    |   |  |                         |                         |
| 5                                      |               |    |             |                         |                    |   |  |                         |                         |
| 6                                      |               |    |             | SM                      |                    | Dense, dry, hard, light-brown, Silty SAND with occasional gravel                                    |  |                         |                         |
| 7                                      |               |    |             |                         |                    |   |  |                         |                         |
| 8                                      |               |    |             |                         |                    |   |  |                         |                         |
| 9                                      |               |    |             |                         |                    |   |  |                         |                         |
| 10                                     |               |    |             |                         |                    |   |  |                         |                         |
| 11                                     |               |    |             |                         |                    |   |  |                         |                         |
| 12                                     |               |    |             |                         |                    |   |  |                         |                         |
| 13                                     |               |    |             |                         |                    |   |  |                         |                         |
| 14                                     |               |    |             |                         |                    |   |  |                         |                         |
| 15                                     |               |   |             |                         |                    |   |  |                         |                         |
| 16                                     |               |  |             |                         |                    |   |  |                         |                         |
| 17                                     |               |  |             |                         |                    |   |  |                         |                         |
| 18                                     |               |  |             | CL                      |                    | Damp, reddish-brown, CLAY with some gravel  |  |                         |                         |
| 19                                     |               |  |             |                         |                    |   |  |                         |                         |
| 20                                     |               |  |             |                         |                    |   |  |                         |                         |
| 21                                     |               |  |             |                         |                    |   |  |                         |                         |
| 22                                     |               |  |             |                         |                    |   |  |                         |                         |
| 23                                     |               |  |             |                         |                    |   |  |                         |                         |
| 24                                     |               |  |             |                         |                    | - screened 20 - 30 feet and waited for water<br>- returned 4 hrs. later and 3 feet of water in hole |  |                         |                         |
| 25                                     |               |  |             |                         |                    |   |  |                         |                         |
| 26                                     |               |  |             |                         |                    |   |  |                         |                         |
| 27                                     |               |  |             |                         |                    |   |  |                         |                         |
| 28                                     |               |  |             |                         |                    |   |  |                         |                         |
| 29                                     |               |  |             |                         |                    |   |  |                         |                         |
| 30                                     |               |  |             |                         |                    | - refusal at hard sandstone   |  |                         |                         |
| END OF BORING AT APPROXIMATELY 30 FEET |               |   |             |                         |                    |   |  |                         |                         |

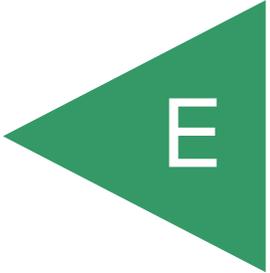
Figure , Log of Boring B67, page 1 of 1



| SAMPLE SYMBOLS  |                             |   |                               |
|---|-----------------------------|---|-------------------------------|
|  | ... SAMPLING UNSUCCESSFUL   |    | ... STANDARD PENETRATION TEST |
|  | ... DISTURBED OR BAG SAMPLE |    | ... CHUNK SAMPLE              |
|   |                             |  | ... WATER TABLE OR SEEPAGE    |

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

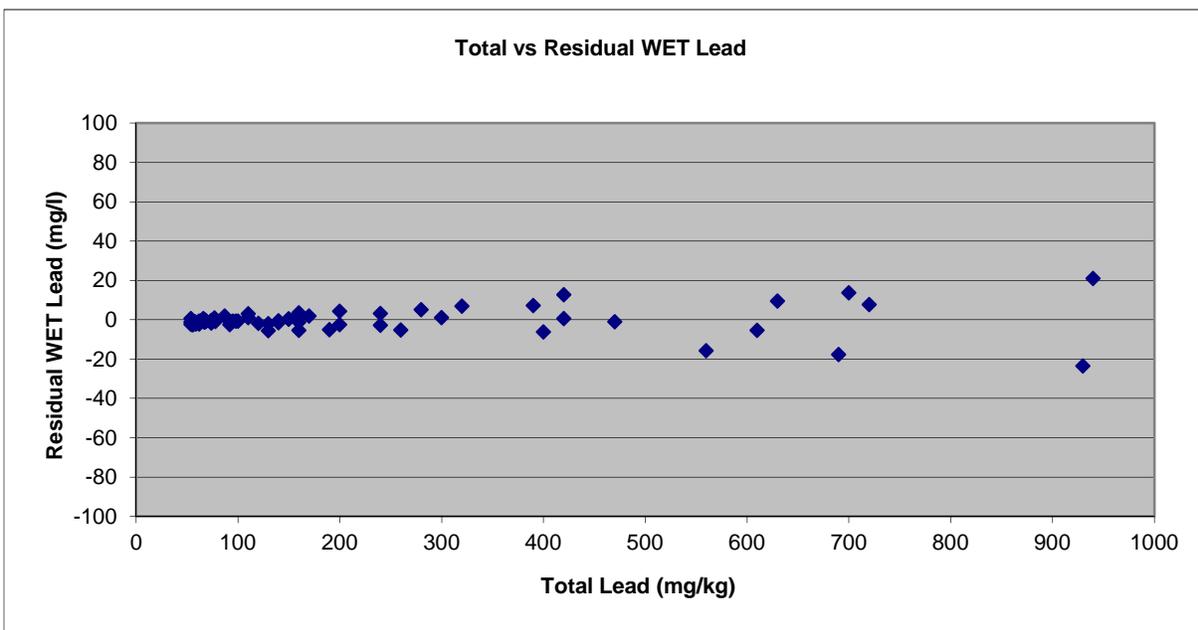
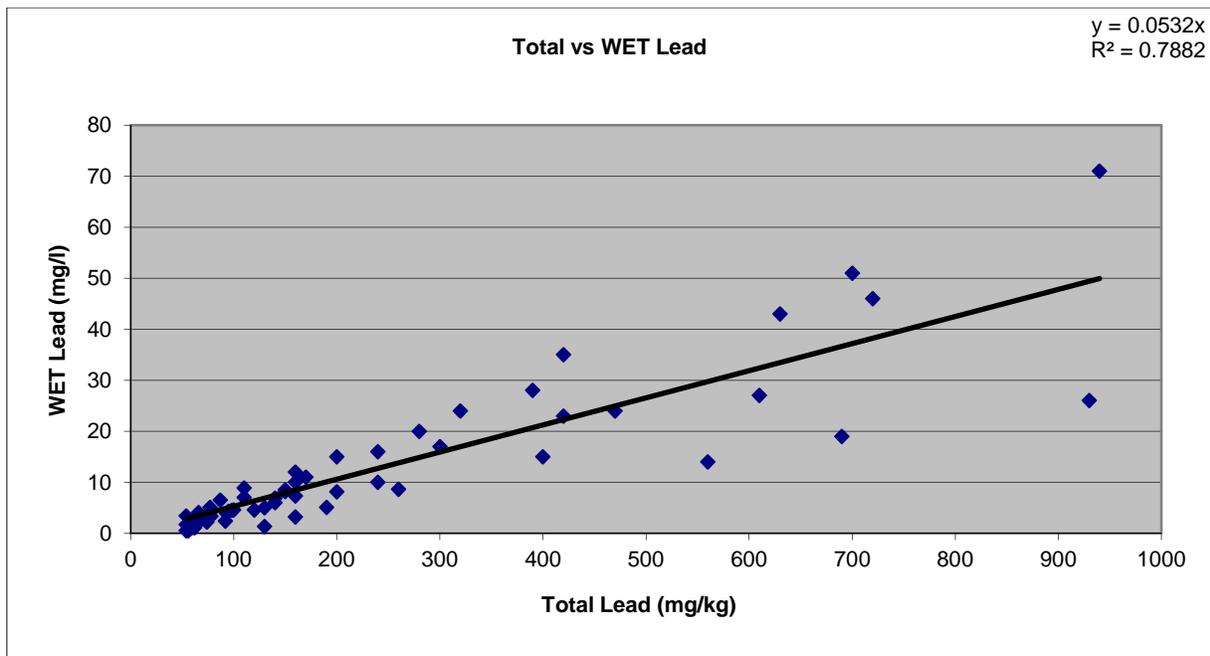
APPENDIX

A solid green triangle pointing to the left, containing the letter 'E' in white.

E

| Sample ID | Sample Depth<br>(feet) | Total Lead<br>(mg/kg) | WET Lead<br>(mg/l) | Residual<br>WET Lead<br>(mg/l) | Squared Residual<br>WET Lead<br>(mg/l) |
|-----------|------------------------|-----------------------|--------------------|--------------------------------|--|
| B1-0      | 0 to 0.5               | 420                   | 23                 | 0.68                           | 0.46                                   |
| B3-0      | 0 to 0.5               | 110                   | 8.9                | 3.05                           | 9.32                                   |
| B6-0      | 0 to 0.5               | 200                   | 8.1                | -2.53                          | 6.40                                   |
| B7-0      | 0 to 0.5               | 140                   | 6.9                | -0.54                          | 0.29                                   |
| B8-0      | 0 to 0.5               | 150                   | 8.5                | 0.53                           | 0.28                                   |
| B9-0      | 0 to 0.5               | 78                    | 3.3                | -0.85                          | 0.72                                   |
| B10-0     | 0 to 0.5               | 54                    | 3.4                | 0.53                           | 0.28                                   |
| B11-0     | 0 to 0.5               | 160                   | 7.3                | -1.20                          | 1.45                                   |
| B12-0     | 0 to 0.5               | 61                    | 2.0                | -1.24                          | 1.54                                   |
| B13-0     | 0 to 0.5               | 150                   | 8.2                | 0.23                           | 0.05                                   |
| B14-0     | 0 to 0.5               | 610                   | 27                 | -5.42                          | 29.41                                  |
| B15-0     | 0 to 0.5               | 77                    | 5.1                | 1.01                           | 1.01                                   |
| B16-0     | 0 to 0.5               | 160                   | 10                 | 1.50                           | 2.24                                   |
| B17-0     | 0 to 0.5               | 68                    | 2.6                | -1.01                          | 1.03                                   |
| B18-0     | 0 to 0.5               | 130                   | 5.0                | -1.91                          | 3.65                                   |
| B19-0     | 0 to 0.5               | 67                    | 2.7                | -0.86                          | 0.74                                   |
| B20-0     | 0 to 0.5               | 100                   | 4.6                | -0.72                          | 0.51                                   |
| B21-0     | 0 to 0.5               | 62                    | 2.6                | -0.70                          | 0.48                                   |
| B22-0     | 0 to 0.5               | 170                   | 11                 | 1.96                           | 3.86                                   |
| B22-1     | 1 to 1.5               | 98                    | 4.5                | -0.71                          | 0.50                                   |
| B22-2     | 2 to 2.5               | 66                    | 4.1                | 0.59                           | 0.35                                   |
| B23-0     | 0 to 0.5               | 200                   | 15                 | 4.37                           | 19.09                                  |
| B24-0     | 0 to 0.5               | 160                   | 12                 | 3.50                           | 12.22                                  |
| B28-0     | 0 to 0.5               | 720                   | 46                 | 7.73                           | 59.75                                  |
| B28-1     | 1 to 1.5               | 190                   | 5.1                | -5.00                          | 24.99                                  |
| B28-2     | 2 to 2.5               | 87                    | 6.5                | 1.88                           | 3.52                                   |
| B29-0     | 0 to 0.5               | 110                   | 7.0                | 1.15                           | 1.33                                   |
| B30-0     | 0 to 0.5               | 240                   | 16                 | 3.24                           | 10.52                                  |
| B31-0     | 0 to 0.5               | 390                   | 28                 | 7.27                           | 52.86                                  |
| B32-0     | 0 to 0.5               | 320                   | 24                 | 6.99                           | 48.87                                  |
| B32-2     | 2 to 2.5               | 56                    | 0.5                | -2.48                          | 6.13                                   |
| B33-0     | 0 to 0.5               | 140                   | 6.0                | -1.44                          | 2.08                                   |
| B34-0     | 0 to 0.5               | 95                    | 4.3                | -0.75                          | 0.56                                   |
| B35-0     | 0 to 0.5               | 68                    | 3.4                | -0.21                          | 0.05                                   |
| B35-1     | 1 to 1.5               | 74                    | 2.2                | -1.73                          | 3.00                                   |
| B38-0     | 0 to 0.5               | 130                   | 1.3                | -5.61                          | 31.47                                  |
| B38-1     | 1 to 1.5               | 62                    | 1.1                | -2.20                          | 4.82                                   |
| B39-0     | 0 to 0.5               | 55                    | 0.5                | -2.42                          | 5.87                                   |
| B40-0     | 0 to 0.5               | 930                   | 26                 | -23.43                         | 549.08                                 |
| B40-1     | 1 to 1.5               | 66                    | 2.8                | -0.71                          | 0.50                                   |
| B40-2     | 2 to 2.5               | 59                    | 1.0                | -2.14                          | 4.56                                   |
| B41-1     | 1 to 1.5               | 93                    | 3.9                | -1.04                          | 1.09                                   |
| B42-0     | 0 to 0.5               | 58                    | 2.1                | -0.98                          | 0.97                                   |
| B42-2     | 2 to 2.5               | 400                   | 15                 | -6.26                          | 39.20                                  |
| B43-0     | 0 to 0.5               | 69                    | 3.0                | -0.67                          | 0.45                                   |
| B44-0     | 0 to 0.5               | 92                    | 2.4                | -2.49                          | 6.20                                   |
| B49-1     | 1 to 1.5               | 54                    | 0.5                | -2.37                          | 5.62                                   |
| B51-0     | 0 to 0.5               | 64                    | 2.8                | -0.60                          | 0.36                                   |
| B53-0     | 0 to 0.5               | 120                   | 4.6                | -1.78                          | 3.16                                   |
| B53-1     | 1 to 1.5               | 260                   | 8.6                | -5.22                          | 27.25                                  |

|       |          |     |     |        |        |
|-------|----------|-----|-----|--------|--------|
| B54-0 | 0 to 0.5 | 67  | 2.4 | -1.16  | 1.35   |
| B54-1 | 1 to 1.5 | 560 | 14  | -15.77 | 248.56 |
| B55-0 | 0 to 0.5 | 690 | 19  | -17.68 | 312.43 |
| B56-2 | 2 to 2.5 | 160 | 3.2 | -5.30  | 28.14  |
| B57-0 | 0 to 0.5 | 54  | 1.7 | -1.17  | 1.37   |
| B59-0 | 0 to 0.5 | 240 | 10  | -2.76  | 7.60   |
| B60-0 | 0 to 0.5 | 470 | 24  | -0.98  | 0.96   |
| B61-0 | 0 to 0.5 | 280 | 20  | 5.12   | 26.18  |
| B62-0 | 0 to 0.5 | 300 | 17  | 1.05   | 1.11   |
| B63-0 | 0 to 0.5 | 420 | 35  | 12.68  | 160.67 |
| B64-0 | 0 to 0.5 | 700 | 51  | 13.79  | 190.24 |
| B65-0 | 0 to 0.5 | 940 | 71  | 21.04  | 442.51 |
| B66-0 | 0 to 0.5 | 630 | 43  | 9.51   | 90.51  |
| B67-0 | 0 to 0.5 | 74  | 3.6 | -0.33  | 0.11   |



**Pb- B1 to B10 - 0 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 9          |
| Number of Distinct Observations   | 9          |
| Number of Missing Observations    | 0          |
| Mean                              | 132        |
| Median                            | 110        |
| Std. Error of Mean                | 41.51      |
| Skewness                          | 1.708      |
| SD of logged Data                 | 1.235      |
| Minimum                           | 6.2        |
| Maximum                           | 420        |
| SD                                | 124.5      |
| Coefficient of Variation          | 0.945      |
| Mean of logged Data               | 4.388      |
| <b>90% Standard Bootstrap UCL</b> | <b>182</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>196</b> |

**Pb- B1 to B10 - 1 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 9           |
| Number of Distinct Observations   | 9           |
| Number of Missing Observations    | 0           |
| Mean                              | 12.7        |
| Median                            | 6.8         |
| Std. Error of Mean                | 4.605       |
| Skewness                          | 2.289       |
| SD of logged Data                 | 0.932       |
| Minimum                           | 1.9         |
| Maximum                           | 47          |
| SD                                | 13.82       |
| Coefficient of Variation          | 1.084       |
| Mean of logged Data               | 2.144       |
| <b>90% Standard Bootstrap UCL</b> | <b>18.3</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>19.9</b> |

**Pb- B1 to B10 - 2 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 9           |
| Number of Distinct Observations   | 9           |
| Number of Missing Observations    | 0           |
| Mean                              | 10          |
| Median                            | 6.8         |
| Std. Error of Mean                | 2.348       |
| Skewness                          | 1.274       |
| SD of logged Data                 | 0.754       |
| Minimum                           | 1.9         |
| Maximum                           | 25          |
| SD                                | 7.044       |
| Coefficient of Variation          | 0.704       |
| Mean of logged Data               | 2.075       |
| <b>90% Standard Bootstrap UCL</b> | <b>12.9</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>13.6</b> |

**Pb- B11 to B21 - 0 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 11         |
| Number of Distinct Observations   | 10         |
| Number of Missing Observations    | 0          |
| Mean                              | 150        |
| Median                            | 100        |
| Std. Error of Mean                | 47.61      |
| Skewness                          | 2.939      |
| SD of logged Data                 | 0.68       |
| Minimum                           | 61         |
| Maximum                           | 610        |
| SD                                | 157.9      |
| Coefficient of Variation          | 1.056      |
| Mean of logged Data               | 4.732      |
| <b>90% Standard Bootstrap UCL</b> | <b>210</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>224</b> |

**Pb- B11 to B21 - 1 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 11          |
| Number of Distinct Observations   | 11          |
| Number of Missing Observations    | 0           |
| Mean                              | 10.5        |
| Median                            | 8.2         |
| Std. Error of Mean                | 2.309       |
| Skewness                          | 2.57        |
| SD of logged Data                 | 0.543       |
| Minimum                           | 4.7         |
| Maximum                           | 32          |
| SD                                | 7.659       |
| Coefficient of Variation          | 0.73        |
| Mean of logged Data               | 2.192       |
| <b>90% Standard Bootstrap UCL</b> | <b>13.3</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>14.2</b> |

**Pb- B11 to B21 - 2 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 11          |
| Number of Distinct Observations   | 10          |
| Number of Missing Observations    | 0           |
| Mean                              | 9.7         |
| Median                            | 6           |
| Std. Error of Mean                | 2.409       |
| Skewness                          | 1.297       |
| SD of logged Data                 | 0.746       |
| Minimum                           | 2.6         |
| Maximum                           | 26          |
| SD                                | 7.99        |
| Coefficient of Variation          | 0.822       |
| Mean of logged Data               | 2.004       |
| <b>90% Standard Bootstrap UCL</b> | <b>12.6</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>13.5</b> |

**Pb- B22 to B31 - 0 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 10         |
| Number of Distinct Observations   | 10         |
| Number of Missing Observations    | 0          |
| Mean                              | 342        |
| Median                            | 185        |
| Std. Error of Mean                | 134.4      |
| Skewness                          | 2.065      |
| SD of logged Data                 | 1.467      |
| Minimum                           | 12         |
| Maximum                           | 1400       |
| SD                                | 424.9      |
| Coefficient of Variation          | 1.242      |
| Mean of logged Data               | 5.091      |
| <b>90% Standard Bootstrap UCL</b> | <b>504</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>550</b> |

**Pb- B22 to B31 - 1 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 10          |
| Number of Distinct Observations   | 10          |
| Number of Missing Observations    | 0           |
| Mean                              | 39.7        |
| Median                            | 12          |
| Std. Error of Mean                | 18.9        |
| Skewness                          | 2.215       |
| SD of logged Data                 | 1.251       |
| Minimum                           | 3.3         |
| Maximum                           | 190         |
| SD                                | 59.77       |
| Coefficient of Variation          | 1.506       |
| Mean of logged Data               | 2.893       |
| <b>90% Standard Bootstrap UCL</b> | <b>62.8</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>68.8</b> |

**Pb- B22 to B31 - 2 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 10          |
| Number of Distinct Observations   | 10          |
| Number of Missing Observations    | 0           |
| Mean                              | 27.1        |
| Median                            | 17          |
| Std. Error of Mean                | 8.8         |
| Skewness                          | 1.538       |
| SD of logged Data                 | 0.962       |
| Minimum                           | 5.6         |
| Maximum                           | 87          |
| SD                                | 27.83       |
| Coefficient of Variation          | 1.028       |
| Mean of logged Data               | 2.867       |
| <b>90% Standard Bootstrap UCL</b> | <b>37.7</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>40.7</b> |

**Pb- B32 to B42 - 0 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 11         |
| Number of Distinct Observations   | 10         |
| Number of Missing Observations    | 0          |
| Mean                              | 169        |
| Median                            | 68         |
| Std. Error of Mean                | 80.43      |
| Skewness                          | 2.767      |
| SD of logged Data                 | 1.307      |
| Minimum                           | 11         |
| Maximum                           | 930        |
| SD                                | 266.8      |
| Coefficient of Variation          | 1.578      |
| Mean of logged Data               | 4.342      |
| <b>90% Standard Bootstrap UCL</b> | <b>267</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>292</b> |

**Pb- B32 to B42 - 1 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 11          |
| Number of Distinct Observations   | 9           |
| Number of Missing Observations    | 0           |
| Mean                              | 38.4        |
| Median                            | 21          |
| Std. Error of Mean                | 9.065       |
| Skewness                          | 0.697       |
| SD of logged Data                 | 0.855       |
| Minimum                           | 10          |
| Maximum                           | 93          |
| SD                                | 30.06       |
| Coefficient of Variation          | 0.784       |
| Mean of logged Data               | 3.332       |
| <b>90% Standard Bootstrap UCL</b> | <b>49.4</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>52.5</b> |

**Pb- B32 to B42 - 2 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 11         |
| Number of Distinct Observations   | 9          |
| Number of Missing Observations    | 0          |
| Mean                              | 59.3       |
| Median                            | 13         |
| Std. Error of Mean                | 34.53      |
| Skewness                          | 3.162      |
| SD of logged Data                 | 1.13       |
| Minimum                           | 10         |
| Maximum                           | 400        |
| SD                                | 114.5      |
| Coefficient of Variation          | 1.932      |
| Mean of logged Data               | 3.255      |
| <b>90% Standard Bootstrap UCL</b> | <b>101</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>113</b> |

**Pb- B43 to B52 - 0 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 9           |
| Number of Distinct Observations   | 9           |
| Number of Missing Observations    | 0           |
| Mean                              | 46.3        |
| Median                            | 43          |
| Std. Error of Mean                | 8.477       |
| Skewness                          | 0.394       |
| SD of logged Data                 | 0.727       |
| Minimum                           | 7.8         |
| Maximum                           | 92          |
| SD                                | 25.43       |
| Coefficient of Variation          | 0.549       |
| Mean of logged Data               | 3.651       |
| <b>90% Standard Bootstrap UCL</b> | <b>56.6</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>59.5</b> |

**Pb- B43 to B52 - 1 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 10          |
| Number of Distinct Observations   | 10          |
| Number of Missing Observations    | 0           |
| Mean                              | 18          |
| Median                            | 11          |
| Std. Error of Mean                | 5.054       |
| Skewness                          | 1.605       |
| SD of logged Data                 | 0.797       |
| Minimum                           | 4.0         |
| Maximum                           | 54          |
| SD                                | 15.98       |
| Coefficient of Variation          | 0.888       |
| Mean of logged Data               | 2.589       |
| <b>90% Standard Bootstrap UCL</b> | <b>24.1</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>25.7</b> |

**Pb- B43 to B52 - 2 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 11          |
| Number of Distinct Observations   | 10          |
| Number of Missing Observations    | 0           |
| Mean                              | 11.6        |
| Median                            | 9.1         |
| Std. Error of Mean                | 2.119       |
| Skewness                          | 1.859       |
| SD of logged Data                 | 0.493       |
| Minimum                           | 6.1         |
| Maximum                           | 29          |
| SD                                | 7.027       |
| Coefficient of Variation          | 0.604       |
| Mean of logged Data               | 2.328       |
| <b>90% Standard Bootstrap UCL</b> | <b>14.3</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>14.9</b> |

**Pb- B53 to B67 - 0 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 15         |
| Number of Distinct Observations   | 15         |
| Number of Missing Observations    | 0          |
| Mean                              | 336        |
| Median                            | 280        |
| Std. Error of Mean                | 75.87      |
| Skewness                          | 0.686      |
| SD of logged Data                 | 1.288      |
| Minimum                           | 12         |
| Maximum                           | 940        |
| SD                                | 293.8      |
| Coefficient of Variation          | 0.875      |
| Mean of logged Data               | 5.253      |
| <b>90% Standard Bootstrap UCL</b> | <b>430</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>459</b> |

**Pb- B53 to B67 - 1 Depth**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 15         |
| Number of Distinct Observations   | 13         |
| Number of Missing Observations    | 0          |
| Mean                              | 64.7       |
| Median                            | 12         |
| Std. Error of Mean                | 39.05      |
| Skewness                          | 3.023      |
| SD of logged Data                 | 1.294      |
| Minimum                           | 6.5        |
| Maximum                           | 560        |
| SD                                | 151.3      |
| Coefficient of Variation          | 2.336      |
| Mean of logged Data               | 2.871      |
| <b>90% Standard Bootstrap UCL</b> | <b>113</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>127</b> |

**Pb- B53 to B67 - 2 Depth**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 15          |
| Number of Distinct Observations   | 13          |
| Number of Missing Observations    | 0           |
| Mean                              | 21.3        |
| Median                            | 8.6         |
| Std. Error of Mean                | 10.13       |
| Skewness                          | 3.612       |
| SD of logged Data                 | 0.898       |
| Minimum                           | 5.7         |
| Maximum                           | 160         |
| SD                                | 39.23       |
| Coefficient of Variation          | 1.845       |
| Mean of logged Data               | 2.449       |
| <b>90% Standard Bootstrap UCL</b> | <b>34.0</b> |
| <b>95% Standard Bootstrap UCL</b> | <b>37.2</b> |

**As**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 22          |
| Number of Distinct Observations   | 17          |
| Number of Missing Observations    | 0           |
| Mean                              | 3.94        |
| Median                            | 4           |
| Std. Error of Mean                | 0.177       |
| Skewness                          | -0.206      |
| SD of logged Data                 | 0.225       |
| Minimum                           | 2.4         |
| Maximum                           | 5.5         |
| SD                                | 0.829       |
| Coefficient of Variation          | 0.211       |
| Mean of logged Data               | 1.347       |
| <b>95% Standard Bootstrap UCL</b> | <b>4.22</b> |

**Co**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 22          |
| Number of Distinct Observations   | 20          |
| Number of Missing Observations    | 0           |
| Mean                              | 11.9        |
| Median                            | 9.4         |
| Std. Error of Mean                | 1.376       |
| Skewness                          | 1.262       |
| SD of logged Data                 | 0.492       |
| Minimum                           | 4.8         |
| Maximum                           | 27          |
| SD                                | 6.456       |
| Coefficient of Variation          | 0.545       |
| Mean of logged Data               | 2.35        |
| <b>95% Standard Bootstrap UCL</b> | <b>14.1</b> |

**Pb**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 22          |
| Number of Distinct Observations   | 18          |
| Number of Missing Observations    | 0           |
| Mean                              | 38.2        |
| Median                            | 12.5        |
| Std. Error of Mean                | 18.67       |
| Skewness                          | 4.317       |
| SD of logged Data                 | 1.136       |
| Minimum                           | 4           |
| Maximum                           | 420         |
| SD                                | 87.58       |
| Coefficient of Variation          | 2.293       |
| Mean of logged Data               | 2.754       |
| <b>95% Standard Bootstrap UCL</b> | <b>68.5</b> |

**Ni**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 22         |
| Number of Distinct Observations   | 17         |
| Number of Missing Observations    | 0          |
| Mean                              | 88.91      |
| Median                            | 37.5       |
| Std. Error of Mean                | 21.71      |
| Skewness                          | 1.638      |
| SD of logged Data                 | 0.957      |
| Minimum                           | 14         |
| Maximum                           | 340        |
| SD                                | 101.8      |
| Coefficient of Variation          | 1.145      |
| Mean of logged Data               | 3.992      |
| <b>95% Standard Bootstrap UCL</b> | <b>123</b> |

**Tl**

|                                   |             |
|-----------------------------------|-------------|
| Total Number of Observations      | 22          |
| Number of Distinct Observations   | 5           |
| Number of Missing Observations    | 0           |
| Mean                              | 0.986       |
| Median                            | 0.5         |
| Std. Error of Mean                | 0.235       |
| Skewness                          | 2.156       |
| SD of logged Data                 | 0.726       |
| Minimum                           | 0.5         |
| Maximum                           | 4.4         |
| SD                                | 1.102       |
| Coefficient of Variation          | 1.117       |
| Mean of logged Data               | -0.361      |
| <b>95% Standard Bootstrap UCL</b> | <b>1.35</b> |

**TPHd**

|                                   |            |
|-----------------------------------|------------|
| Total Number of Observations      | 38         |
| Number of Distinct Observations   | 36         |
| Number of Missing Observations    | 0          |
| Mean                              | 55.66      |
| Median                            | 11.5       |
| Std. Error of Mean                | 31.79      |
| Skewness                          | 5.695      |
| SD of logged Data                 | 1.517      |
| Minimum                           | 0.5        |
| Maximum                           | 1200       |
| SD                                | 196        |
| Coefficient of Variation          | 3.521      |
| Mean of logged Data               | 2.444      |
| <b>95% Standard Bootstrap UCL</b> | <b>108</b> |

**TPHmo**

|                                 |       |
|---------------------------------|-------|
| Total Number of Observations    | 38    |
| Number of Distinct Observations | 32    |
| Number of Missing Observations  | 0     |
| Mean                            | 149.5 |
| Median                          | 14    |
| Std. Error of Mean              | 88.36 |
| Skewness                        | 5.552 |
| SD of logged Data               | 1.897 |
| Minimum                         | 0.5   |
| Maximum                         | 3300  |
| SD                              | 544.7 |
| Coefficient of Variation        | 3.643 |
| Mean of logged Data             | 2.895 |
| 95% Standard Bootstrap UCL      | 292   |

Thallium - Corrected

General Statistics

|                              |       |                                 |        |
|------------------------------|-------|---------------------------------|--------|
| Total Number of Observations | 22    | Number of Distinct Observations | 5      |
| Number of Detects            | 4     | Number of Non-Detects           | 18     |
| Number of Distinct Detects   | 4     | Number of Distinct Non-Detects  | 1      |
| Minimum Detect               | 2.6   | Minimum Non-Detect              | 0.5    |
| Maximum Detect               | 4.4   | Maximum Non-Detect              | 0.5    |
| Variance Detects             | 0.696 | Percent Non-Detects             | 81.82% |
| Mean Detects                 | 3.175 | SD Detects                      | 0.834  |
| Median Detects               | 2.85  | CV Detects                      | 0.263  |
| Skewness Detects             | 1.764 | Kurtosis Detects                | 3.112  |
| Mean of Logged Detects       | 1.132 | SD of Logged Detects            | 0.241  |

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

|                        |       |                                   |       |
|------------------------|-------|-----------------------------------|-------|
| Mean                   | 0.986 | Standard Error of Mean            | 0.265 |
| SD                     | 1.077 | 95% KM (BCA) UCL                  | N/A   |
| 95% KM (t) UCL         | 1.442 | 95% KM (Percentile Bootstrap) UCL | N/A   |
| 95% KM (z) UCL         | 1.422 | 95% KM Bootstrap t UCL            | N/A   |
| 90% KM Chebyshev UCL   | 1.782 | 95% KM Chebyshev UCL              | 2.142 |
| 97.5% KM Chebyshev UCL | 2.642 | 99% KM Chebyshev UCL              | 3.624 |

Suggested UCL to Use

Data appear Normal, May want to try Normal Distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.