FOR CONTRACT NO.: 04-4G4504

INFORMATION HANDOUT

WATER QUALITY INFORMATION HANDOUT

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY SECTION
DEPARTMENT PROJECT NO. EA 04-4G4504

NON POTABLE WATER FILL LOCATIONS

MATERIALS INFORMATION

REVISED FOUNDATION REPORT DATED 02-08-16

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

PRELIMINARY SITE INVESTIGATION REPORT

WATER POLLUTION CONTROL

WATER QUALITY INFORMATION HANDOUT

ROUTE: 04- Sol-780-7.1

WATER QUALITY INFORMATION HANDOUT

CONTRACT NO. 04-4G450

04- SOL-780-PM 7.1

LAUREL SREET BRIDGE REPLACEMENT

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

March, 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 new National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP), Number CAS000002, adopted Order 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-006-DWQ). 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.

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1B Receiving Water Bodies

2 CONSTRUCTION GENERAL PERMIT

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3 TEMPORARY CONSTRUCTION SITE BMPs

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3B Dewatering

4 PERMITS

5 ATTACHMENTS

A LOCATION MAP

B RISK LEVEL DETERMINATION

C PROJECT DISCHARGE LOCATION PLAN

D WATER POLLUTION CONTROL PLAN

1 Project Information

1A Project Description

Caltrans proposes to replace the Laurel Street Overcrossing (OC), Bridge No. 23-0119 on Route 780 in Solano County, in the City of Vallejo, at PM 6.8/7.3. The existing vertical clearance of the Laurel Street Overcrossing (OC) is 14’-10”. The Highway Design Manual standard requires a vertical clearance of 16’- 6”. The project proposes to upgrade the vertical clearance of this structure to standard, under the provision of Caltrans Bridge Preservation Program Code 20.20.201.322, Transportation Permit Requirements for Bridges. The project proposes to replace the existing bridge with a Precast (PC)/ Prestressed (PS) wide flange girders, precast drop cap and precast columns.

The project proposes 44' 4" wide bridge which includes two 11' lanes, two 4' shoulders and two Type 26 barriers with 6' 2” sidewalks (see attached footprint). The length of the bridge is estimated to be 202' 8”. The bridge will be built in two spans, each 101' 2”. The bridge will be supported by two columns at the bent and two seat type abutments. The new BB (beginning of bridge) is approximately 26’–4” south of the existing BB, measured along the “LT1” Line. The new EB (end of bridge) is approximately 17’-5” north of the existing EB, measured along the “LT1” Line.

Latitude and Longitude:	38.0909, -122.2284
Construction Start Date	09/01/2016
Construction End Date	10/01/2017
Project Area	11.00 ac
Disturbed Soil Area	2.3 ac

1B Receiving Water Bodies

American Canon Creek, the receiving water body, is in list of the Clean Water Act 2006 303(d) for sedimentation/siltation and this project area is located within the high-risk receiving San Pablo Bay Estuaries watershed area.

2 Construction General Permit

A Storm Water Pollution Prevention Plan (SWPPP) is required since the disturbed soil area in this project is more than one acre and the provisions for rain even action plan (REAP), stome water sampling and analysis day and storm water annual day are applicable.

2A Risk Level

Since this project has disturbed soil area more than one acre, risk level determination was assed. The assed site sediment risk factor is medium whereas the receiving water (RW) risk factor is high and the combined risk level became 2 for this project. The detail of risk level determination is given in attachment B.

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 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: $Q=CiA$

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.

3B Dewatering

The new groundwater data obtained from Geocon Consultants show groundwater table is at 3'~5' elevation, which is below the bottom of the bridge footings. So dewatering is not required.

4 Permits

No 401, 404, 1602 are issued for this project.

5 ATTACHMENTS

ATTACHMENT A

LOCATION MAP

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Sol	780	7.1	1	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN SOLANO COUNTY
IN VALLEJO
AT LAUREL STREET OVERCROSSING

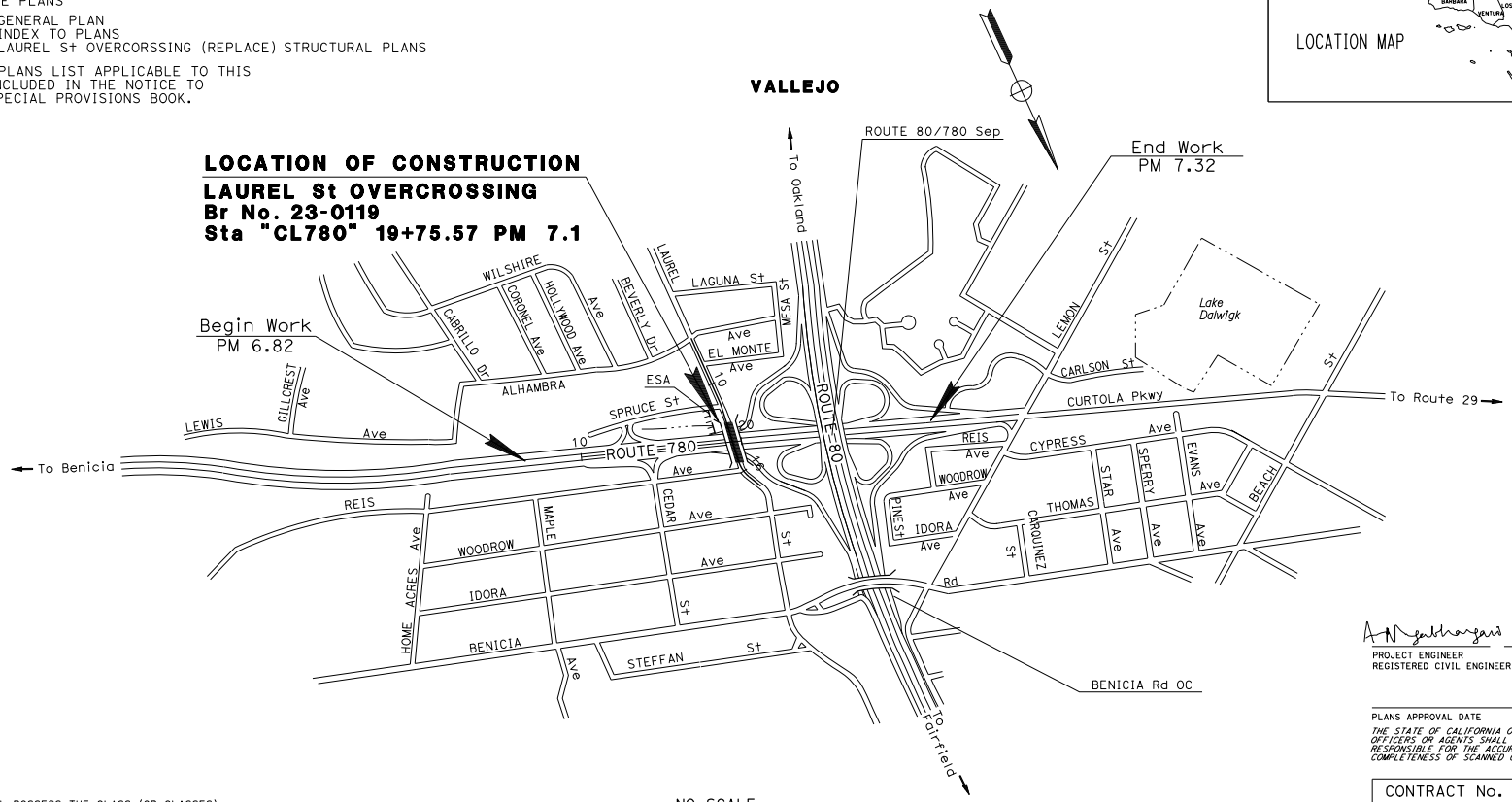
TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2010

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE SHEET AND LOCATION MAP
2 - 3	TYPICAL CROSS SECTIONS
4 - 5	LAYOUT
6	PROFILE AND SUPERELEVATION DIAGRAM
7 - 12	CONSTRUCTION DETAILS
13	TEMPORARY WATER POLLUTION CONTROL PLAN AND QUANTITIES
14	CONTOUR GRADING PLAN
15 - 18	DRAINAGE PLAN, PROFILES, DETAILS AND QUANTITIES
19	UTILITY PLAN
20 - 24	CONSTRUCTION AREA SIGNS
25 - 28	STAGE CONSTRUCTION PLAN AND QUANTITIES
29 - 30	PAVEMENT DELINEATION PLAN AND QUANTITIES
31 - 33	SIGN PLAN, DETAILS, AND QUANTITIES
34	SUMMARY OF QUANTITIES
35 - 37	IRRIGATION PLAN AND QUANTITIES
38	PLANT LEGEND
39	PLANTING PLAN
41	LANDSCAPE QUANTITIES
42 - 45	EROSION CONTROL LEGEND, PLAN, DETAILS AND QUANTITIES
46 - 47	ELECTRICAL PLANS
48 - 49	LOG OF TEST BORING
50 - 97	REVISED STANDARD PLANS
STRUCTURE PLANS	
98	GENERAL PLAN
99	INDEX TO PLANS
100 - 123	LAUREL St OVERCORSSING (REPLACE) STRUCTURAL PLANS

THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

LOCATION MAP



NO SCALE

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

A N Nagabhargavi 1-6-16
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER Nagabhargavi Adibhatla No. 76472 Exp. 12-31-16 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.	04-4G4504
PROJECT ID	0412000477

PROJECT MANAGER OSAMA ELHAMSHARY
DESIGN ENGINEER RONI BOUKHALIL

LAST REVISION 01-12-16 DATE PLOTTED => 15-JAN-2016 TIME PLOTTED => 13:17

ATTACHMENT B

RISK LEVEL DETERMINATION

	A	B	C
1	**Sediment Risk Factor Worksheet**		**Entry**
2	**A) R Factor**		
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	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
5	**R Factor Value**		66.04
6	**B) K Factor (weighted average, by area, for all site soils)**		
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	Site-specific K factor guidance		
9	**K Factor Value**		0.37
10	**C) LS Factor (weighted average, by area, for all slopes)**		
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	LS Table		
13	**LS Factor Value**		1.45
14			
15	**Watershed Erosion Estimate (=RxKxLS) in tons/acre**	35.43046	
16	**Site Sediment Risk Factor**	**Medium**	
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
A. Watershed Characteristics	**yes/no**	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment** (For help with impaired waterbodies please check the attached worksheet or visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?: 2006 Approved Sediment-impared WBs Worksheet http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml **OR** A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? http://www.ice.ucdavis.edu/geowbs/asp/wbquse.asp	**Yes**	**High**

Combined Risk Level Matrix

Receiving Water Risk	Sediment Risk: Low	Sediment Risk: Medium	Sediment Risk: High
Low	Level 1	Level 2	
High	Level 2		Level 3

Project Sediment Risk: **Medium**

Project RW Risk: **High**

Project Combined Risk: **Level 2**

ATTACHMENT C

PROJECT DISCHARGE LOCATION PLAN

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Sol	780	7.1	15	

REGISTERED CIVIL ENGINEER — DATE 1-7-16

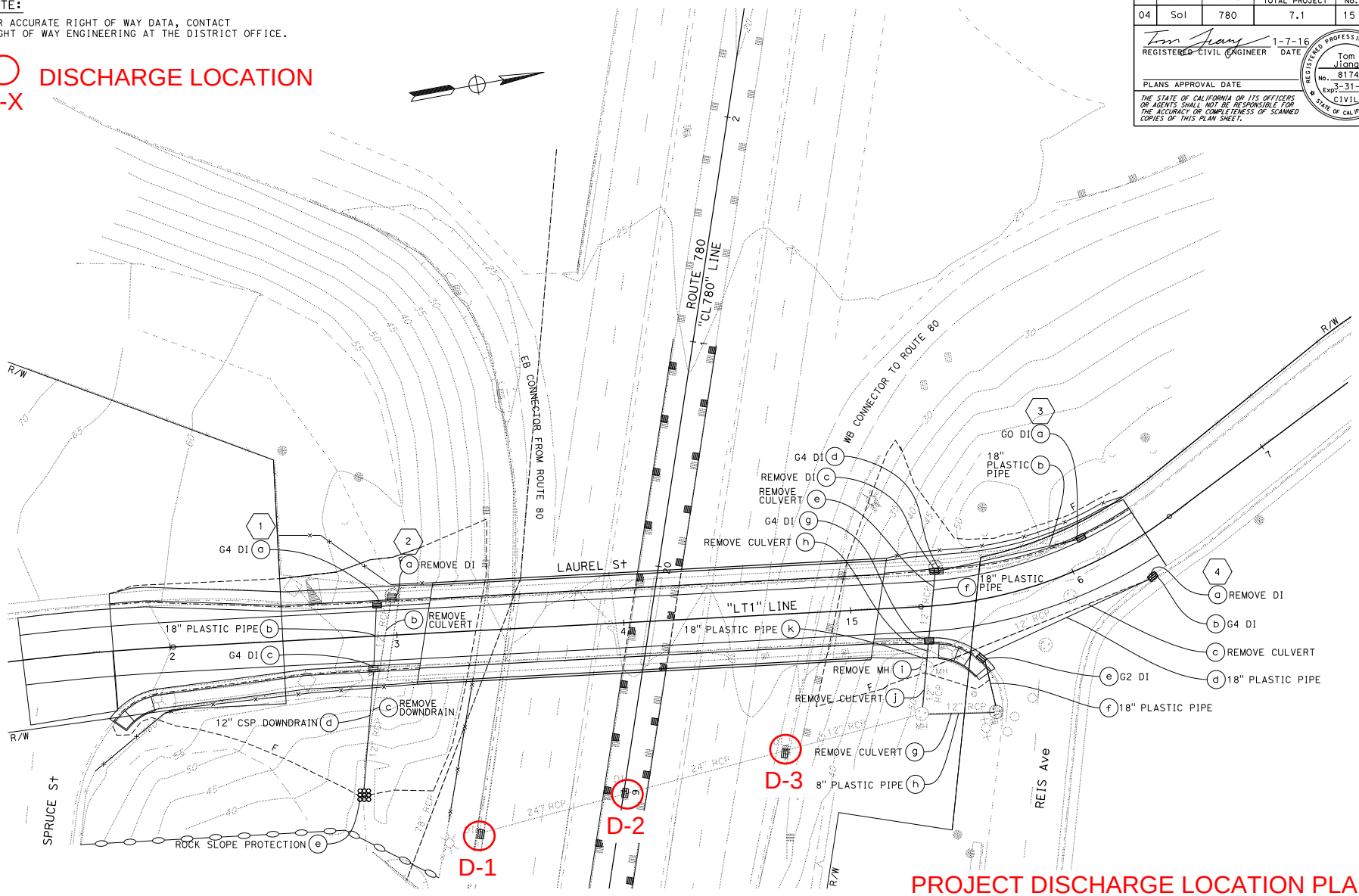
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Tom Jiang — No. 81747 — Exp. 3-31-16 — CIVIL — STATE OF CALIFORNIA

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.

NOTE:

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



PROJECT DISCHARGE LOCATION PLAN

SCALE: 1" = 20'

D-1

APPROVED FOR DRAINAGE WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN

FUNCTIONAL SUPERVISOR: KATHLEEN REILLY

CALCULATED-DESIGNED BY: TOM JIANG

CHECKED BY: KATHLEEN REILLY

REVISED BY: TJ

DATE REVISED: 1-14-16

LAST REVISION — DATE PLOTTED => 15-JAN-2016 — TIME PLOTTED => 13:18

01-08-16

BORDER LAST REVISED 7/2/2010

USERNAME => s135779
DGN FILE => 0412000477ia001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0741

PROJECT NUMBER & PHASE 04120004771

ATTACHMENT D

WATER POLLUTION CONTROL DRAWING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Sol	780	7.1	13	

REGISTERED CIVIL ENGINEER 1-11-16 DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Ganga D. Tripathi No. 78447 Exp. 9-30-17 CIVIL STATE OF CALIFORNIA

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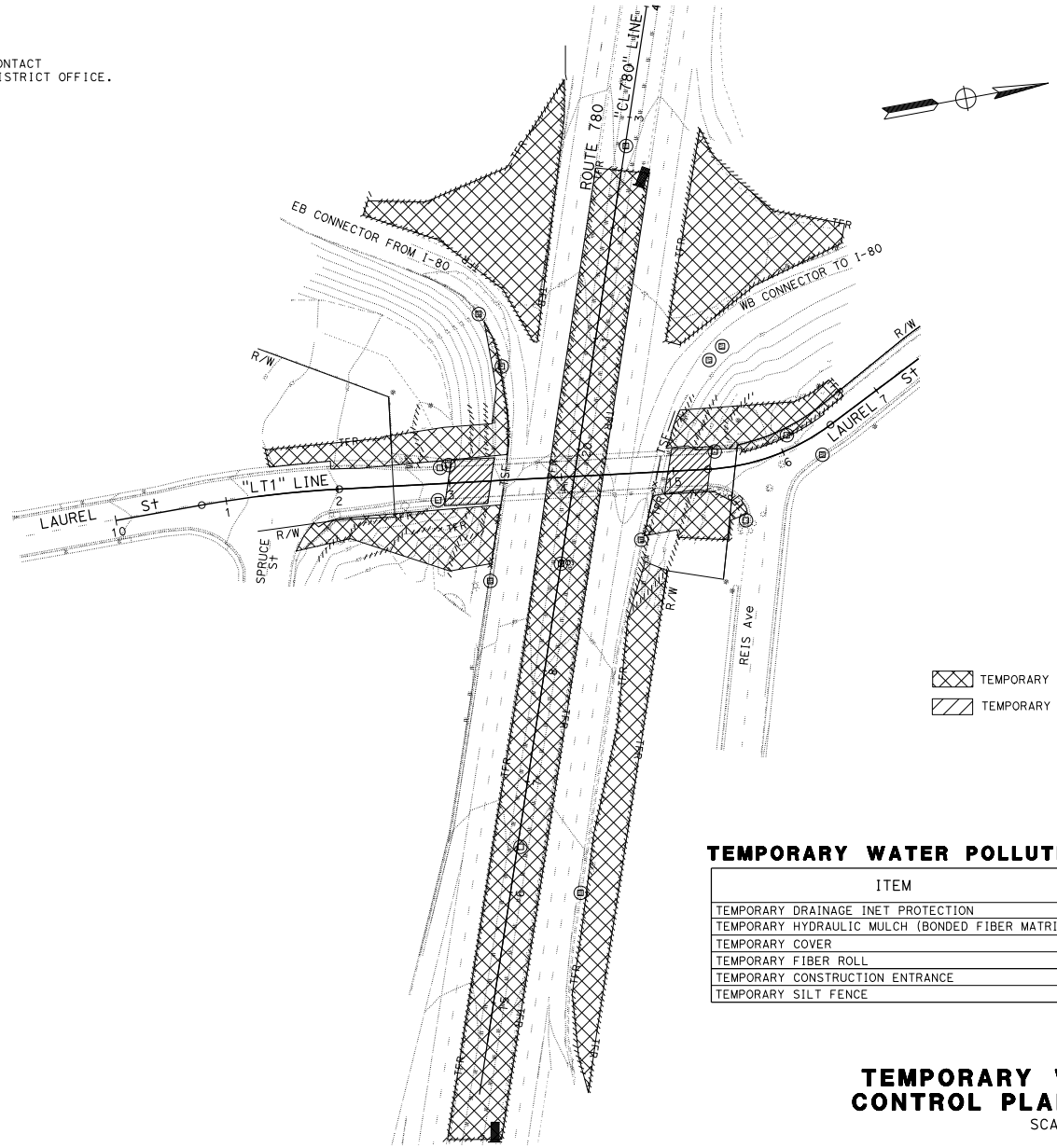
NOTE:

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



LEGEND:

TEMPORARY HYDRAULIC MULCH (BONDED FIBER MATRIX)

TEMPORARY COVER

TEMPORARY WATER POLLUTION CONTROL QUANTITIES

ITEM	UNIT	STATION	QUANTITY
TEMPORARY DRAINAGE INET PROTECTION	EA	AS SHOWN IN THE PLAN	17
TEMPORARY HYDRAULIC MULCH (BONDED FIBER MATRIX)	SQYD	AS SHOWN IN THE PLAN	11,100
TEMPORARY COVER	SQYD	AS SHOWN IN THE PLAN	400
TEMPORARY FIBER ROLL	LF	AS SHOWN IN THE PLAN	5300
TEMPORARY CONSTRUCTION ENTRANCE	EA	AS SHOWN IN THE PLAN	2
TEMPORARY SILT FENCE	LF	AS SHOWN IN THE PLAN	300

TEMPORARY WATER POLLUTION CONTROL PLAN AND QUANTITIES

SCALE: 1" = 50'

APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

WPC-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

WATER QUALITY

FUNCTIONAL SUPERVISOR: KAMRAN NAKHJIRI

CALCULATED-DESIGNED BY: GANGA TRIPATHI

CHECKED BY: KAMRAN NAKHJIRI

REVISED BY: GT

DATE REVISED: 1-14-16

LAST REVISION: 01-11-16

DATE PLOTTED => 15-JAN-2016

TIME PLOTTED => 13:18

NON POTABLE WATER FILL LOCATIONS

BAY AREA RECYCLED WATER

ROUTE: 04- Sol-780-7.1

BACWA
BAY AREA
CLEAN WATER
AGENCIES

BAY AREA RECYCLED WATER

Commercial Truck Fill Facilities Location Guide

JUNE 2015

WHITLEY BURCHETT & *Associates*

Background

This Guide was prepared by Whitley Burchett & Associates under contract with the Bay Area Clean Water Agencies and under the direction of the BACWA Recycled Water Committee. The Guide was prepared in response to inquiries of commercial recycled water truck fill facilities in the Bay Area. It is the Recycled Water Committee's intention to update this Guide annually. If you see any information that should be updated, have a facility to add to this Guide, or have any questions please email Info@bacwa.org.

Disclaimer

The intent of this Guide is to provide prospective water haulers with general information regarding the location of Bay Area recycled water commercial truck fill facilities, permit requirements, and associated fees for recycled water. Information in this Guide represents data collected in the fall of 2014 and updated in June 2015. Please contact agencies directly for current information.

Cover Photos

Top row: East Bay Municipal Utility District

Bottom row from left to right: City of Palo Alto, City of Santa Rosa

Acknowledgements

This Guide was prepared in conjunction with the BACWA agencies. The time spent by agencies providing program information and review of this document is greatly appreciated.

Electronic Version

The BACWA Truck Fill Guide is available on the BACWA website at http://bacwa.org.

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Bay Area Commercial Recycled Water Truck Fill Facilities Location Map

* Indicates the general location of a truck fill facility.

List of Agencies with Recycled Water Commercial Truck Fill Facilities Sorted by County/City

COUNTY/CITY	AGENCY	PAGE NO.
ALAMEDA COUNTY		
Dublin	Dublin San Ramon Services District	3
Livermore	City of Livermore	5
Oakland	East Bay Municipal Utility District	4
Pleasanton	Dublin San Ramon Services District	3
San Lorenzo	Oro Loma Sanitary District/East Bay Dischargers Authority	10
CONTRA COSTA COUNTY		
Concord	Central Contra Costa Sanitary District	2
Martinez	Central Contra Costa Sanitary District	2
Richmond	East Bay Municipal Utility District	4
San Ramon	Dublin San Ramon Services District	3
MARIN COUNTY		
Novato	North Marin Water District	9
San Rafael	Marin Municipal Water District	6
NAPA COUNTY		
Calistoga	City of Calistoga	1
Napa	Napa Sanitation District	8
Yountville	Town of Yountville	20
SAN FRANCISCO		
San Francisco	City and County of San Francisco/SFPUC	14
SAN MATEO COUNTY		
San Francisco	San Francisco International Airport	15
Redwood City	City of Redwood City	13
SANTA CLARA COUNTY		
Milpitas	City of Milpitas/South Bay Water Recycling	7
Palo Alto	City of Palo Alto	11
San Jose	City of San Jose/South Bay Water Recycling	16
Sunnyvale	City of Sunnyvale	19
SONOMA COUNTY		
Petaluma	City of Petaluma	12
Santa Rosa	City of Santa Rosa	17
Sonoma	Sonoma County Water Agency	18

SECTION 1

Recycled Water Commercial Truck Fill Facilities Information

CITY OF CALISTOGA

707.942.2782

www.ci.calistoga.ca.us

Recycled Water Fill Facilities:			
Treatment Plant	Yes	Distribution System	No
Can water be used outside of this agency's service area?			Yes

Hydrant Fill Facilities

Location:	None		
Number of Fill Facilities:		Connection Device:	
Quality:		Truck Size Limits:	
Quantity Limitations per Trip:		Truck Weight Limits:	
Other Restrictions:			
Additional Access Information:			

Fill Facilities at Treatment Plant

Location:	Dunaweal Wastewater Treatment Plant (call for address)		
Quality:	Disinfected Tertiary	Type of Connection:	Side
Quantity Limitations per Trip:	No Minimum	Hours:	Mon-Fri 7 a.m. - 3:30 p.m.
	Maximum up to truck limit	Appointment Required:	No
Quantity Limitations per Day:	No Minimum	Truck Size Limits:	None
	Maximum 50,000 gal	Truck Weight Limits:	None
Additional Access Information:			

Training

Required:	No	Duration:	
Who:		Frequency:	
Schedule:		Location:	
Length of time to become authorized truck hauler:			1 business day

Signage

Area Use Signage Required:	No	Vehicle Signage Required:	Yes
Signs Provided by Water Agency:	N/A	Signs Provided by Water Agency:	Yes

Vehicle Inspection

Required:	No	Inspection Location:	
Duration:		Re-inspection Required:	
How to schedule:			

Fees

Water:	No Charge	Training:	No Charge
Connection Device:	No Charge	Permit:	No Charge
Vehicle Signage:	No Charge	Use Area Signage:	N/A
Other:			

CENTRAL CONTRA COSTA SANITARY DISTRICT

925.228.9500

www.centralsan.org

Recycled Water Fill Facilities:

Treatment Plant: No

Distribution System: Yes

Can water be used outside of this agency's service area? Yes

Hydrant Fill Facilities

Location: Locations in Concord (Willow Way) and Martinez (Marsh Drive)

Number of Fill Facilities: 3

Connection Device: Hydrant key and Construction meter

Quality: Disinfected Tertiary

Truck Size Limits: Max. truck length 18 ft.

Quantity Limitations per Trip: No Minimum
Maximum 6,000 gal

Truck Weight Limits: No limit

Other Restrictions:

Additional Access Information: Fill times: Mon.-Fri. 7 a.m. - 5 p.m. (can be negotiated)

Fill Facilities at Treatment Plant

Location: None

Quality:

Type of Connection:

Quantity Limitations per Trip:

Hours:

Appointment Required:

Quantity Limitations per Day:

Truck Size Limits:

Truck Weight Limits:

Additional Access Information:

Training

Required: Yes

Duration: 15 minutes

Who: Either Truck Owner, Truck Driver, or Customer using water

Frequency: Only Once

Schedule: By Appointment

Location: Recycled Water Treatment Plant

Length of time to become authorized truck hauler: 1 business day

Signage

Area Use Signage Required: No

Vehicle Signage Required: Yes

Signs Provided by Water Agency: N/A

Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: No

Inspection Location:

Duration:

Re-inspection Required:

How to schedule:

Fees

Water: $3.28 per 1,000 gal

Training: No Charge

Connection Device: $750 (refundable deposit)

Permit: No Charge

Vehicle Signage: No Charge

Use Area Signage: N/A

Other:

DUBLIN SAN RAMON SERVICES DISTRICT

925.875.2334
www.dsrsd.com

Recycled Water Fill Facilities:
Treatment Plant: Yes
Distribution System: Yes
Can water be used outside of this agency's service area? Yes

Hydrant Fill Facilities

Location: Dublin and San Ramon, CA - see website for locations
Number of Fill Facilities: 18
Connection Device: Construction Meter
Quality: Disinfected Tertiary
Truck Size Limits: None
Quantity Limitations per Trip: No Minimum
Maximum up to truck limit
Truck Weight Limits: None
Other Restrictions: Permit plus $1,000 refundable deposit for meter required.
Additional Access Information: Obtain permit and meter at 7051 Dublin Blvd, Dublin.

Fill Facilities at Treatment Plant

Location: DSRSD Wastewater Treatment Plant
7399 Johnson Drive, Pleasanton
Quality: Disinfected Tertiary
Type of Connection: Overhead and Large Hose Bib
Quantity Limitations per Trip: No Minimum
Maximum up to truck limit
Hours: 24 hrs/day, 7 days/wk*
Appointment Required: No
Quantity Limitations per Day: No Minimum
No Maximum
Truck Size Limits: None
Truck Weight Limits: None
Additional Access Information: *After business hours truck drivers must use special gate access code to enter the plant. The access code is valid only during hours specified in the permit.

Training

Required: Yes
Duration: 15 min
Who: Truck Owner and Driver
Frequency: Once
Schedule: By Appointment
Location: Recycled Water Plant
Length of time to become authorized truck hauler: 1 business day

Signage

Area Use Signage Required: No
Vehicle Signage Required: Yes
Signs Provided by Water Agency: N/A
Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: No
Inspection Location:
Duration:
Re-inspection Required:
How to schedule:

Fees

Water: Hydrant- check with DSRSD for current fee; Plant- $10/truck load
Training: No Charge
Permit: Hydrant- No permit fee; Treatment Plant- $73/year
Connection Device: Hydrant access- $1,000 deposit for construction meter; Treatment Plant- No connection device charge
Use Area Signage: N/A
Vehicle Signage: No Charge
Other:

EAST BAY MUNICIPAL UTILITY DISTRICT
510.287.1346
www.ebmud.com

Recycled Water Fill Facilities:
Treatment Plant: Yes
Distribution System: No
Can water be used outside of this agency's service area? Check with EBMUD

Hydrant Fill Facilities

Location: None
Number of Fill Facilities:
Connection Device:
Quality:
Truck Size Limits:
Quantity Limitations per Trip:
Truck Weight Limits:
Other Restrictions:
Additional Access Information:

Fill Facilities at Treatment Plant

Locations: 1) EBMUD Wastewater Treatment Plant, Oakland
2) North Richmond Water Recycling Plant, Richmond (*No recycled water available in 2015. All recycled water from this location has been allocated for 2015.)
Quality: Disinfected Tertiary
Type of Connection: Hydrant
Quantity Limitations per Trip: No Minimum
Maximum up to truck limit
Hours: 24 hrs/day, 7 days/wk
Appointment Required: Only for first visit
Quantity Limitations per Day: No Minimum
No Maximum
Truck Size Limits: None
Truck Weight Limits: None
Additional Access Information: 1) EBMUD Wastewater Treatment Plant - enter through the main security gate at the plant to obtain access to the fill hydrant. 2) North Richmond Plant - hydrant is located outside of the plant gate and is accessible with a hydrant key. For more information, visit www.ebmud.com, search "Recycled Water Truck

Training

Required: Yes
Duration: 15 minutes
Who: Truck Driver
Frequency: Once
Schedule: By Appointment
Location: Recycled Water Plant
Length of time to become authorized truck hauler: 5 business days

Signage

Area Use Signage Required: No
Vehicle Signage Required: Yes
Signs Provided by Water Agency: N/A
Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: Yes
Inspection Location: Recycled Water Plant
Duration: Less than 1 hour
Re-inspection Required: No
How to schedule: To be conducted at time of training

Fees

Water: No Charge
Training: No Charge
Connection Device: No Charge
Permit: No Charge
Vehicle Signage: No Charge
Use Area Signage: N/A
Other:

CITY OF LIVERMORE

925.960.8138

Recycled Water Fill Facilities:

Treatment Plant: No

Distribution System: Yes

Can water be used outside of this agency's service area? No

Hydrant Fill Facilities

Location: Call for address

Number of Fill Facilities: 10+

Connection Device: Construction meter and Hydrant Key

Quality: Disinfected Tertiary

Truck Size Limits: No limit

Quantity Limitations per Trip: No Minimum
Maximum up to truck limit

Truck Weight Limits: No limit

Other Restrictions:

Additional Access Information:

Fill Facilities at Treatment Plant

Location: None

Quality:

Type of Connection:

Quantity Limitations per Trip:

Hours:

Appointment Required:

Quantity Limitations per Day:

Truck Size Limits:

Truck Weight Limits:

Additional Access Information:

Training

Required: Yes

Duration: 2 hours or less

Who: Truck Driver

Frequency: Once

Schedule: At time of hydrant meter deposit

Location: Administration Building

Length of time to become authorized truck hauler: 1 business day

Signage

Area Use Signage Required: Yes

Vehicle Signage Required: Yes

Signs Provided by Water Agency: Yes

Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: No

Inspection Location:

Duration:

Re-inspection Required:

How to schedule:

Fees

Water: $2.50 per CCF

Training: No Charge

Connection Device: $1,000

Permit: No Charge

Vehicle Signage: Varies

Use Area Signage: No Charge

Other: Monthly service charge of $195.30

MARIN MUNICIPAL WATER DISTRICT

415.945.1557

Recycled Water Fill Facilities:
Treatment Plant: No
Distribution System: Yes
Can water be used outside of this agency's service area? No

Hydrant Fill Facilities

Location: Call for location
Number of Fill Facilities: 1
Connection Device: Hydrant meter
Quality: Tertiary
Truck Size Limits: No limit
Quantity Limitations per Trip: No Minimum
Maximum up to truck limit
Truck Weight Limits: No limit
Other Restrictions:
Additional Access Information:

Fill Facilities at Treatment Plant

Location: None
Quality:
Type of Connection:
Quantity Limitations per Trip:
Hours:
Appointment Required:
Quantity Limitations per Day:
Truck Size Limits:
Truck Weight Limits:
Additional Access Information:

Training

Required: Yes
Duration: 2 hours or less
Who: Truck Driver
Frequency: Once
Schedule: By Appointment
Location: Administration Building or Hydrant Fill Facility
Length of time to become authorized truck hauler: 1-6 business days

Signage

Area Use Signage Required: Yes
Vehicle Signage Required: Yes
Signs Provided by Water Agency: Yes
Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: Yes
Inspection Location: Administration Building
Duration: 1 hour or less
Re-inspection Required: Annually
How to schedule: Appointment

Fees

Water: Tier 1: 0-100 CCF @ $2.57 per CCF
Tier 2: 101-150 CCF @ $7.48 per CCF
Tier 3: over 150 CCF @ $14.97 per CCF
Training: No Charge
Connection Device: No Charge
Permit: No Charge
Vehicle Signage: No Charge
Use Area Signage: No Charge
Other:

CITY OF MILPITAS/SOUTH BAY WATER RECYCLING

408.586.3355

www.ci.milpitas.ca.gov

Recycled Water Fill Facilities:

Treatment Plant: No

Distribution System: Yes

Can water be used outside of this agency's service area? Check with City

Hydrant Fill Facilities

Location: Call for locations

Number of Fill Facilities: 5

Connection Device: Hydrant key and Construction meter

Quality: Disinfected Tertiary

Truck Size Limits: check with City

Quantity Limitations per Trip: No Minimum
Maximum up to truck limit

Truck Weight Limits: check with City

Other Restrictions: M-F: 7 a.m. to 7 p.m.

Additional Access Information: Secure access. Gate key to be provided at training.

Fill Facilities at Treatment Plant

Location: None

Quality:

Type of Connection:

Quantity Limitations per Trip:

Hours:

Appointment Required:

Quantity Limitations per Day:

Truck Size Limits:

Truck Weight Limits:

Additional Access Information:

Training

Required: Yes

Duration: 1 hour

Who: Truck Owner, Truck Driver, and Customer

Frequency: Once

Schedule: By Appointment and Semi-Annually

Location: Administration Building or Hydrant fill facility

Length of time to become authorized truck hauler: 2 business days

Signage

Area Use Signage Required: Yes

Vehicle Signage Required: Yes

Signs Provided by Water Agency: No

Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: Yes

Inspection Location: Administration Building or Hydrant fill facility

Duration: 1 hour or less

How to schedule: Appointment

Re-inspection Required: Annually

Fees

Water: $2.65 per CCF

Training: No Charge

Connection Device: $2,000

Permit: No Charge

Vehicle Signage: No charge

Use Area Signage: No charge

Other: Monthly fee of $75

NAPA SANITATION DISTRICT

707.258.6029

www.napasan.com

Recycled Water Fill Facilities:

Treatment Plant: Yes

Distribution System: No

Can water be used outside of this agency's service area? Yes

Hydrant Fill Facilities

Location: None

Number of Fill Facilities:

Connection Device:

Quality:

Truck Size Limits:

Quantity Limitations per Trip:

Truck Weight Limits:

Other Restrictions:

Additional Access Information:

Fill Facilities at Treatment Plant

Location: Soscol Water Recycling Facility, Napa CA (call for address)

Quality: Disinfected Tertiary

Type of Connection: Side

Quantity Limitations per Trip: No Minimum
Maximum up to truck limit

Hours: 7:30 a.m. - 4:30 p.m. Daily

Appointment Required: No

Quantity Limitations per Day: No Minimum
No Maximum

Truck Size Limits: None

Truck Weight Limits: None

Additional Access Information:

Training

Required: Yes

Duration: 2 hours or less

Who: Truck Owner, Truck Driver, and Customer

Frequency: Once, plus Annual Refresher

Schedule: By Appointment

Location: Recycled Water Plant

Length of time to become authorized truck hauler: 2 business days

Signage

Area Use Signage Required: Yes

Vehicle Signage Required: Yes

Signs Provided by Water Agency: Yes

Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: Yes

Inspection Location: Recycled Water Plant

Duration: 15 min

Re-inspection Required:

How to schedule: By Appointment

Fees

Water: $1.01 per 1,000 gal

Training: No Charge

Connection Device: No Charge

Permit: $50

Vehicle Signage: $6 per sticker and $10.50 per plastic sign

Use Area Signage: $6 per sticker and $10.50 per plastic sign

Other:

NORTH MARIN WATER DISTRICT

415.761.8912

www.nmwd.com

Recycled Water Fill Facilities:

Treatment Plant: No

Distribution System: Yes

Can water be used outside of this agency's service area? No

Hydrant Fill Facilities

Location: Novato, CA (Call for address)

Number of Fill Facilities: 10+

Connection Device: Hydrant key

Quality: Disinfected Tertiary

Truck Size Limits: No limit

Quantity Limitations per Trip: No Minimum
Maximum up to truck limit

Truck Weight Limits: No limit

Other Restrictions:

Additional Access Information: Obtain permit at District Office (999 Rush Creek Place, Novato)

Fill Facilities at Treatment Plant

Location: None

Quality:

Type of Connection:

Quantity Limitations per Trip:

Hours:

Appointment Required:

Quantity Limitations per Day:

Truck Size Limits:

Truck Weight Limits:

Additional Access Information:

Training

Required: Yes

Duration: 15 Min

Who: Truck Driver

Frequency: Once

Schedule: By appointment

Location: District Office

Length of time to become authorized truck hauler: 1 business day

Signage

Area Use Signage Required: No

Vehicle Signage Required: Yes

Signs Provided by Water Agency: N/A

Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: No

Inspection Location:

Duration:

Re-inspection Required:

How to schedule:

Fees

Water: $5.00 per load; no max.

Training: N/A

Connection Device: No Charge

Permit: No Charge

Vehicle Signage: No Charge

Use Area Signage: N/A

Other:

ORO LOMA SANITARY DISTRICT/EAST BAY DISCHARGERS AUTHORITY

510.276.4700

Recycled Water Fill Facilities:
Treatment Plant: Yes
Distribution System: No
Can water be used outside of this agency's service area? Yes

Hydrant Fill Facilities

Location: None
Number of Fill Facilities:
Connection Device:
Quality:
Truck Size Limits:
Quantity Limitations per Trip:
Truck Weight Limits:
Other Restrictions:
Additional Access Information:

Fill Facilities at Treatment Plant

Location: Oro Loma Treatment Facility, San Lorenzo CA (call for address)
Quality: Disinfected Secondary-2.2
Type of Connection: Overhead
Quantity Limitations per Trip: No Minimum
Maximum up to truck limit
Hours: M-F: 6 a.m. - 5 p.m.
Appointment Required: No
Quantity Limitations per Day: No Minimum
No Maximum
Truck Size Limits: None
Truck Weight Limits: None
Additional Access Information:

Training

Required: Yes
Duration: 15 min
Who: Truck Driver
Frequency: Once
Schedule: By Appointment
Location: Recycled Water Plant
Length of time to become authorized truck hauler: 1 business day

Signage

Area Use Signage Required: No
Vehicle Signage Required: No
Signs Provided by Water Agency: N/A
Signs Provided by Water Agency: N/A

Vehicle Inspection

Required: No
Inspection Location:
Duration:
Re-inspection Required:
How to schedule:

Fees

Water: No Charge
Training: No Charge
Connection Device: No Charge
Permit: No Charge
Vehicle Signage: N/A
Use Area Signage: N/A
Other:

CITY OF PALO ALTO

650.329.2598

Recycled Water Fill Facilities:

Treatment Plant: Yes

Distribution System: Yes

Can water be used outside of this agency's service area? Yes

Hydrant Fill Facilities

Location: Greer Park (on Colorado Ave at the intersection of West Bayshore Road)

Number of Fill Facilities: 1

Connection Device: Hose

Quality: Disinfected Tertiary

Truck Size Limits: None

Quantity Limitations per Trip: None

Truck Weight Limits: None

Other Restrictions: Permit required to access

Additional Access Information: Accessible 24 hours a day, seven days a week.

Fill Facilities at Treatment Plant

Location: Palo Alto Regional Water Quality Control Plant
2501 Embarcadero Way, Palo Alto, CA 94303

Quality: Disinfected Tertiary

Type of Connection: Overhead and Side

Quantity Limitations per Trip: No Minimum
Maximum up to truck limit

Hours: Mon-Fri 5:30 a.m. - 5:30 p.m.*

Appointment Required: No

Quantity Limitations per Day: No Minimum
No Maximum

Truck Size Limits: None

Truck Weight Limits: None

Additional Access Information: * Extended hours during drought emergency. Normal hours are Monday to Friday 6:30 a.m. to 5:00 p.m.

Training

Required: Yes

Duration: 30 minutes or less

Who: Truck Driver

Frequency: Once

Schedule: By Appointment

Location: Recycled Water Plant

Length of time to become authorized truck hauler: 1 business day, typically

Signage

Area Use Signage Required: Yes

Vehicle Signage Required: Yes

Signs Provided by Water Agency: No

Signs Provided by Water Agency: Yes for vehicles

Vehicle Inspection

Required: No

Inspection Location:

Duration:

Re-inspection Required:

How to schedule:

Fees

Water: No Charge

Training: No Charge

Connection Device: No Charge

Permit: $50 per 3 years

Vehicle Signage: User provides

Use Area Signage: User provides

Other:

CITY OF PETALUMA

707.776.3726

Recycled Water Fill Facilities:

Treatment Plant: Yes

Distribution System: Yes

Can water be used outside of this agency's service area? Yes

Hydrant Fill Facilities

Location: Petaluma, CA (call for information)

Number of Fill Facilities: 3

Connection Device: Hydrant Meter

Quality: Disinfected Tertiary

Truck Size Limits: None

Quantity Limitations per Trip: None

Truck Weight Limits: None

Other Restrictions: Hydrant meter fees noted below

Additional Access Information: Contact Pat Dirrane, 707-778-4561

Fill Facilities at Treatment Plant

Location: Ellis Creek Water Recycling Facility (call for address)

Quality: Disinfected Tertiary

Type of Connection: Overhead

Quantity Limitations per Trip: No Minimum
Maximum up to truck limit

Hours: Mon-Fri 7 a.m. - 4:30 p.m.

Appointment Required: No

Quantity Limitations per Day: No Minimum
No Maximum

Truck Size Limits: None

Truck Weight Limits: None

Additional Access Information: Check in at office each trip, keep "purple card" in truck at all times

Training

Required: Yes

Duration: 2 hours or less

Who: Truck Driver and
Customer using water

Frequency: Once

Location: Recycled Water Plant

Schedule: By Appointment

Additional Permit Requirement: City inspects all recycled water use sites, and performs cross connection checks. City issues permit to recycled water user. Recycled water user must contact City to initiate water hauling. Time to issue permit varies.

Length of time to become authorized truck hauler: Varies. Contact City.

Signage

Area Use Signage Required: Yes

Vehicle Signage Required: Yes

Signs Provided by Water Agency: Yes

Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: No

Inspection Location:

Duration:

Re-inspection Required:

How to schedule:

Fees

Water: $1.88 per CCF

Training: No Charge

Connection Device: Hydrant- $1000 deposit for meter plus $45 meter setting fee.
Treatment Plant - No connection device charge

Permit: No Charge

Vehicle Signage: No Charge

Use Area Signage: No Charge

Other:

CITY OF REDWOOD CITY

650.780.7470

Recycled Water Fill Facilities:

Treatment Plant: No

Distribution System: Yes

Can water be used outside of this agency's service area? Yes

Hydrant Fill Facilities

Location: Redwood City, CA (call for location)

Number of Fill Facilities: 5

Connection Device: Construction Meter

Quality: Disinfected Tertiary

Truck Size Limits: No limit

Quantity Limitations per Trip: No Minimum
Maximum up to truck limit

Truck Weight Limits: No limit

Other Restrictions:

Additional Access Information:

Fill Facilities at Treatment Plant

Location:

Quality:

Type of Connection:

Quantity Limitations per Trip:

Hours:

Appointment Required:

Quantity Limitations per Day:

Truck Size Limits:

Truck Weight Limits:

Additional Access Information:

Training

Required: Yes

Duration: 2 hours or less

Who: Truck Owner, Truck Driver, and Customer using water

Frequency: Once

Location: Administration Building

Schedule: By Appointment

Length of time to become authorized truck hauler: 5 business days

Signage

Area Use Signage Required: Yes

Vehicle Signage Required: Yes

Signs Provided by Water Agency: Yes

Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: No

Inspection Location:

Duration:

Re-inspection Required:

How to schedule:

Fees

Water: 0-15 CCF @ $4.42 per CCF; 16+CCF @ $7.22 per CCF

Training: No Charge

Connection Device: $ 392.04 per month

Permit: No Charge

Vehicle Signage: No Charge

Use Area Signage: No Charge

Other:

CITY AND COUNTY OF SAN FRANCISCO/SAN FRANCISCO PUBLIC UTILITIES COMMISSION

415.695.7378

Recycled Water Fill Facilities:

Treatment Plant: Yes
Distribution System: No
Can water be used outside of this agency's service area? No

Hydrant Fill Facilities

Location: None
Number of Fill Facilities:
Connection Device:
Quality:
Truck Size Limits:
Quantity Limitations per Trip:
Truck Weight Limits:
Other Restrictions:
Additional Access Information:

Fill Facilities at Treatment Plant

Location: South East Treatment Plant
750 Phelps Street, San Francisco
Quality: Disinfected Secondary-23
Type of Connection: Overhead and Side
Quantity Limitations per Trip: No Minimum
Maximum up to truck limit
Hours: 24 hrs/day, 7 days/week
Appointment Required:
Quantity Limitations per Day: No Minimum
No Maximum
Truck Size Limits: None
Truck Weight Limits: None
Additional Access Information: Access code and PIN provided at permit issuance

Training

Required: Yes
Duration: 2 hours or less
Who: Truck Driver
Frequency: Once
Schedule: By Appointment
Location: Treatment Plant
Length of time to become authorized truck hauler: 3 business days

Signage

Area Use Signage Required: Yes
Vehicle Signage Required: Yes
Signs Provided by Water: No
Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: Yes
Inspection Location: Truck Fill Facility
Duration: 1 hour or less
Re-inspection Required: Not required
How to schedule: Appointment

Fees

Water: No Charge
Training: No Charge
Connection Device: No Charge
Permit: No Charge
Vehicle Signage: No Charge
Use Area Signage: N/A
Other:

SAN FRANCISCO INTERNATIONAL AIRPORT

650.821.8380

Recycled Water Fill Facilities:

Treatment Plant: Yes

Distribution System: No

Can water be used outside of this agency's service area? No

Hydrant Fill Facilities

Location: None

Number of Fill Facilities:

Connection Device:

Quality:

Truck Size Limits:

Quantity Limitations per Trip:

Truck Weight Limits:

Other Restrictions:

Additional Access Information:

Fill Facilities at Treatment Plant

Location: Mel Leong Treatment Plant, San Francisco International Airport

Quality: Disinfected Secondary-23

Type of Connection: Hydrant

Quantity Limitations per Trip: No Minimum
Maximum up to truck limit

Hours: 24 hrs/day, 7 days/wk

Appointment Required: No

Quantity Limitations per Day: No Minimum
No Maximum

Truck Size Limits: None

Truck Weight Limits: None

Additional Access Information:

Training

Required: Yes

Duration: 2 hours or less

Who: Truck Driver

Frequency: Once

Schedule: By Appointment

Location: Treatment Plant

Length of time to become authorized truck hauler: 5 business days

Signage

Area Use Signage Required: No

Vehicle Signage Required: Yes

Signs Provided by Water Agency: N/A

Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: Yes

Inspection Location: Recycled Water Plant

Duration: 1 hour or less

Re-inspection Required: One random audit per year

How to schedule: Appointment

Fees

Water: No Charge

Training: No Charge

Connection Device: No Charge

Permit: No Charge

Vehicle Signage: No Charge

Use Area Signage: N/A

Other:

CITY OF SAN JOSE/SOUTH BAY WATER RECYCLING

408.277.3671

Recycled Water Fill Facilities:

Treatment Plant: Yes
Distribution System: Yes
Can water be used outside of this agency's service area? No

Hydrant Fill Facilities

Location: Maps provided at driver and truck certification
Number of Fill Facilities: 7
Connection Device: Hydrant Key and Construction Meter
Quality: Disinfected Tertiary
Truck Size Limits: TBD during inspection
Quantity Limitations per Trip: No Minimum
Maximum up to truck limit
Truck Weight Limits: TBD during inspection
Other Restrictions: Commercial users only - must show proof of commercial liability insurance
Additional Access Information: Locked hydrants. Hydrant keys provided by City at time of meter pick up.

Fill Facility - Hydrant at Treatment Plant

Location: San Jose/Santa Clara Regional Wastewater Facility (RWF)
700 Los Esteros Rd., San Jose
Quality: Disinfected Tertiary
Type of Connection: Hydrant
Quantity Limitations per Trip: No Minimum
Maximum up to truck limit
Hours: Mon-Fri 7 a.m. - 4 p.m.
Appointment Required: No
Quantity Limitations per Day: No Minimum
No Maximum
Truck Size Limits: None
Truck Weight Limits: None
Additional Access Information: Secured access. Gates open during operating hours. Hydrant keys provided by City.

Training

Required: Yes
Duration: 2 hours or less
Who: Truck Owner, Truck Driver, and Customer using water
Frequency: Once
Location: Access point at RWF 700 Los Esteros Rd., San Jose
Schedule: Wednesday mornings at 9am
Length of time to become authorized truck hauler: 1 business day

Signage

Area Use Signage Required: Yes
Vehicle Signage Required: Yes
Signs Provided by Water Agency: Yes
Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: Yes
Inspection Location: RWF
Duration: 1 hour or less
Re-inspection Required: Annually
How to schedule: Wednesday mornings at 9am

Fees

Water: Check with City
Training: No charge
Connection Device: Check with City
Permit: No charge
Vehicle Signage: No charge
Use Area Signage: No charge
Other: Check with City

CITY OF SANTA ROSA

707.543.3938

Recycled Water Fill Facilities:

Treatment Plant: Yes
Distribution System: No
Can water be used outside of this agency's service area? Yes

Hydrant Fill Facilities

Location: Utilities Field Operations-35 Stony Point Road, Santa Rosa
Number of Fill Facilities: 1
Connection Device: Hydrant
Quality: Disinfected Tertiary
Truck Size Limits: None
Quantity Limitations per Trip: Maximum up to truck limit
Truck Weight Limits: None
Other Restrictions: Due to limited available recycled water supply, truck fill use is restricted to dust control only.
Additional Access Information: Must get an access key from Santa Rosa Water

Fill Facilities at Treatment Plant

Location: Santa Rosa Subregional Water Reuse Plant
Quality: Disinfected Tertiary
Type of Connection: Hydrant
Quantity Limitations per Trip: No Minimum
Maximum up to truck limit
Hours: Mon-Fri 8 a.m. - 5:30 p.m.
Appointment Required: No
Quantity Limitations per Day: No Minimum
No Maximum
Truck Size Limits: None
Truck Weight Limits: None
Additional Access Information: Must get an access key from Santa Rosa Water
Other Restrictions: Due to limited available recycled water supply, truck fill use is restricted to dust control only.

Training

Required: No
Duration:
Who:
Frequency:
Schedule:
Location:
Length of time to become authorized truck hauler: 1 business day

Signage

Area Use Signage Required: No
Vehicle Signage Required: Yes
Signs Provided by Water Agency: N/A
Signs Provided by Water Agency: No

Vehicle Inspection

Required: No
Inspection Location:
Duration:
Re-inspection Required:
How to schedule:

Fees

Water: $5.09 per 1,000 gal
Training: No Charge
Connection Device: No Charge
Permit: $15.00 per year
Vehicle Signage: N/A
Use Area Signage: No Charge
Other:

SONOMA COUNTY WATER AGENCY

707.521.1865

www.scwa.ca.gov

Recycled Water Fill Facilities:

Treatment Plant: Yes

Distribution System: No

Can water be used outside of this agency's service area? Yes

Hydrant Fill Facilities

Location: None

Number of Fill Facilities:

Connection Device:

Quality:

Truck Size Limits:

Quantity Limitations per Trip:

Truck Weight Limits:

Other Restrictions:

Additional Access Information:

Fill Facilities at Treatment Plant

Locations: Sonoma Valley County Sanitation District, Sonoma CA (call for address)

Quality: Disinfected Tertiary

Type of Connection: Side

Quantity Limitations per Trip: No Minimum
Maximum up to truck limit

Hours: Mon-Fri 8 a.m. - 4 p.m.; with permission could be 24/7

Quantity Limitations per Day: No Minimum
No Maximum

Appointment Required: No

Truck Size Limits: None

Truck Weight Limits: None

Additional Access Information: Contact treatment plant for site access outside of business hours

Training

Required: Yes

Duration: 2 hours or less

Who: Truck Driver

Frequency: With each new application

Schedule: By Appointment

Location: Recycled Water Plant

Length of time to become authorized truck hauler: 5 business days

Signage

Area Use Signage Required: No

Vehicle Signage Required: Yes

Signs Provided by Water Agency: N/A

Signs Provided by Water Agency: Yes

Vehicle Inspection

Required: Yes

Inspection Location: Recycled Water Plant

Duration: 1 hour or less

Re-inspection Required: With each new application

How to schedule: Appointment

Fees

Water: $5.00 per 1,000 gal

Training: No Charge

Connection Device: $100 deposit

Permit: $300

Vehicle Signage: First set free

Use Area Signage: N/A

Other:

CITY OF SUNNYVALE

408.760.7560

Recycled Water Fill Facilities:

Treatment Plant: Yes

Distribution System: No

Can water be used outside of this agency's service area? No

Hydrant Fill Facilities

Location: None

Number of Fill Facilities:

Connection Device:

Quality:

Truck Size Limits:

Quantity Limitations per Trip:

Truck Weight Limits:

Other Restrictions:

Additional Access Information:

Fill Facilities at Treatment Plant

Location: Sunnyvale Water Pollution Control Plant (call for address)

Quality: Disinfected Tertiary

Type of Connection: Hydrant

Quantity Limitations per Trip: No Minimum
Maximum up to truck limit

Hours: Mon-Fri 7 a.m. - 4 p.m.

Appointment Required: No

Quantity Limitations per Day: No Minimum
No Maximum

Truck Size Limits: None

Truck Weight Limits: None

Additional Access Information: Required to check in and check out.

Training

Required: Yes

Duration: 2 hours or less

Who: Truck Owner, Truck Driver, and Customer using water

Frequency: Annually

Schedule: By Appointment

Location: Agency Corp Yard

Length of time to become authorized truck hauler: 30 business days

Signage

Area Use Signage Required: Yes

Vehicle Signage Required: Yes

Signs Provided by Water Agency: No

Signs Provided by Water Agency: No

Vehicle Inspection

Required: Yes

Inspection Location: Corp Yard

Duration: 1 hour or less

Re-inspection Required: Annually

How to schedule: Appointment

Fees

Water: $5.23 per CCF

Training: No Charge

Connection Device: No Charge

Permit: $125 annually

Vehicle Signage: User provides

Use Area Signage: User provides

Other:

TOWN OF YOUNTVILLE

707.944.2988

townofyounvtille.com

Recycled Water Fill Facilities:

Treatment Plant: Yes

Distribution System: No

Can water be used outside of this agency's service area? No, not without authorization

Hydrant Fill Facilities

Location: None

Number of Fill Facilities:

Connection Device:

Quality:

Truck Size Limits:

Quantity Limitations per Trip:

Truck Weight Limits:

Other Restrictions:

Additional Access Information:

Fill Facilities at Treatment Plant

Location: Town of Yountville Wastewater Reclamation Facility
7501 Solano Avenue, Yountville, CA 94599

Quality: Disinfected Tertiary and Disinfected Secondary-2.2

Type of Connection: Hydrant and Side

Quantity Limitations per Trip: No Minimum
Maximum 5,000 gal

Hours: Mon-Fri 8 a.m. - 3:30 p.m.

Appointment Required: Yes, for initial fill-up and training

Quantity Limitations per Day: No Minimum
Maximum 25,000 gal per day

Truck Size Limits: None

Truck Weight Limits: None

Additional Access Information:

Training

Required: Yes

Duration: 2 hours or less

Who: Truck Owner, Truck Driver, and Customer using water

Frequency: Annually

Location: Wastewater Reclamation Facility

Schedule: By Appointment

Length of time to become authorized truck hauler: 3 business days

Signage

Area Use Signage Required: Yes

Vehicle Signage Required: No

Signs Provided by Water Agency: No

Signs Provided by Water Agency: N/A

Vehicle Inspection

Required: No

Inspection Location:

Duration:

Re-inspection Required:

How to schedule:

Fees

Water: $1,041.60 for first 100,000 gal

Training: No Charge

Connection Device: No Charge

Permit: $350

Vehicle Signage: N/A

Use Area Signage: User provides

Other:

SECTION 2

Additional Commercial Truck Fill Facilities Anticipated in 2015

Commercial Fill Facilities Planned to be Operational in 2015

COUNTY/CITY	AGENCY
SAN MATEO COUNTY	
Pacifica	North Coast County Water District (contact for availability) Contact: www.nccwd.com
MARIN COUNTY	
San Rafael	Marin Municipal Water District (anticipated Jul/Aug 2015) Contact: (415) 945-1557
SONOMA COUNTY	
Windsor	Town of Windsor (anticipated late 2015) Contact: (707) 838-5343

SECTION 3

Potential Future Commercial Truck Fill Facilities

Agencies That May Consider Commerical Fill Facilities in the Future

At the time this Guide was prepared, the agencies below indicated they may consider development of commercial fill facilities, in particular if the drought continues.

COUNTY/CITY	AGENCY
ALAMEDA COUNTY	
Piedmont	City of Piedmont
Union City	Union Sanitary District
CONTRA COSTA COUNTY	
Antioch	Delta Diablo Sanitation District (in planning phase)
Brentwood	City of Brentwood
MARIN COUNTY	
San Rafael	Ross Valley Sanitary District
SAN FRANCISCO	
South San Francisco	South San Francisco
SAN MATEO COUNTY	
Menlo Park	West Bay Sanitary District (in planning phase)
San Mateo	City of San Mateo
SOLANO COUNTY	
Benicia	City of Benicia
SONOMA COUNTY	
Guerneville	Sonoma County Water Agency

SECTION 4

Existing and Planned Residential Fill Facilities

Existing Residential Fill Facilities

COUNTY/CITY	AGENCY
ALAMEDA COUNTY	
Dublin	Dublin San Ramon Services District
Livermore	City of Livermore
CONTRA COSTA COUNTY	
Concord	Central Contra Costa Sanitary District
SAN MATEO COUNTY	
Palo Alto	City of Palo Alto (Residents may obtain a residential use permit from the City and contract with a City-authorized commercial water hauler to deliver recycled water. The City does not have a residential truck fill station.)
Redwood City	City of Redwood City

Planned Residential Fill Facilities

COUNTY/CITY	AGENCY
ALAMEDA COUNTY	
Oakland	East Bay Municipal Utility District (anticipated July 2015)
MARIN COUNTY	
Novato	North Marin Water District (anticipated July 2015)
San Rafael	Marin Municipal Water District (anticipated Fall 2015)

SECTION 5

Recycled Water Uses Allowed in California

Recycled Water Uses Allowed[1] in California

Use of Recycled Water	Treatment Level: Disinfected Tertiary Recycled Water	Disinfected Secondary – 2.2 Recycled Water	Disinfected Secondary – 23 Recycled Water	Undisinfected Secondary Recycled Water
Irrigation of:				
Food crops where recycled water contacts the edible portion of the crop, including all root crops	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Parks and playgrounds	**Allowed**	Not Allowed	Not Allowed	Not Allowed
School yards	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Residential landscaping	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Unrestricted-access golf courses	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Any other irrigation uses not prohibited by other provisions of the California Code of Regulations	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Food crops, surface-irrigated, above-ground edible portion, and not contacted by recycled water	**Allowed**	**Allowed**	Not Allowed	Not Allowed
Cemeteries	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Freeway landscaping	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Restricted-access golf courses	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Ornamental nursery stock and sod farms with unrestricted public access	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Pasture for milk animals for human consumption	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Non-edible vegetation with access control to prevent use as a park, playground or school yard	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Orchards with no contact between edible portion and recycled water	**Allowed**	**Allowed**	Not Allowed[2]	Not Allowed[2]
Vineyards with no contact between edible portion and recycled water	**Allowed**	**Allowed**	Not Allowed[2]	Not Allowed[2]
Non food-bearing trees, including Christmas trees not irrigated less than 14 days before harvest	**Allowed**	**Allowed**	**Allowed**	**Allowed**
Fodder and fiber crops and pasture for animals not producing milk for human consumption	**Allowed**	**Allowed**	**Allowed**	**Allowed**
Seed crops not eaten by humans	**Allowed**	**Allowed**	**Allowed**	**Allowed**
Food crops undergoing commercial pathogen-destroying processing before consumption by humans	**Allowed**	**Allowed**	**Allowed**	**Allowed**
Ornamental nursery stock, sod farms not irrigated less than 14 day before harvest	**Allowed**	**Allowed**	**Allowed**	**Allowed**
Supply for impoundment:				
Non-restricted recreational impoundments, with supplemental monitoring for pathogenic organisms	**Allowed[3]**	Not Allowed	Not Allowed	Not Allowed
Restricted recreational impoundments and publicly-accessible fish hatcheries	**Allowed**	**Allowed**	Not Allowed	Not Allowed
Landscape impoundments without decorative fountains	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Supply for cooling or air conditioning:				
Industrial or commercial cooling or air conditioning involving cooling tower, evaporative condenser, or spraying that creates a mist	**Allowed[4]**	Not Allowed	Not Allowed	Not Allowed
Industrial or commercial cooling or air conditioning not involving cooling tower, evaporative condenser, or spraying that creates a mist	**Allowed**	**Allowed**	**Allowed**	Not Allowed

Recycled Water Uses Allowed[1] in California
(continued)

Use of Recycled Water	Treatment Level			
	Disinfected Tertiary Recycled Water	Disinfected Secondary – 2.2 Recycled Water	Disinfected Secondary – 23 Recycled Water	Undisinfected Secondary Recycled Water
Other uses:				
Groundwater recharge	**Allowed** under special case-by-case permits by RWQCBs[5]			
Flushing toilets and urinals	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Priming drain traps	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Industrial process water that may contact workers	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Structural fire fighting	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Decorative fountains	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Commercial laundries	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Consolidation of backfill material around potable water pipelines	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Artificial snow making for commercial outdoor uses	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Commercial car washes, not heating the water, excluding the general public from washing process	**Allowed**	Not Allowed	Not Allowed	Not Allowed
Industrial process water that will not come into contact with workers	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Industrial boiler feedwater	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Non-structural fire fighting	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Backfill consolidation around non-potable piping	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Soil compaction	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Mixing concrete	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Dust control on roads and streets	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Cleaning roads, sidewalks, and outdoor work areas	**Allowed**	**Allowed**	**Allowed**	Not Allowed
Flushing sanitary sewers	**Allowed**	**Allowed**	**Allowed**	**Allowed**

This summary is prepared from the December 2, 2000-adopted Title 22 Water Recycling Criteria and supersedes all earlier versions. Prepared by Bahman Sheikh and edited by EBMUD Office of Water Recycling, who acknowledge this is a summary and not the formal version of the regulations referenced above.

[1] Refer to the full text of the December 2, 2000 version of Title 22: California Code of Regulations, Chapter 3 Water Recycling Criteria. This chart is only an informal summary of the uses allowed in this version, with the exception of orchards and vineyards noted as "Not Allowed[2]" on page 1 and explained below.

[2] Per California Department of Public Health letter of January 8, 2003 to California Regional Water Quality Control Boards.

[3] Allowed with "conventional tertiary treatment." Additional monitoring for two years or more is necessary with direct filtration.

[4] Drift eliminators and/or biocides are required if public or employees can be exposed to mist.

[5] Refer to Groundwater Recharge Guidelines, available from the California Department of Public Health.

2013

MATERIALS INFORMATION

REVISED FOUNDATION REPORT DATED 02-08-16

ROUTE: 04- Sol-780-7.1

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

Memorandum

Serious drought
Help Save Water!

To: MS. KELLY HOLDEN
Office Chief
Office of Bridge Design West

Date: February 8, 2016

Attention: Richard Melko
Isaias Yalan

File: 04-SOL-780 (PM 7.07)
EA 04-4G4501
E-FIS 0412000477
Laurel Street Overcrossing

From: SUNNY YANG
Transportation Engineer
Office of Geotechnical Design – West
Geotechnical Services
Division of Engineering Services

RIFAAT NASHED
Engineering Geologist
Office of Geotechnical Design – West
Geotechnical Services
Division of Engineering Services

HOOSHMAND NIKOUI
Chief, Branch A
Office of Geotechnical Design – West
Geotechnical Services
Division of Engineering Services

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

Subject: **REVISED FOUNDATION REPORT FOR LAUREL STREET OVERCROSSING BRIDGE REPLACEMENT**

This Foundation Report (FR) supersedes our previous FR submitted to your office on September 24, 2015, due to changes of foundation dimensions and structure loads, and new groundwater information. The project is replacement of Laurel Street Overcrossing Bridge (existing Bridge Number 23-0119, new bridge number 23-0255). This bridge is on I-780, PM 7.07, east of I-80/I-780 interchange, in the City of Vallejo, Solano County (Figure 1).

1. SCOPE OF WORK

The project proposes to replace the existing bridge with a new two-span bridge, for concerns of vertical clearance and sight distances (Figure 2). The following tasks were performed for the preparation of this FR:

- Review of as-built plans and bridge inspection (BIRIS) reports of existing bridge.
- Study of geology maps and geology files.
- Field geotechnical exploration, including drilling two exploratory borings, performing Standard Penetration Test (SPT) and Pocket Penetrometer (PP) Test, and collecting soil/rock samples;
- Foundation design analysis; and
- Preparation of this FR.

2. PROJECT DESCRIPTION

The existing bridge was constructed in 1958. It is a 165 feet long, two-span simply supported RC deck on RC girders, on solid RC pier wall and RC closed end cantilever abutments. The pier and abutments are all founded on RC spread footings. The new bridge will be precast concrete deck on precast/prestressed concrete girders, which in turn are supported on precast T-cap or drop cap. The caps are supported on precast pier columns and cantilever abutment walls.

The vertical datum used in this report is NAVD88 datum unless stated otherwise. The elevations shown in as-built plans were based on the NGVD29 datum. At this site, the NAVD88 elevation is about 2.67 feet higher than the NGVD29 elevation.

3. EXCEPTION TO POLICY

There is no known exception to Department policy relating to the investigation of the structure.

4. FIELD INVESTIGATION AND TESTING PROGRAM

Two geotechnical exploratory borings were drilled near the bridge abutments (Table 1) to investigate subsurface soil conditions for foundation design of the bridge. Both were rotary wash borings, using a truck-mounted drill rig. Table 1 lists the depths of these borings and the dates they were drilled.

In both borings, Standard Penetration Tests (SPT) were performed at 5-feet interval in soil strata. Pocket Penetrometer (PP) tests were conducted on soil samples showing apparent cohesion. For rock material, continuous core samples were collected in boxes. Rock Quality Determination (RQD) and percent of sample recovery for each run were also recorded. Soil and rock samples were selected at various depths for laboratory corrosion testing (see next Section).

Table 1. Summary of field borings

Boring ID	Surface Elev. (ft)	Total Depth (ft)	Date of completion
RC-15-001	54	87	5/13/15
RC-15-002	49	65	5/18/15

5. LABORATORY TESTING PROGRAM

The laboratory testing program included 2 corrosion tests.

6. SITE GEOLOGY AND SUBSURFACE CONDITIONS

6.1 Site Geology

The project area is located in the Great Valley Complex of late Cretaceous. The Great Valley Complex consists of undivided sandstone, siltstone and shale. The sandstone is brownish-gray, fine- to coarse-grained, thin bedded to massive sandstone and greenish-gray to black shale and silty shale. Also includes minor pebbly sandstone and conglomerates. In the project area, the Great Valley Complex rocks are overlain by late Pleistocene alluvium as surficial deposits. The alluvium is mapped on gently sloping to level alluvial fan terrace surface where separate fan, terrace, and basin deposits could not be delineated (USGS, MF-2403, see Figure 3).

6.2 Subsurface Conditions

According to boring RC-15-001 (Figures 4 through 7), the subsurface soils near Abutment 1 consist of 8 feet of hard sandy lean clay (embankment fill), underlain by 26 feet of soft siltstone, sandstone, and shale, with Pocket Penetrometer values ranging from 1.5 to 4.5 tsf. Below elevation 20 feet are soft to very hard, slightly to intensely fractured black shale and sandstone (RQD = 0 to 62%).

According to boring RC-15-002 (Figures 8 through 11), the subsurface soils near Abutment 3 consist of 10 feet of soft to hard sandy lean clay (PP = 0.5 to 4.25 tsf), and 8 feet of loose to medium dense, well graded gravel (SPT blow count N_{60} = 9 to 19). Below these embankment fill materials, or elevation 30 feet, are soft to hard, slightly to intensely fractured black shale and sandstone (RQD = 0 to 68%).

Based on as-built LOTBs from 1955 (Figure 12), very competent materials were encountered at 20.7 feet elevation at Abutment 1 and Bent 2, and at 35.7 feet elevation at Abutment 3.

The new LOTBs and the as-built LOTBs should be included in the Structure Plans.

6.3 Groundwater

Groundwater was not measured in borings RC-15-001 and RC-15-002 due to rotary wash drilling. Recently, two auger borings (GWB1 and GWB 2) were drilled by GEOCON Consultants on January 8, 2016 to the west of the bridge. The borings show that groundwater level is at 3 to 5 feet elevation. Note groundwater level fluctuates with season and geological/geographical factors.

7. SCOUR EVALUATION

There is no water body at the bridge site. Scour is not a concern.

8. CORROSION EVALUATION

Corrosion samples were collected in both borings. According to current Caltrans Corrosion Guidelines (2010), a soil is considered corrosive for structural elements if one or more of the following conditions exist: pH is 5.5 or less, chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater. Resistivity is not considered for structural elements. The corrosion test results are shown in Table 2. The soil at the project site is considered non-corrosive.

Table 2. Soil Corrosion Test Summary

Location	Corrosion Lab #	Sample Depth (ft)	Min. Resistivity (ohm-cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
RC-15-001	CR20150191	5 – 26	1103	7.93	89	217
RC-15-002	CR20150192	25 – 36	2047	7.83	7	108

9. SEISMIC RECOMMENDATIONS

Please refer to the Memo from Hossain Salimi of our office to your Branch, dated July 23, 2015 for the final seismic design recommendations. For clarification or additional information on seismic design aspects of the project, please consult with Hossain Salimi at (916) 227-7147. The following is a brief summary of the proposed seismic design parameters:

Controlling Fault = Contra Costa Shear Zone (2.6 km from project site)
Maximum Moment Magnitude, Mw = 6.5
Peak Ground Acceleration = 0.55 g
Surface Rupture Potential = None

At boring RC-15-002, the loose to medium dense gravel layer at elevation 38 to 30 feet is susceptible to liquefaction.

10. AS-BUILT FOUNDATION DATA

According to as-built plans, the existing bridge and the adjacent retaining walls are all founded on spread footings. Table 3 shows bottom of footing elevations using NGVD29 datum. Based on the Foundation Report written in 1955, the design bearing capacity (allowable bearing pressure) of the bridge footings is 10 ksf. According to BIRIS reports, no foundation related problem has ever been observed.

Table 3. Bottom of footing elevations for existing bridge (NGVD29 datum)

Location	Abut 1	Bent 2	Abut 3	RWs at Abut 1	RWs at Abut 3
Bottom of Footing Elev. (ft)	18	20	21	32, 34, 41.5, 43	28.5, 31.5, 38, 40.5

11. FOUNDATION RECOMMENDATIONS

Structure Design has provided foundation data and structure loads for the bridge, as shown in Tables 4 through 6. The subsurface materials below the existing footings are predominantly black shale and sandstone. Due to the stiff nature of these materials, we recommend spread footing at all support locations for the new structure. The bottom of footing elevations are set slightly below the existing bridge footings. Idealized subsurface soil profile and soil engineering parameters at each support location were defined based on the boring logs, relevant literature, and engineering judgment. Based on as-built LOTB (Figure 12), it is reasonable to assume subsurface materials at Bent 2 are similar to those at the abutments. In our analysis, the subsurface soil is characterized as cohesive material with shear strength of 7.2 ksf (50 psi) and unit weight of 125 pcf.

Table 4: Foundation Data

Support No.	Finish Grade Elev. (ft)	Bottom of Footing Elev. (ft)	Foundation Dimensions (ft)		Permissible Settlement under Service Load (in)
			B	L	
Abut. 1	40.00	20.00	20.0	51.33	1
Bent 2	30.00	22.00	17	17	1
Abut. 3	36.00	21.00	20.0	51.33	1

Table 5. Service-I Limit State Loads for Controlling Load Combination

Support No.	Total Load					Permanent Load				
	P_{Total} (kips) Net	M_X (kip-ft)	M_Y (kip-ft)	V_X (kips)	V_Y (kips)	P_{Perm} (kips) Net	M_X (kip-ft)	M_Y (kip-ft)	V_X (kips)	V_Y (kips)
Abutment 1	2995	-7397	N/A	N/A	655	2614	-4853	N/A	N/A	552
Bent 2	3222	0	0	N/A	N/A	2655	0	0	N/A	N/A
Abutment 3	2935	-4261	N/A	N/A	738	2553	-2233	N/A	N/A	635

Table 6. Strength, Construction and Extreme Event Loads for Controlling Load Combinations

Support No.	Strength/Construction Limit State (Controlling Group)					Extreme Event Limit State (Controlling Group)				
	P_{Total} (kips) Gross	M_X (kip-ft)	M_y (kip-ft)	V_X (kips)	V_Y (kips)	P_{Total} (kips) Gross	M_X (kip-ft)	M_Y (kip-ft)	V_X (kips)	V_Y (kips)
Abutment 1	5744	-18749	N/A	N/A	1455	N/A	N/A	N/A	N/A	N/A
Bent 2	4841	0	0	N/A	N/A	3903	0	0	2018	1385
Abutment 3	5339	-8057	N/A	N/A	1290	N/A	N/A	N/A	N/A	N/A

The foundation design analysis was performed in general using the methods outlined in AASHTO LRFD Bridge Design Specifications with Caltrans amendments. The results are shown in Tables 7 and 8 below. The calculated factored gross nominal bearing resistance exceeds the factored vertical load in all cases. In addition, the factored gross nominal sliding resistance exceeds the factored shear force in all cases as well. The calculated settlement is less than one inch at all support locations. Note that the foundation materials have been prestressed by the existing bridge for near 60 years, so the actual settlement should be much smaller than the estimates.

Table 7. Foundation Design Recommendations for Spread Footing

Support No.	Footing Size (ft)		Bottom of Footing Elev. (ft)	Min. Footing Embedment Depth (ft)	Total Permissible Support Settlement (inches)	Service Limit State	Strength or Construction Limit State $\varphi_b = 0.45$	Extreme Event Limit State $\varphi_b = 1.0$
	L	B				Permissible Net Contact Stress (ksf)	Factored Gross Nominal Bearing Resistance (ksf)	Factored Gross Nominal Bearing Resistance (ksf)
Abut 1	20.0	51.33	20.00	8	1	3.7	17.6	N/A
Bent 2	17	17	22.00	6	1	8.7	20.1	44.7
Abut 3	20.0	51.33	21.00	8	1	3.9	17.7	N/A

Table 8. Spread Footing Data Table

Support No.	Service Permissible Net Contact Stress (Settlement) (ksf)	Strength/Construction Factored Gross Nominal Bearing Resistance $\varphi_b = 0.45$ (ksf)	Extreme Event Factored Gross Nominal Bearing Resistance $\varphi_b = 1.0$ (ksf)
Abut 1	3.7	17.6	N/A
Bent 2	8.7	20.1	44.7
Abut 3	3.9	17.7	N/A

12. CONSTRUCTION CONSIDERATIONS

- Hard rock material is likely to be encountered during excavation; special excavation equipment should be prepared.
- The new footings are slightly below the existing bridge footings. The footings and all other debris from the existing structure should be completely removed within the footprint of the new footings.
- The bottom of the footing excavation must be inspected by our Office before proceeding with foundation construction.

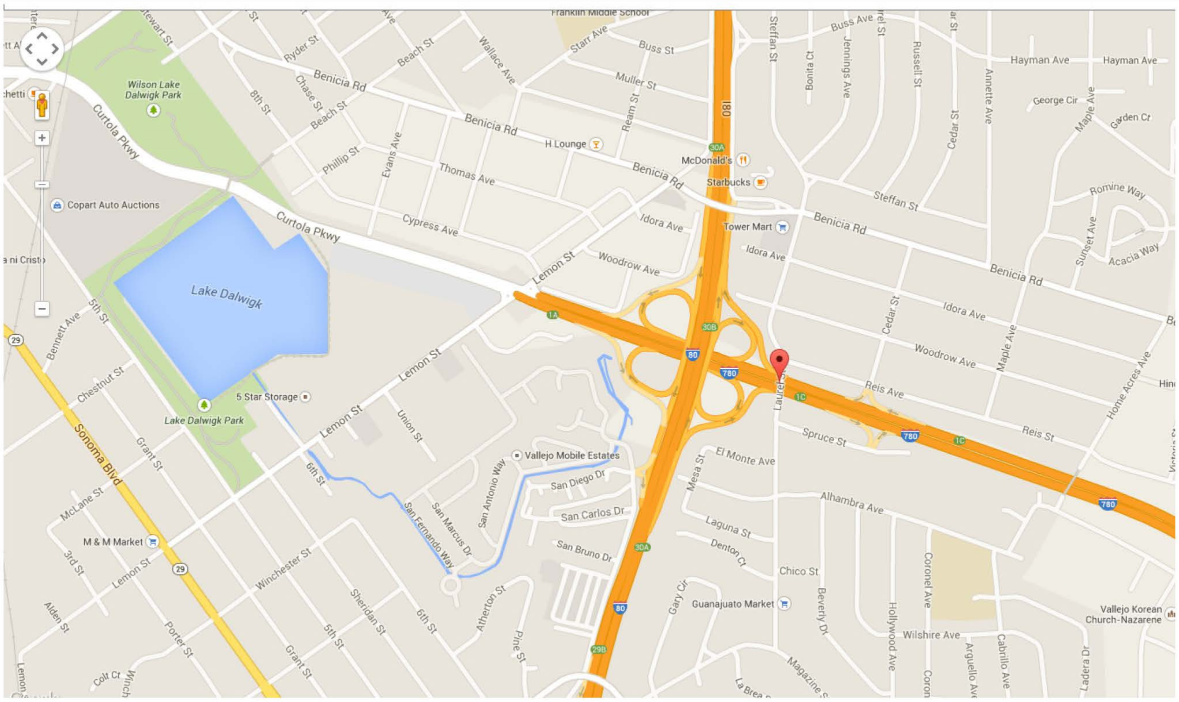
13. DISCLAIMER AND CONTACT INFORMATION

The recommendations contained in this report are based on specific project information

regarding structure type, location, and design loads that have been provided by Office of Structure Design West. If any conceptual changes are made during final project design, the Office of Geotechnical Design West, Design Branch A should review those changes to determine if these foundation recommendations are still applicable. Any questions regarding the above recommendations should be directed to the attention of Hooshmand Nikoui at (510) 286-4811.

c: TJPokrywka, HNikoui, Daily File

SYang/mm



		LOCATION MAP
	Engineering Service Center DIVISION OF ENGINEERING SERVICES OFFICE OF GEOTECHNICAL SERVICES GEOTECHNICAL DESIGN BRANCH (WEST) – BRANCH B	04-SOL-780 PM 7.07 ID: 0412000477 February 2015

Figure 1. Location Map

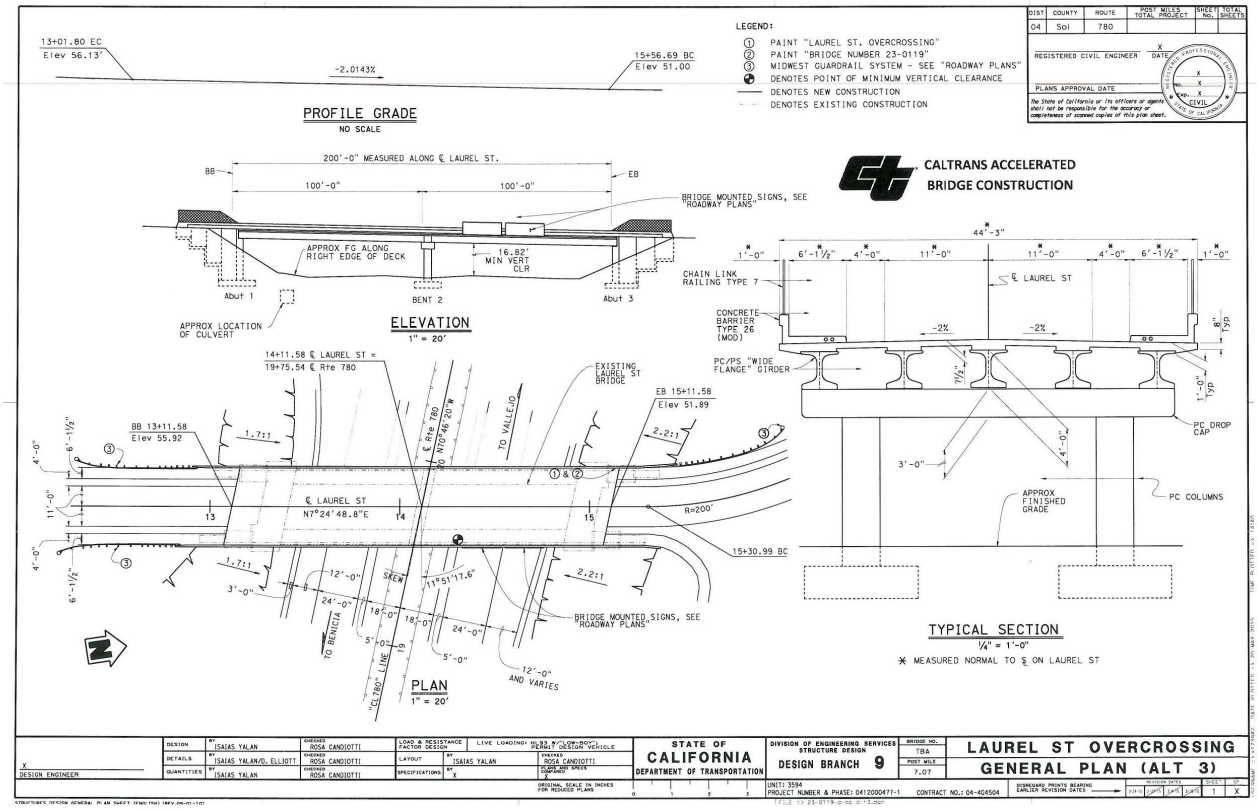


Figure 2. General Plan

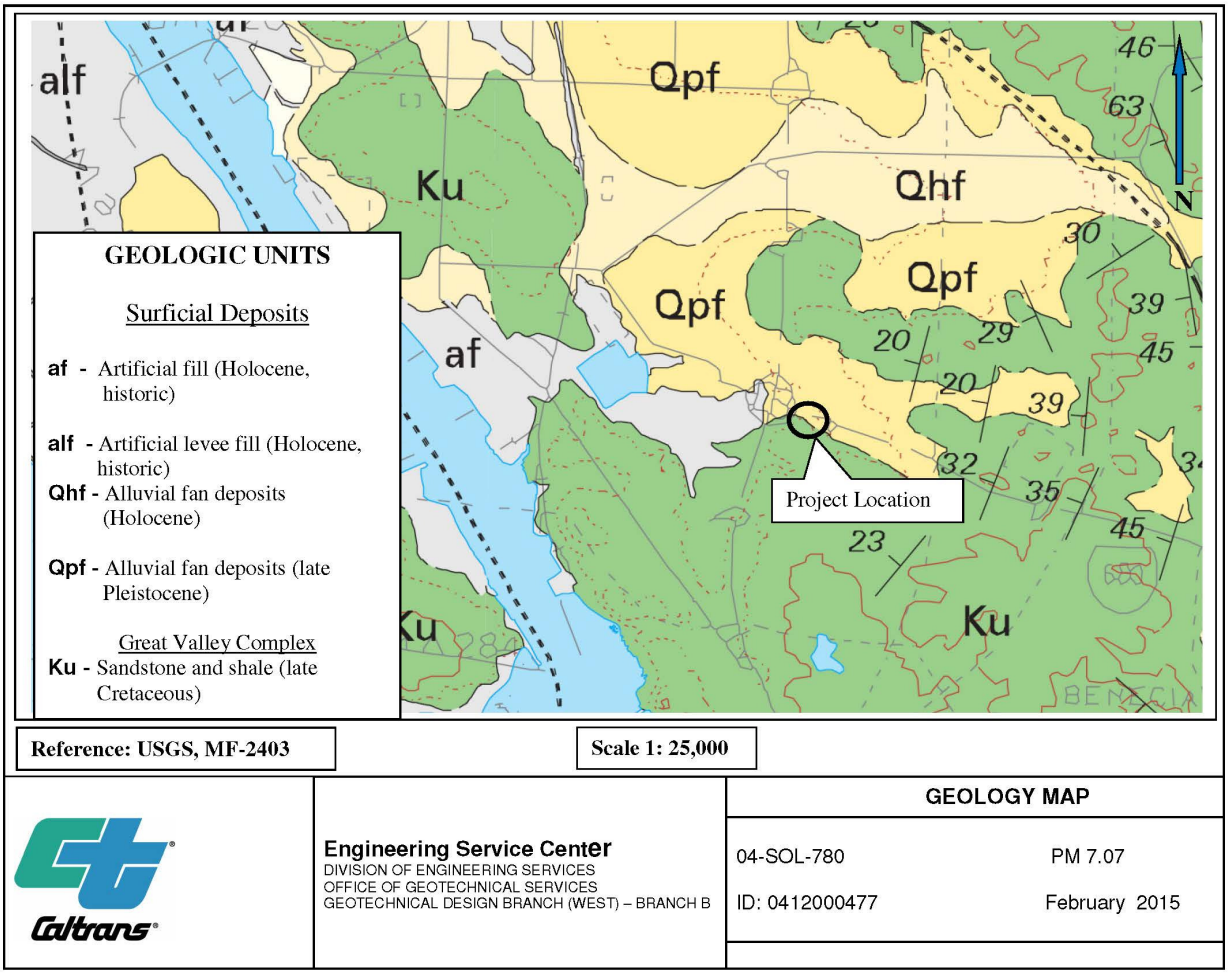


Figure 3: Geology map.

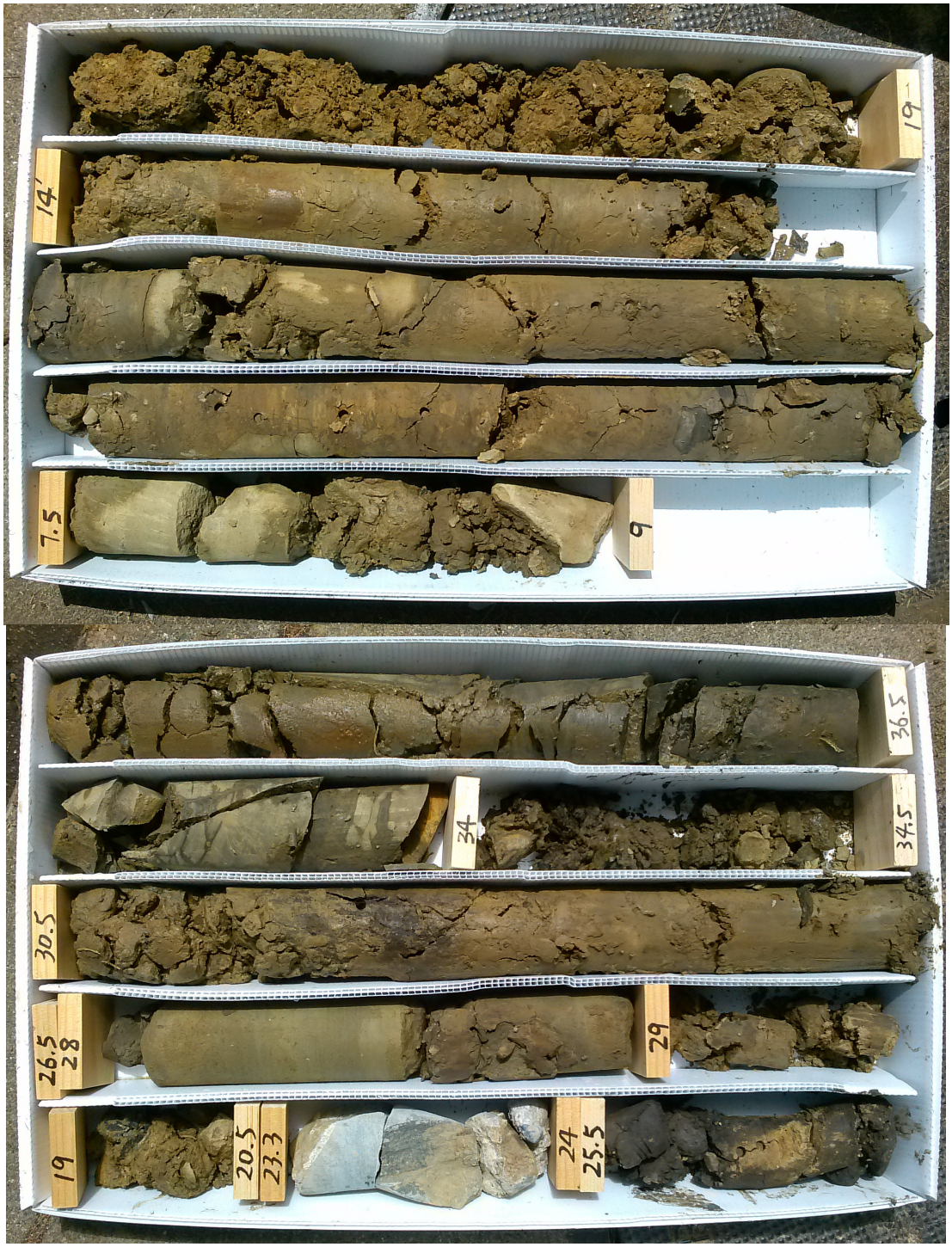


Figure 4: Boring RC-15-001 core samples, 7.5’-36.5’ depth (47.5’-17.5’ elev.)

Figure 5: Boring RC-15-001 core samples, 36.5’-52’ depth (17.5’-2’ elev.)

Figure 6: Boring RC-15-001 core samples, 52’-69’ depth (2’- -15’ elev.)

Figure 7: Boring RC-15-001 core samples, 69’-87’ depth (-15’- -33’ elev.)

Figure 8: Boring RC-15-002 core samples, 0'-25' depth (49'- 24' elev.)

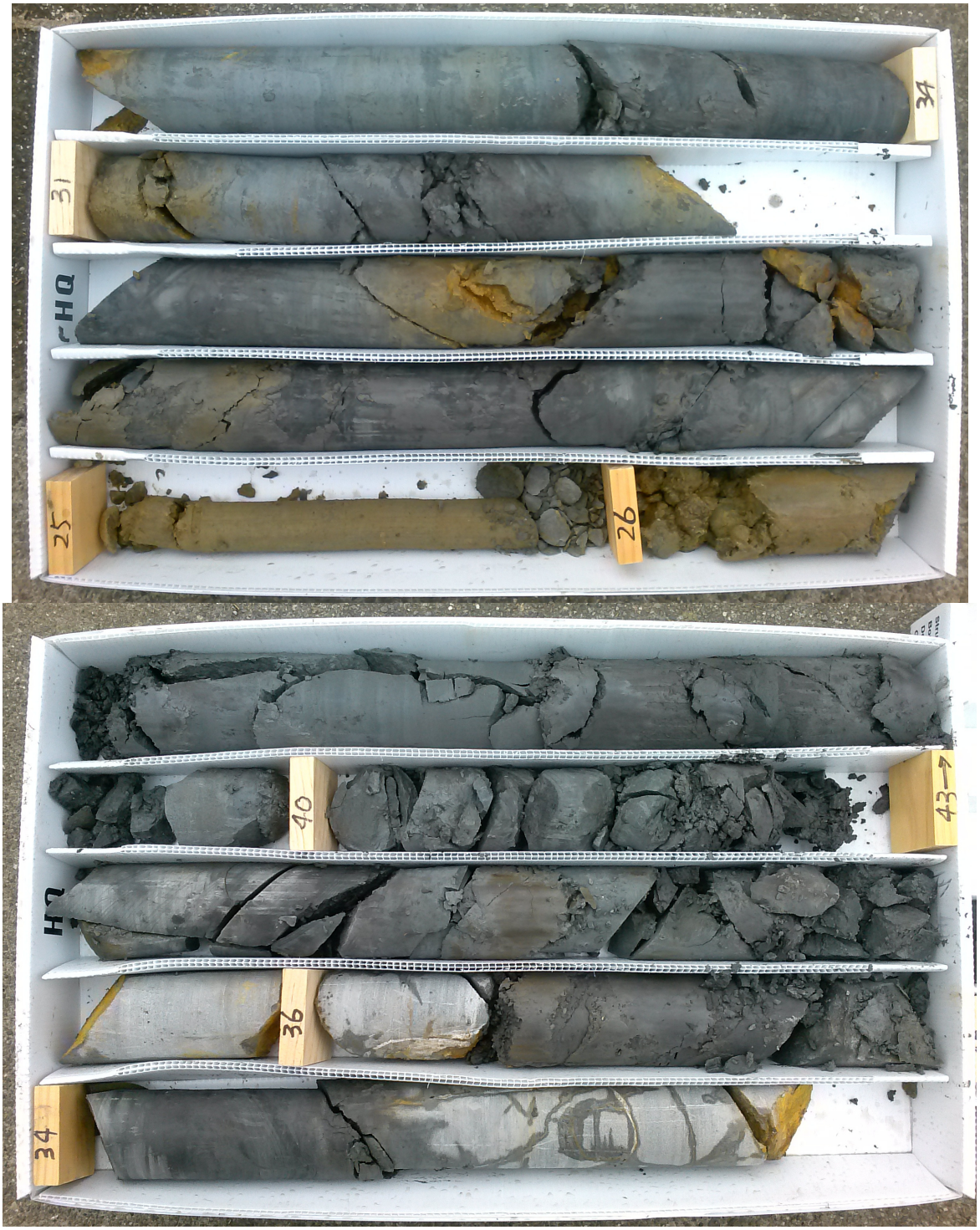


Figure 9: Boring RC-15-002 core samples, 25’-43’ depth (24’ – 6’ elev.)

Figure 10: Boring RC-15-002 core samples, 43’-59’ depth (6’- -10’ elev.)

Figure 11: Boring RC-15-002 core samples, 59’-65’ depth (-10’ - -16’ elev.)

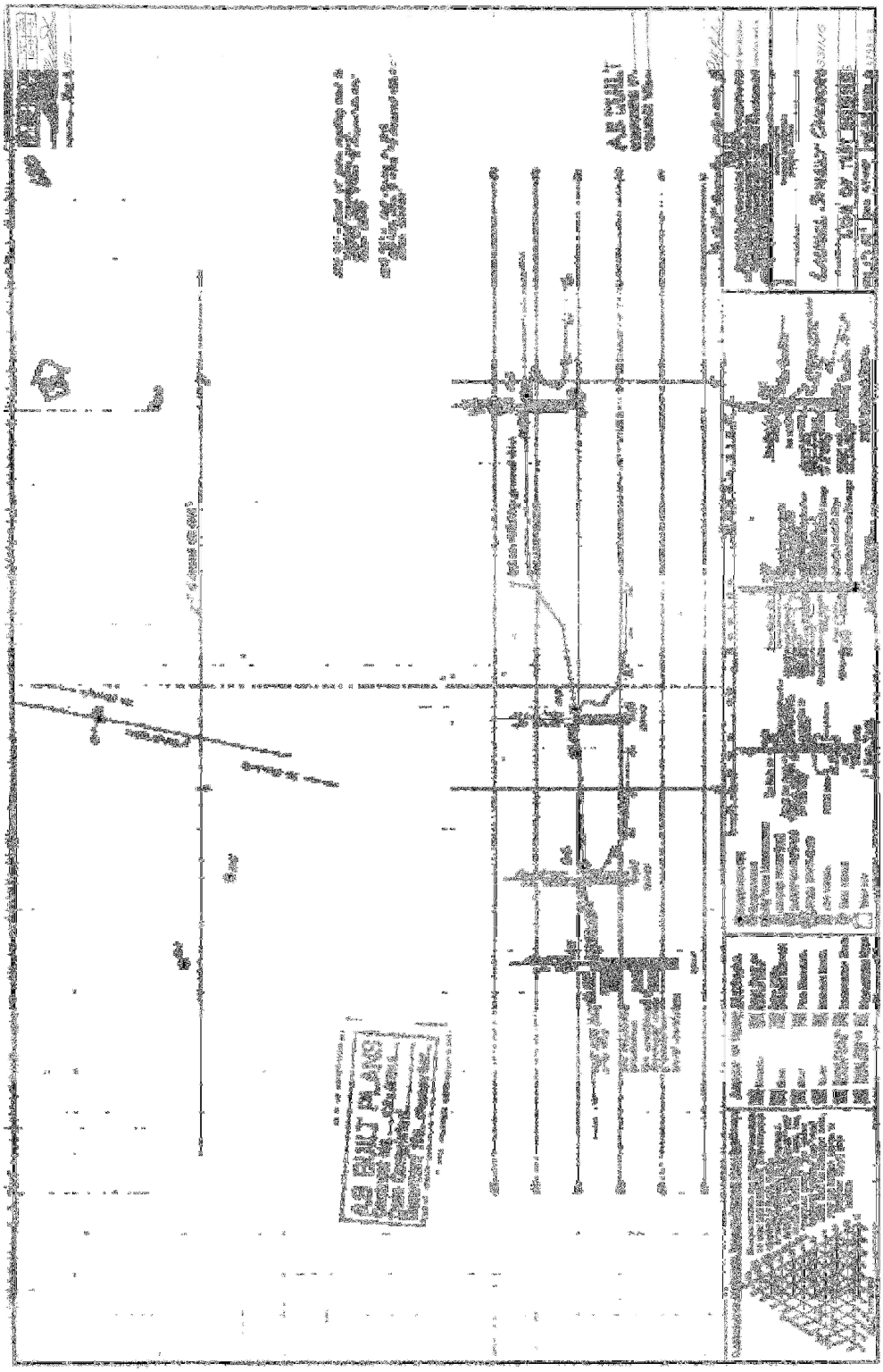


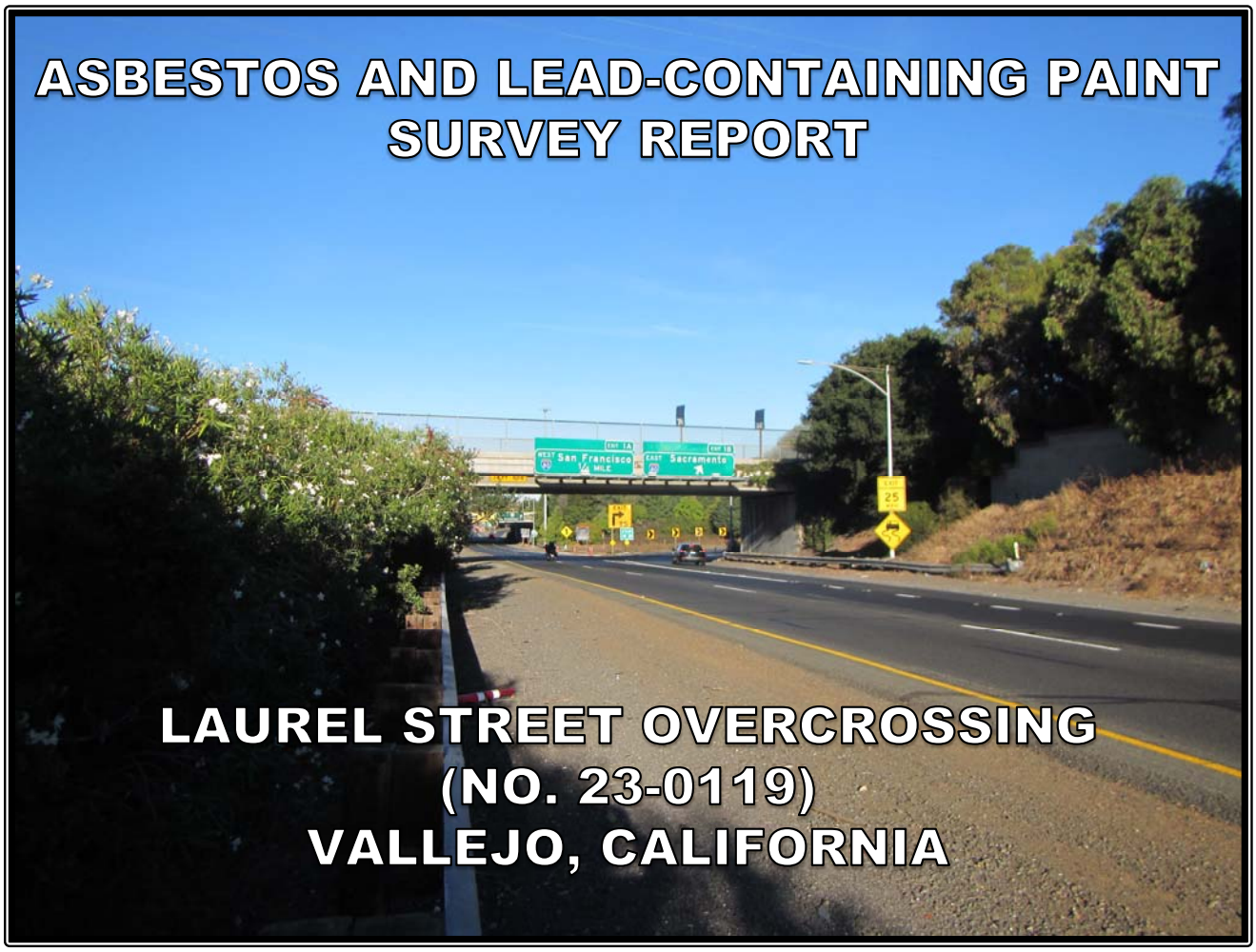
Figure 12: 1955 as-built Log of Test Borings

MATERIALS INFORMATION

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

ROUTE: 04- Sol-780-7.1

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT



LAUREL STREET OVERCROSSING (NO. 23-0119) VALLEJO, CALIFORNIA

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

PREPARED BY:
GEOCON CONSULTANTS, INC.
6671 BRISA STREET
LIVERMORE, CALIFORNIA

GEOCON PROJECT NO. E8721-02-37
CALTRANS CONTRACT NO 04A4336
CALTRANS PROJECT NO. 04-1200-0477-1

FEBRUARY 2016

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APPENDIX
Laboratory Analytical Reports and Chain-of-custody Documentation

REPORT LIMITATIONS

This asbestos and lead-containing paint (LCP) survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. Due to the nature of structure surveys, asbestos and LCP use, and laboratory analytical limitations, some asbestos or LCP in the structure may not have been identified. Structure spaces such as cavities, crawlspaces, and pipe chases may have been concealed to our investigator. Previous structure renovation work may have concealed or covered spaces or materials, or may have partially demolished materials and left debris in inaccessible areas. Additionally, renovation activities may have partially replaced asbestos with indistinguishable non-asbestos materials. Asbestos or LCP may exist in areas of the structure not accessible or sampled in conjunction with this Task Order.

During renovation or demolition operations, suspect materials may be uncovered which are different from those accessible for sampling during this assessment. Personnel in charge of renovation/demolition should be alerted to note materials uncovered during such activities that differ substantially from those included in this or previous assessment reports. If suspect materials are found, additional sampling and analysis should be performed to determine if the materials contain asbestos or lead.

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 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 authors who are 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.

Chris Giuntoli, CAC No. 02-3163
Senior Project Scientist

CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING

Reviewed By:	Recommended By:	Approved By:
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EXECUTIVE SUMMARY

This asbestos and lead-containing paint (LCP) survey report was prepared for the Laurel Street Overcrossing (23-0119) at post mile (PM) 7.07 on Interstate 780 (I-780) in Solano County, California. We performed an asbestos and LCP survey on the bridge. The project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2. Caltrans has requested an investigation at the project location to provide data regarding the presence of asbestos and LCP prior to bridge demolition.

This report documents the investigation sampling methods and laboratory analytical data. The primary objective of our survey was to determine and quantify asbestos and LCP at the project location prior to bridge demolition activities. The information obtained from this investigation will be used by Caltrans to coordinate proposed demolition activities, determine appropriate abatement/disposal costs, and identify health and safety concerns during bridge demolition.

The field investigation was performed on October 19 and December 8, 2015. The following field activities were performed during asbestos and LCP sampling efforts:

- Collected 16 bulk samples of suspect asbestos;
- Collected two bulk samples of suspect LCP; and
- Transported samples to Caltrans-approved, California-certified environmental laboratories.

Samples were collected from locations as shown on the Site Plan (Figure 2). Suspect asbestos and LCP sample identification numbers are presented in Tables 1 and 2, respectively. Materials represented by the samples collected are presented in the Site Photographs.

Bulk suspect asbestos materials samples were collected after first wetting friable materials with a light mist of water. The samples were then cut from the substrate, transferred to labeled containers, and sealed. Five suspect asbestos materials were identified during the survey (see Table 1). Sampling locations were distributed throughout the homogeneous areas (spaces where the material was observed).

We relinquished bulk samples using standard chain-of-custody documentation for asbestos analysis. Asbestos content was determined using U.S. Environmental Protection Agency (EPA) Test Method 600/R-93/116 for polarized light microscopy (PLM). We requested laboratory analyses to be within a 10-day turnaround.

Bulk paint sampling was performed using techniques presented in U.S. Department of Housing and Urban Development (HUD) guidelines. One paint system was identified during the survey (see Table 2).

> *It was not Geocon's intent during this inspection to conduct an evaluation of lead-based paint hazards in accordance with HUD guidelines.*

We relinquished our bulk paint samples using standard chain-of-custody documentation for lead and chromium analyses. Total lead and chromium content was determined using EPA Test Method 6010B. We requested laboratory analyses to be within a 7-day turnaround.

Chrysotile asbestos at a concentrations ranging from less than (<) 0.1% to 0.60% was detected in samples representing approximately 60 cubic yards of nonfriable concrete used on the sidewalk of the bridge. The asbestos content was determined using PLM point count analysis (1,000 points). Asbestos was not detected in samples of the remaining suspect materials collected during our survey. Laboratory results for the asbestos samples are summarized in Table 1. Reproductions of the laboratory report and chain-of-custody documentation are included as an Appendix to this report.

Total lead was not detected at or above the laboratory reporting limit of 20 milligrams per kilogram (mg/kg) in the bulk sample representing intact tan (graffiti abatement) paint applied to concrete bridge structure. A sample of intact yellow thermoplastic traffic striping on the bridge deck exhibited representative total lead and chromium concentrations of 4.1 and 25 mg/kg, respectively.

The paint sample laboratory results are summarized in Table 2. Reproductions of the lead laboratory report and chain-of-custody documentation are included as an Appendix to this report.

We provide the following conclusions and recommendations based on the results of our investigation.

NESHAP regulations do not require that material containing 1% or less asbestos (i.e., concrete sidewalk) identified during our asbestos survey be removed prior to renovation or demolition or treated as hazardous waste. However, the disturbance of the material is still covered by the Cal/OSHA asbestos standard (Title 8, CCR §1529). We recommend that the removal of the material be performed by a licensed contractor registered with Cal/OSHA for asbestos-related work. Contractors are responsible for informing the landfill of the contractor's intent to dispose of asbestos waste. Some landfills may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

We recommend notifying the contractors that will be conducting demolition, renovation, or related activities of the presence of asbestos in their work areas. The notification would include providing the contractors with a copy of this report and a list of asbestos removed during subsequent abatement activities. Contractors should be instructed not to disturb asbestos during their work.

In accordance with Bay Area Air Quality Management District Regulation 11, Rule 2, written notification is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

Based on analysis of the paint samples collected during our survey, tan graffiti abatement paint and yellow thermoplastic traffic striping at the bridge structure would not be considered a California or Federal hazardous waste based on lead content if stripped, blasted, or otherwise separated from the substrate.

We recommend that all paints at the project location (traffic striping, graffiti, graffiti abatement, signage, etc.) be treated as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints. In accordance with Title 8, CCR, Section 1532.1(p), written notification to the nearest Cal/OSHA district office is required at least 24 hours prior to certain lead-related work. Compliance and training requirements regarding construction activities where workers may be exposed to lead are presented in Title 8, CCR, Section 1532.1, subsections (e) and (l), respectively. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

1.0 INTRODUCTION

This asbestos and lead-containing paint (LCP) survey report was prepared for the Laurel Street Overcrossing (OC) in Solano County, California. This report documents the investigation sampling methods and laboratory analytical data.

1.1 Site Description and Proposed Improvements

The project consists of the Laurel Street OC (23-0119) at post mile (PM) 7.07 on Interstate 780 in Solano County, California. The project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2. Caltrans has requested an investigation at the project location to provide data regarding the presence of asbestos and LCP prior to bridge demolition.

1.2 Purpose

The primary objective of our survey was to determine and quantify asbestos and LCP at the project location prior to bridge demolition activities. The information obtained from this investigation will be used by Caltrans to coordinate proposed activities, determine appropriate abatement/disposal costs, and identify health and safety concerns during bridge demolition.

2.0 BACKGROUND

2.1 Asbestos

The *Code of Federal Regulations (CFR)*, 40 CFR 61, Subpart M, National Emissions Standards for Hazardous Air Pollutants (NESHAP) and Federal Occupational Safety and Health Administration (FED OSHA) classify asbestos-containing material (ACM) as any material or product that contains *greater than* 1% asbestos. Nonfriable ACM is classified by NESHAP as either Category I or Category II material defined as follows:

- **Category I** – asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products.
- **Category II** – all remaining types of non-friable asbestos-containing material not included in Category I that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated asbestos-containing material (RACM), a California hazardous waste when friable, is classified as any manufactured material that contains *greater than* 1% asbestos by dry weight *and* is:

- Friable; or
- Category I material that has become friable; or
- Category I material that has been subjected to sanding, grinding, cutting, or abrading; or
- Category II non-friable material that has a high probability of becoming crumbled, pulverized, or reduced to a powder during demolition or renovation activities.

Activities that disturb materials containing *any* amount of asbestos are subject to certain requirements of the California Occupational Safety and Health Administration (Cal/OSHA) asbestos standard contained in Title 8, CCR Section 1529. Typically, removal or disturbance of more than 100 square feet of material containing more than 0.1% asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the material contains 1% or less asbestos. When the asbestos content of a material exceeds 1%, virtually all requirements of the standard become effective.

Materials containing more than 1% asbestos are also subject to NESHAP regulations (40 CFR Part 61, Subpart M). RACM (friable ACM and nonfriable ACM that will become friable during demolition operations) must be removed from structures prior to demolition. Certain nonfriable ACM and materials containing 1% or less asbestos may remain in structures during demolition; however, there are waste handling/disposal issues and Cal/OSHA work requirements that must be followed. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines asbestos-containing construction material (ACCM) as construction material that contains more than 0.1% asbestos (Title 8, CCR 341.6).

2.2 Lead Paint

Construction activities (including demolition) that disturb materials or paints containing *any* amount of lead are subject to certain requirements of the Cal/OSHA lead standard contained in Title 8, CCR, Section 1532.1. Deteriorated paint is defined by Title 17, CCR, Division 1, Chapter 8, §35022 as a surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, failed, or otherwise separating from a component. Demolition of a deteriorated LCP component would require waste characterization and appropriate disposal. Most landfills and recycling facilities accept intact LCP on a component; however, contractors are responsible for segregating and characterizing waste streams prior to disposal.

For a solid waste containing lead, the waste is classified as California hazardous when: 1) the representative total lead content equals or exceeds the respective Total Threshold Limit Concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg); or 2) the representative soluble lead content equals or exceeds the respective Soluble Threshold Limit Concentration (STLC) of 5 milligrams per liter (mg/l) based on the standard Waste Extraction Test (WET). A waste has the potential for exceeding the lead STLC when the waste's total lead content is greater than or equal to ten times the respective STLC value since the WET uses a 1:10 dilution ratio. Hence, when total lead is detected at a concentration greater than or equal to 50 mg/kg, and assuming that 100 percent of the total lead is soluble, soluble lead analysis is required. Lead-containing waste is classified as "Resource, Conservation, and Recovery Act" (RCRA) hazardous, or Federal hazardous, when the representative soluble lead content equals or exceeds the Federal regulatory level of 5 mg/l 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; 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.

Potential hazards exist to workers who remove or cut through LCP coatings during demolition. Dust containing hazardous concentrations of lead may be generated during scraping or cutting materials coated with LCP. Torching of these materials may produce lead oxide fumes. Therefore, air monitoring and/or respiratory protection may be required during the demolition of materials coated with LCP. Guidelines regarding regulatory provisions for construction work where workers may be exposed to lead are presented in the Title 8, CCR, Section 1532.1.

3.0 SCOPE OF SERVICES

The following scope of services was performed:

3.1 Pre-Field Activities

- Retained the services of EMSL, a Caltrans-approved laboratory accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), to perform the asbestos analyses.
- Retained the services of Asset laboratories, a Caltrans-approved laboratory, to perform the lead analyses.

3.2 Field Activities

Mr. Chris Giuntoli, a California-Certified Asbestos Consultant (CAC), certification number 02-3163 (expiration June 19, 2016), and Certified Lead Paint Inspector/Assessor with the California Department of Public Health (DPH), certification number I-5502 (expiration June 14, 2016), performed the asbestos and LCP survey on October 19 and December 8, 2015. Sixteen bulk samples of suspect asbestos materials were collected. Two bulk samples of suspect LCP were collected.

4.0 INVESTIGATIVE METHODS

4.1 Asbestos

Bulk suspect asbestos samples were collected after first wetting friable materials with a light mist of water. The samples were then cut from the substrate, transferred to labeled containers, and sealed. We observed five suspect asbestos materials during the survey (see Table 1). Sampling locations were distributed throughout the homogeneous areas (spaces where the material was observed).

We relinquished bulk samples for asbestos analysis using standard chain-of-custody documentation. Asbestos content was determined using EPA Test Method 600/R-93/116 for polarized light microscopy (PLM). We requested laboratory analyses to be within a 10-day turnaround.

4.2 Paint

Our bulk paint samples were collected using techniques presented in U.S. Department of Housing and Urban Development (HUD) guidelines. One paint system was identified during the survey (see Table 2).

> *It was <u>not</u> Geocon's intent during this inspection to conduct an evaluation of lead-based paint hazards in accordance with HUD guidelines.*

We relinquished our bulk paint samples using standard chain-of-custody documentation for lead and chromium analyses. Total lead and chromium content was determined using EPA Test Method 6010B. We requested laboratory analyses to be within a 7-day turnaround.

5.0 INVESTIGATIVE RESULTS

5.1 Asbestos

Chrysotile asbestos at a concentrations ranging from less than (<) 0.1% to 0.60% was detected in samples representing approximately 1,620 cubic feet (60 cubic yards) of nonfriable concrete used on the sidewalk of the bridge. The asbestos content was determined using PLM point count analysis (1,000 points).

Asbestos was not detected in samples of the remaining suspect materials collected during our survey. Laboratory results for the asbestos samples are summarized in Table 1. Reproductions of the laboratory report and chain-of-custody documentation are in the Appendix.

5.2 Paint

Total lead was not detected at or above the laboratory reporting limit of 20 mg/kg in the bulk sample representing intact tan (graffiti abatement) paint applied to concrete bridge structure. A sample of intact yellow thermoplastic traffic striping on the bridge deck exhibited representative total lead and chromium concentrations of 4.1 and 25 mg/kg, respectively.

The paint sample laboratory results are summarized in Table 2. Reproductions of the lead laboratory report and chain-of-custody documentation are in the Appendix.

6.0 CONCLUSIONS

6.1 Asbestos

NESHAP regulations do not require that material containing 1% or less asbestos (i.e., concrete sidewalk) identified during our asbestos survey be removed prior to renovation or demolition or treated as hazardous waste. However, the disturbance of the material is still covered by the Cal/OSHA asbestos standard (Title 8, CCR §1529). We recommend that the removal of the material be performed by a licensed contractor registered with Cal/OSHA for asbestos-related work. Contractors are responsible for informing the landfill of the contractor's intent to dispose of asbestos waste. Some landfills may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

We recommend notifying the contractors that will be conducting demolition, renovation, or related activities of the presence of asbestos in their work areas. The notification would include providing the contractors with a copy of this report and a list of asbestos removed during subsequent abatement activities. Contractors should be instructed not to disturb asbestos during their work.

In accordance with Bay Area Air Quality Management District (BAAQMD) Regulation 11, Rule 2, written notification is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

6.2 Paint

Based on analysis of the paint samples collected during our survey, tan graffiti abatement paint and yellow thermoplastic traffic striping at the bridge structure would not be considered a California or Federal hazardous waste based on lead content if stripped, blasted, or otherwise separated from the substrate.

We recommend that all paints at the project location (traffic striping, graffiti, graffiti abatement, signage, etc.) be treated as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints. In accordance with Title 8, CCR, Section 1532.1(p), written notification to the nearest Cal/OSHA district office is required at least 24 hours prior to certain lead-related work. Compliance and training requirements regarding construction activities where workers may be exposed to lead are presented in Title 8, CCR, Section 1532.1, subsections (e) and (l), respectively. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

TABLE 1
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - ASBESTOS
LAUREL STREET OVERCROSSING (23-0119)
SOLANO COUNTY, CALIFORNIA

Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116

Sample IDs	Description of Suspect Material	Approximate Quantity	Friable	Site Photo	Asbestos Content
119-1A & 1B	Asphalt	NA	NA	2	ND
119-2A to 2C	Tan paint (textured)	NA	NA	2 & 3	ND
119-3A & 3B	Expansion joint fill material	NA	NA	4	ND
119-4A & 4B	Black drain pipe	NA	NA	5	ND
119-5A, 5C to 5E	Concrete (deck, sidewalls, abutments and columns)	NA	NA	1 to 7	ND
119-5B, 5F & 5G	**Concrete (sidewalk)**	**1,620 cubic feet (60 cubic yards)**	**No**	**2, 3 & 4**	**<0.10 - 0.60%***

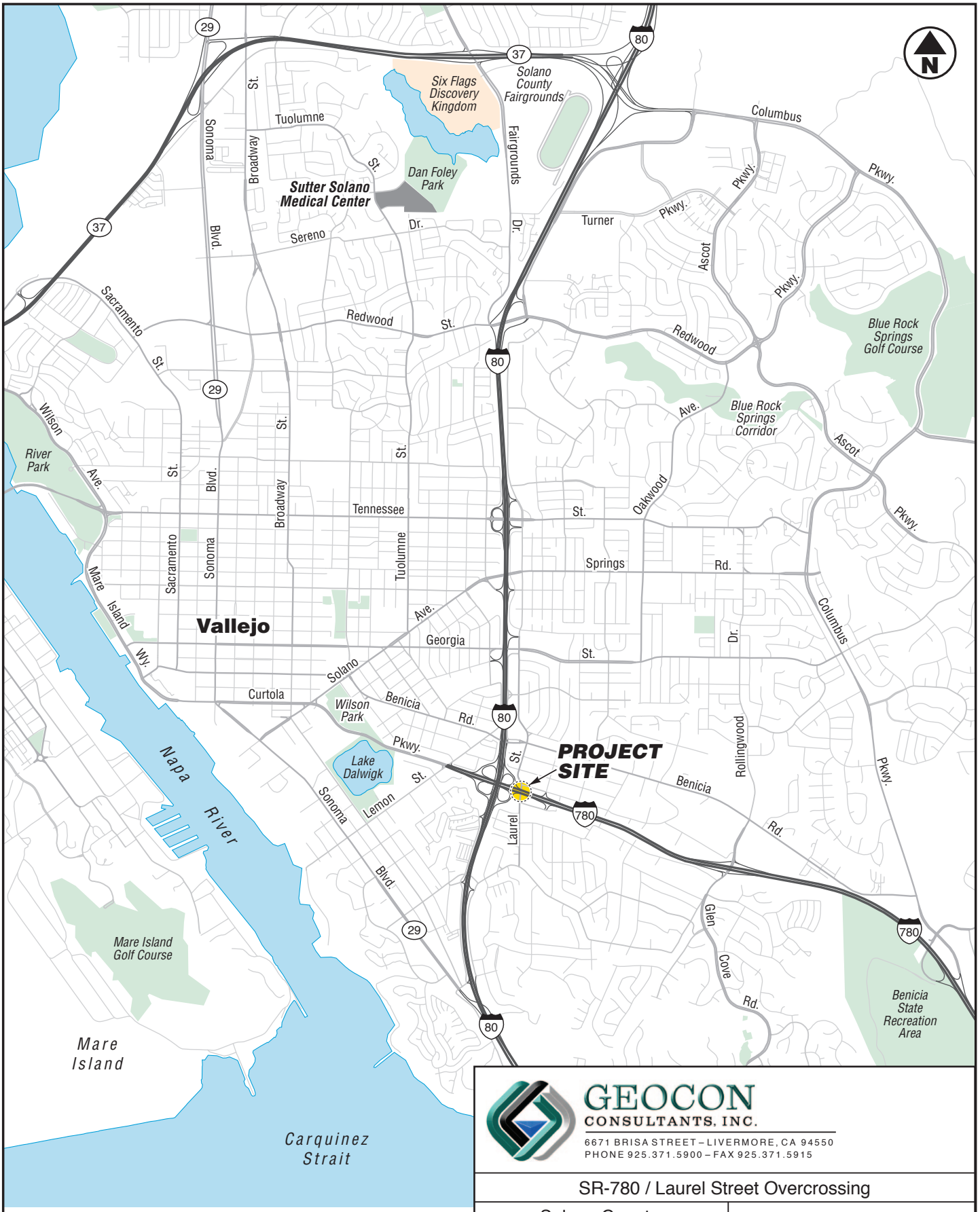
Notes:
NA = Not applicable
ND = No asbestos fibers detected
<= Less than
* = Analyzed using 1,000 point count methodology

TABLE 2
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - PAINT
LAUREL STREET OVERCROSSING (23-0119)
SOLANO COUNTY, CALIFORNIA

Total Metals (EPA Test Method 6010B)

Sample No.	Paint Description	Approximate Quantity Peeling/Flaking	Site Photos	Lead (mg/kg)	Chromium (mg/kg)
119-P1	Tan grafitti abatement paint (concrete)	Intact	2 & 3	<20	---
119-P2	Yellow Traffic Striping	Intact	2	4.1	25

Notes:
mg/kg = milligrams per kilogram
--- = not analyzed
< = Not detected at or above the indicated method detection limit



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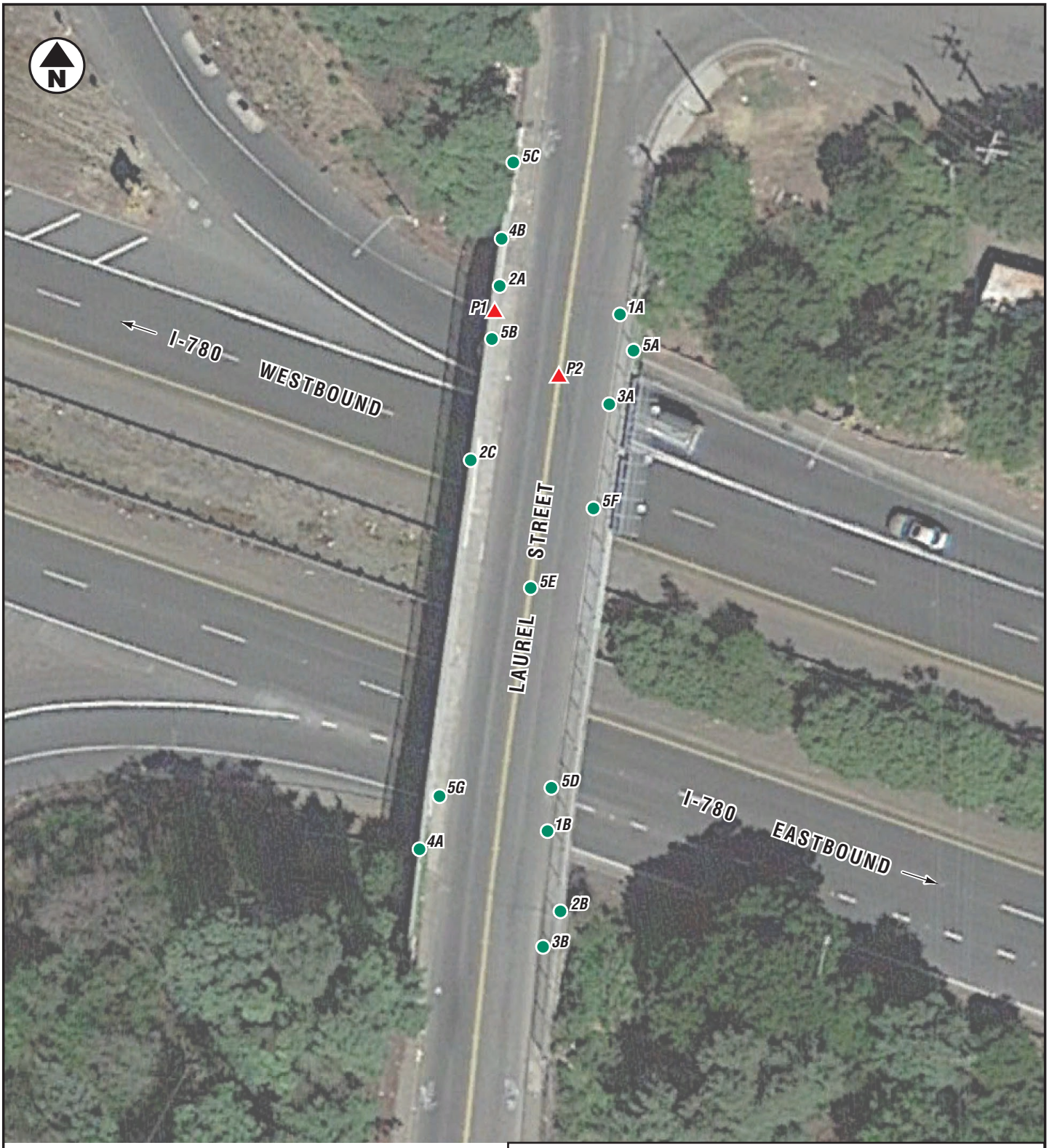
SR-780 / Laurel Street Overcrossing

Solano County, California

GEOCON Proj. No. E8721-02-37

VICINITY MAP

Task Order No. 37, EA 04-4G4501 | February 2016 | Figure 1



LEGEND:

- Approximate Asbestos Sample Location
- Approximate Paint Sample Location

0 40

Scale in Feet

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SR-780 / Laurel Street Overcrossing

Solano County, California

GEOCON Proj. No. E8721-02-37

SITE PLAN

Task Order No. 37, EA 04-4G4501 | February 2016 | Figure 2

Photo 1 – Laurel Street Overcrossing (OC) in Vallejo, California

Photo 2 – Laurel Street OC deck including asbestos-containing concrete sidewalk

Photo 3 – Textured paint on bridge sidewalls

Photo 4 – Sidewalk expansion joint fill material (non-asbestos)

Photo 5 – Black drain pipe at bridge abutments (non-asbestos)

Photo 6 – Concrete deck and columns (non-asbestos)

Photo 7 – Steel bearing on abutments (non-suspect)

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EMSL Order: 091517994
Customer ID: GECN21
Customer PO: E8721-02-37
Project ID: E8721-02-xx

Attention: Chris Giuntoli
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Project: E8721-02-37 (E8721-02-xx)

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Received Date: 10/24/2015 11:30 AM
Analysis Date: 11/ 2/2015
Collected Date: 10/19/2015

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
119-1A *091517994-0001*	ASPHALT	Gray/Black Non-Fibrous Homogeneous		30% Quartz 40% Matrix 30% Non-fibrous (Other)	None Detected
119-1B *091517994-0002*	ASPHALT	Gray/Black Non-Fibrous Homogeneous		50% Quartz 30% Matrix 20% Non-fibrous (Other)	None Detected
119-2A *091517994-0003*	TEXTURED PAINT	Gray Non-Fibrous Homogeneous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
119-2B *091517994-0004*	TEXTURED PAINT	Gray Non-Fibrous Homogeneous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
119-2C *091517994-0005*	TEXTURED PAINT	Gray Non-Fibrous Homogeneous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
119-3A *091517994-0006*	EXPANSION JOINT FILL MATERIAL	Brown/Black Fibrous Homogeneous	40% Cellulose	50% Matrix 10% Non-fibrous (Other)	None Detected
119-3B *091517994-0007*	EXPANSION JOINT FILL MATERIAL	Brown/Black Fibrous Homogeneous	50% Cellulose	40% Matrix 10% Non-fibrous (Other)	None Detected
119-4A *091517994-0008*	BLACK DRAIN PIPE	Black Fibrous Homogeneous	35% Cellulose	60% Matrix 5% Non-fibrous (Other)	None Detected
119-4B *091517994-0009*	BLACK DRAIN PIPE	Black Fibrous Homogeneous	35% Cellulose	60% Matrix 5% Non-fibrous (Other)	None Detected
119-5A *091517994-0010*	CONCRETE	Gray Non-Fibrous Homogeneous		50% Ca Carbonate 20% Gypsum 30% Non-fibrous (Other)	None Detected
119-5B *091517994-0011*	CONCRETE	Gray Non-Fibrous Homogeneous		60% Ca Carbonate 40% Non-fibrous (Other)	<1% Chrysotile
119-5C *091517994-0012*	CONCRETE	Gray Non-Fibrous Homogeneous		50% Ca Carbonate 30% Gypsum 20% Non-fibrous (Other)	None Detected
119-5D *091517994-0013*	CONCRETE	Gray Non-Fibrous Homogeneous		60% Ca Carbonate 15% Gypsum 25% Non-fibrous (Other)	None Detected
119-5E *091517994-0014*	CONCRETE	Gray Non-Fibrous Homogeneous		50% Ca Carbonate 35% Gypsum 15% Non-fibrous (Other)	None Detected

Initial Report From: 11/03/2015 10:34:18

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EMSL Order: 091517994
Customer ID: GECN21
Customer PO: E8721-02-37
Project ID: E8721-02-xx

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**

Analyst(s)

Cecilia Yu (2)
Matthew Batongbacal (12)

Chris Dojlidko, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial Report From: 11/03/2015 10:34:18

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EMSL Order:	091517994
CustomerID:	GECN21
CustomerPO:	E8721-02-37
ProjectID:	E8721-02-xx

Attn: **Chris Giuntoli**
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Phone:	(925) 371-5900
Fax:	(925) 371-5915
Received:	10/24/15 11:30 AM
Analysis Date:	11/18/2015
Collected:	10/19/2015

Project: **E8721-02-37**

Test Report: Asbestos Analysis of Bulk Material via EPA 600/R-93/116. Quantitation using the 1,000 Point Count Procedure

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
119-5B *091517994-0011*	- CONCRETE	Gray Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	**<0.1% Chrysotile**

Analyst(s)

Cecilia Yu (1)

Chris Dojlidko, Laboratory Manager
or other approved signatory

Some samples may contain asbestos fibers present in dimensions below PLM resolution limits.The limit of detection as stated in the method is 0.1%. EMSL Analytical Inc suggests that samples reported as <0.1% or none detected undergo additional analysis via TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval EMSL Analytical Inc. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government. EMSL Analytical Inc. bears no responsibility for sample collection activities, analytical method limitations, or the accuracy of results when requested to separate layered samples. EMSL Analytical Inc liability is limited to the cost of sample analysis.The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from 11/18/2015 15:54:57

THIS IS THE LAST PAGE OF THE REPORT.

OrderID: 091517994

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*:

#091517994

EMSL ANALYTICAL, INC.
2235 POLVOROSA DR., STE. 230
SAN LEANDRO, CA 94577
PHONE. (510) 895-3675
FAX. (510) 895-3680

Company: GEOCON	EMSL-Bill to: ☒ Same ☐ Different If Bill to is Different note instructions in Comments**
Street: 6671 BRISA ST	*Third Party Billing requires written authorization from third party*
City: LIVERMORE State/Province: CA	Zip/Postal Code: 94550 Country:
Report To (Name): CHRIS GIUNTOLI	Fax #:
Telephone #: 925-371-5900	Email Address: GIUNTOLI@GEOCONINC.COM
Project Name/Number: E8721-02-37	
Please Provide Results: ☐ Fax ☒ Email	Purchase Order: U.S. State Samples Taken:

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☒ 2 Week

*For TEM Air 3 hours/6 hours, please call ahead to schedule *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PCM - Air
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0 1%)

Point Count w/Gravimetric
- ☐ 400 (<0 25%) ☐ 1000 (<0 1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198 4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2 5

TEM – Water: EPA 100 2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: CHRIS GIUNTOLI Samplers Signature: [signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
119-1A/1B	ASPHALT		10/19/15
119-2A-2C	TEXTURED PAINT		↓
119-3A/3B	EXPANSION JOINT FILL MATERIAL		↓
119-4A/4B	BLACK DRAIN PIPE		↓
119-5A-5E	CONCRETE		↓

Client Sample # (s): Total # of Samples: 14

Relinquished (Client): [signature] Date: 10/20/15 Time: 1125

Received (Lab): ZA Date: 10/20/15 Time: 11:30am

Comments/Special Instructions: (W1)

Colon, Rebecca

From: Chris Giuntoli <giuntoli@geoconinc.com>
Sent: Thursday, November 05, 2015 9:56 AM
To: Batongbacal, Matthew; EMSL Lab - San Leandro
Subject: RE: EMSL report, COC for order(s) 091517994 (091517994 - E8721-02-xx/E8721-02-37)

Hi,

For order 91517994, please analyze sample 119-5B (concrete) by 1,000 point count on standard TAT.

Thanks,
Chris

Chris Giuntoli, CAC | *Senior Project Scientist*
GEOCON CONSULTANTS, INC.
6671 Brisa Street, Livermore, California 94550
P| 925.371.5900 ext. 405 M| 775.685.6116
giuntoli@geoconinc.com / www.geoconinc.com / Facebook / Linkedin

Bay Area ~ Sacramento ~ Fairfield ~ Los Angeles ~ Orange County ~ Riverside County ~ Palm Desert ~ San Diego

Geotechnical Engineering — Land Development, Transportation, Infrastructure, Institutional
Environmental Services
Engineering Geology — Brownfields/Redevelopment, Natural Resources
Construction Inspection

From: EMSL (San Leandro) [mailto:sanleandrolab@emsl.com]
Sent: Tuesday, November 03, 2015 10:38 AM
To: Chris Giuntoli
Subject: EMSL report, COC for order(s) 091517994 (091517994 - E8721-02-xx/E8721-02-37)

Report, COC for order(s):
091517994 - E8721-02-xx/E8721-02-37

Please tell us how we are doing.

Click here to fill out our Customer Survey

Matthew Batongbacal | *Asbestos Supervisor*
EMSL Analytical, Inc. | 464 McCormick Street | San Leandro, CA 94577
Phone: | Fax: 510-895-3680 | Toll Free: 888-455-3675
Lab Hours: Monday - Friday 8AM - 7PM, Saturday & Sunday 9AM - 5PM

Some of the resources EMSL Analytical, Inc. offers to our clients.
LABConnect | Order Products | Client Corner | Training | Additional Resources | Sampling Videos

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EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order: 091520414
Customer ID: GECN21
Customer PO: E8721-02-37
Project ID: E8721-02-xx

Attention: Chris Giuntoli
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

Project: E8721-02-37 (E8721-02-xx)

Phone: (775) 685-6116
Fax: (925) 371-5915
Received Date: 12/ 9/2015 11:30 AM
Analysis Date: 12/22/2015
Collected Date: 12/ 9/2015

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
119-5F *091520414-0001*	CONCRETE	Gray Non-Fibrous Homogeneous		40% Quartz 25% Ca Carbonate 20% Gypsum 15% Non-fibrous (Other)	<1% Chrysotile
119-5G *091520414-0002*	CONCRETE	Gray Non-Fibrous Homogeneous		45% Quartz 25% Ca Carbonate 20% Gypsum 10% Non-fibrous (Other)	<1% Chrysotile

Analyst(s)
Cecilia Yu (2)

Chris Dojlidko, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial Report From: 12/22/2015 17:25:24

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	091520414
CustomerID:	GECN21
CustomerPO:	E8721-02-37
ProjectID:	E8721-02-xx

Attn: **Chris Giuntoli**
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

Phone:	(925) 371-5900
Fax:	(925) 371-5915
Received:	12/09/15 11:30 AM
Analysis Date:	1/3/2016
Collected:	12/9/2015

Project: **E8721-02-37**

Test Report: Asbestos Analysis of Bulk Material via EPA 600/R-93/116. Quantitation using the 1,000 Point Count Procedure

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
119-5F *091520414-0001*	- CONCRETE	Gray Non-Fibrous Homogeneous		99.60% Non-fibrous (other)	**0.40% Chrysotile**
119-5G *091520414-0002*	- CONCRETE	Gray Non-Fibrous Homogeneous		99.40% Non-fibrous (other)	**0.60% Chrysotile**

Analyst(s)
Cecilia Yu (2)

Chris Dojlidko, Laboratory Manager
or other approved signatory

Some samples may contain asbestos fibers present in dimensions below PLM resolution limits.The limit of detection as stated in the method is 0.1%. EMSL Analytical Inc suggests that samples reported as <0.1% or none detected undergo additional analysis via TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval EMSL Analytical Inc. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government. EMSL Analytical Inc. bears no responsibility for sample collection activities, analytical method limitations, or the accuracy of results when requested to separate layered samples. EMSL Analytical Inc liability is limited to the cost of sample analysis.The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from 01/03/2016 16:42:46

THIS IS THE LAST PAGE OF THE REPORT.

EMSL ANALYTICAL, INC
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*

091520414

EMSL ANALYTICAL, INC.
2235 POLVOROSA DR., STE. 230
SAN LEANDRO, CA 94577
PHONE: (510) 895-3675
FAX: (510) 895-3680

Company: GEOCON	EMSL-Bill to: ☒ Same ☐ Different If Bill to is Different note instructions in Comments**
Street: 6671 BRISA ST	*Third Party Billing requires written authorization from third party*
City: LIVERMORE State/Province: CA	Zip/Postal Code: 94550 Country:
Report To (Name): CHRIS GIUNTOLI	Fax #:
Telephone #: 925-371-5900	Email Address: GIUNTOLI@GEOCONINC.COM
Project Name/Number: E8721-02-37	
Please Provide Results: ☐ Fax ☒ Email	Purchase Order: U.S. State Samples Taken:

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☒ 2 Week

**For TEM Air 3 hours/6 hours, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide*

PCM - Air
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0 25%) ☐ 1000 (<0 1%)
- ☐ NYS 198 1 (friable in NY)
- ☐ NYS 198 6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0 25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: CHRIS GIUNTOLI Samplers Signature: [signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
119-5F/5G	CONCRETE		12/8/15

Client Sample # (s): Total # of Samples: 2

Relinquished (Client): [signature] Date: 12/9/15 Time: 1133

Received (Lab): ZA Date: 12/9/15 Time: 11:30am (W1)

Comments/Special Instructions:

October 28, 2015

Chris Giuntoli
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

TEL: (925) 371-5900
FAX: (925) 371-5915

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N017338

RE: 780/LAUREL ST, E8721-02-37

Attention: Chris Giuntoli

Enclosed are the results for sample(s) received on October 21, 2015 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CLIENT: Geocon Consultants, Inc.
Project: 780/LAUREL ST, E8721-02-37
Lab Order: N017338

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

Samples were received intact with proper chain of custody documentation.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Samples were analyzed within method holding time.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Lead and Chromium QC samples N017337-020A-MS, N017337-020A-MSD and N017347-011A-MS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
CALIFORNIA
11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436
NEVADA
3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

ASSET Laboratories

Date: *28-Oct-15*

CLIENT: Geocon Consultants, Inc.
Project: 780/LAUREL ST, E8721-02-37
Lab Order: N017338
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N017338-001A	119-P1	PAINT CHIPS	10/19/2015	10/21/2015	10/28/2015
N017338-002A	119-P2	PAINT CHIPS	10/19/2015	10/21/2015	10/28/2015

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
CALIFORNIA
11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436
NEVADA
3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	119-P1
Lab Order:	N017338	**Collection Date:**	10/19/2015
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	PAINT CHIPS
Lab ID:	N017338-001		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52806				PrepDate: 10/22/2015	Analyst: **CEI**
Lead	ND	20		mg/Kg	1	10/26/2015 11:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	119-P2
Lab Order:	N017338	**Collection Date:**	10/19/2015
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	PAINT CHIPS
Lab ID:	N017338-002		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP						
EPA 3050B			**EPA 6010B**			
RunID: ICP2_151023A	QC Batch: 52799			PrepDate:	10/22/2015	Analyst: **CEI**
Chromium	25	4.0		mg/Kg	1	10/23/2015 08:59 PM
Lead	4.1	4.0		mg/Kg	1	10/23/2015 08:59 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: Geocon Consultants, Inc.
Work Order: N017338
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **MB2-52799** SampType: **MBLK** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **PBS** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114415**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									
Lead	ND	1.0									

Sample ID: **LCS-52799** SampType: **LCS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **LCSS** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114416**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	24.182	1.0	25.00	0	96.7	80	120				
Lead	23.963	1.0	25.00	0	95.9	80	120				

Sample ID: **N017337-020A-DUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	38.820	1.0						36.81	5.32	20	
Lead	26.368	1.0						27.33	3.57	20	

Sample ID: **N017337-020A-MS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114424**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	58.402	1.0	25.01	36.81	86.3	75	125				
Lead	45.065	1.0	25.01	27.33	70.9	75	125				S

Sample ID: **N017337-020A-MSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017338
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **N017337-020A-MSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	55.400	1.0	24.93	36.81	74.6	75	125	58.40	5.28	20	S
Lead	43.320	1.0	24.93	27.33	64.2	75	125	45.06	3.95	20	S

Sample ID: **N017347-011A-DUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114443**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.832	1.0						13.99	1.13	20	
Lead	3.951	1.0						4.399	10.7	20	

Sample ID: **N017347-011A-MS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114444**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	31.846	1.0	25.06	13.99	71.2	75	125				S
Lead	22.030	1.0	25.06	4.399	70.3	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017338
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB-52806** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103799**
Client ID: **PBS** Batch ID: **52806** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/26/2015** SeqNo: **2118091**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: **LCS-52806** SampType: **LCS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103799**
Client ID: **LCSS** Batch ID: **52806** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/26/2015** SeqNo: **2118092**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	24.777	5.0	25.00	0	99.1	80	120				

Sample ID: **LCSD-52806** SampType: **LCSD** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103799**
Client ID: **LCSS02** Batch ID: **52806** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/26/2015** SeqNo: **2118093**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	24.671	5.0	25.00	0	98.7	80	120	24.78	0.429	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CHAIN OF CUSTODY RECORD

5.0°C IR#1

ADVANCED TECHNOLOGY LABORATORIES
3151 W. Post Road, Las Vegas, NV 89118
Tel: (702) 307-2659 • Fax: (702) 307-2691

P.O. #: _____ Quote #: _____
Logged By: _____ Date: _____

NOTE: Please include your Quote No. to ensure proper pricing of your project.

FOR LABORATORY USE ONLY

Method of Transport: ☐ Client ☐ ATL ☐ FedEx ☐ OnTrac ☒ GSO ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☒ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ NA
3. CONTAINER INTACT Y ☒ N ☐
4. SEALED Y ☐ N ☒
5. # OF SPLS MATCH COC Y ☒ N ☐
6. PRESERVED Y ☐ N ☒

Client: GEOCON
Address: 6671 BRISA ST
Tel: 925-371-5900
Attention: CHRIS GIUNTOLI
City: LIVERMORE State: CA Zip Code: 94550
Fax:

Project Name: 780 LAUREL ST
Project #: E8721-02-37
Sampler: C GIUNTOLI (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
	10/20/15	1700	Anthony Hattori	10-21-15	1203
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:
Project Mgr /Submitter: CG 10/20/15
Print Name Date
Signature

Send Report To: Attn: SEE ABOVE Co: Addr: City: State: Zip:

Bill To: Attn: SAME Co: Addr: City: State: Zip:

Special Instructions/Comments: *DOUBLE LEAD MAY BE REQUESTED BASED ON TOTAL METAL RESULTS

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

ITEM	LAB USE ONLY: Batch #: Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8021 (BTEX)	8015B (DRO)	TITLE 22 / CAM 17 (6010 / 7000)	TOTAL LEAD *	TOTAL CHROMIUM	SEDIMENT	SOLID	SOIL	DRINKING WATER	GROUND WATER	WASTEWATER	STORMWATER	AQUEOUS	TRIP CHRG	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	N017338-1	119-P1	10/19/15										X										X	E	1	P B		
	↓ -2	119-P2	↓										X	X									X	↓	↓	↓		

QA/QC: RTNE ☐ CT ☒ Legal ☐
SWRCB ☐ Logcode _____
OTHER _____

- TAT starts 8AM the following day if samples received after 5 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☐ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	10/21/2015	Workorder:	N017338
Rep sample Temp (Deg C):	5.0	IR Gun ID:	1
Temp Blank:	☐ Yes ☑ No		
Carrier name:	Golden State Overnight		
Last 4 digits of Tracking No.:	5341	Packing Material Used:	Bubble Wrap
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☐	NA ☑
15. Did the bottle labels indicate correct preservatives used?	Yes ☐	No ☐	NA ☑
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments

Checklist Completed B for MBC pA 10/26/2015

Reviewed By: gsg 10/26/15

GSO GOLDEN STATE OVERNIGHT

800-322-5555 www.gso.com

Ship From
GEOCON, INC.
GEOCON - LIVERMORE OFFICE
6671 BRISA STREET
LIVERMORE, CA 94550

Ship To
ADVANCED TECHNOLOGY LABS - LAS VEGAS
SAMPLE RECEIVING
3151 W. POST ROAD
LAS VEGAS, NV 89118

COD: $0.00
Weight: 0 lb(s)
Reference:
E8721-02-37
Delivery Instructions:

Signature Type: REQUIRED

Tracking #: 529665341

CPS

LVS

A

LAS VEGAS

N89103A

43811962

Print Date: 10/20/2015 1:06 PM

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer. Securely attach this label to your package, do not cover the barcode.

MATERIALS INFORMATION

PRELIMINARY SITE INVESTIGATION REPORT

ROUTE: 04- Sol-780-7.1

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. E8721-02-37
CALTRANS EA 04-4G4501
PROJECT # 04-1200-0116477-1

FEBRUARY 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.

GEOCON CONSULTANTS, INC.

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STATE OF CALIFORNIA

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 Laurel Street Overcrossing replacement, Bridge No. 23-0119, Post Mile (PM) 6.8-7.3, on Interstate 780 in Solano County, Vallejo, California, was prepared by Geocon Consultants, Inc. (Geocon) under California Department of Transportation (Caltrans) Contract No. 04A4336 and Task Order No. 37 (TO-37), EA 04-4G4501.

1.1 Project Description and Proposed Improvements

The project proposes to upgrade the vertical clearance of the overcrossing from the existing 14 foot 10 inches to the standard 16 foot 6 inches, under the provisions of the Caltrans Bridge Preservation Program. The project will replace the existing bridge with a precast, longer and wider concrete box grinder structure that will include two 11-foot lanes with shoulders and sidewalks. The bridge will be supported by two columns at the bent and two seat-type abutments. The abutments will be moved back from their current locations to accommodate the new design. A Vicinity Map is included as Figure 1.

1.2 General Objectives

The purpose of the site investigation was to assess soil for the presence or absence of hazardous concentration of California Assessment Manual (CAM) 17 metals, including aerially-deposited lead (ADL), and total petroleum hydrocarbons as diesel (TPHd), as motor oil (TPHmo), and as gasoline (TPHg). Groundwater was assessed for CAM 17 metals, TPHd, TPHmo, TPHg, volatile organic compounds (VOCs), benzene, toluene, ethylbenzene and total xylenes (BTEX), and methyl tert-butyl ether (MTBE) within the project limits.

The analytical results of the sampling will be used to evaluate soil and groundwater handling practices, worker health and safety, and soil and groundwater reuse and disposal options.

A lead-containing paint and asbestos-containing material survey of the bridge structure was performed and reported separately.

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 2013* (updated December 2013), 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. "The 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, December 2013). ESLs are risk assessment tools and are "not intended to serve as a rule to determine if a waste is hazardous under the state or federal regulations."

Residential and commercial/industrial land use 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 following ESL tables were used for this characterization:

- Table A. Shallow Soil (≤3m bgs), Groundwater is a Current or Potential Source of Drinking Water
- Table K-3. Direct Exposure Soil Screening Levels, Construction/Trench Worker Exposure Scenario

The respective ESLs are listed at the end of Tables 3 to 6 for comparative purposes.

3.0 SCOPE OF SERVICES

The scope of services performed under TO-37, EA 04-4G4501 included the following:

3.1 Pre-field Activities

- Prepared the Preliminary Site Investigation Workplan and Health and Safety Plan, dated October 2015.
- Retained the services of Asset Laboratories (Asset), Las Vegas, Nevada, a Caltrans-approved and California-certified analytical laboratory, to perform the chemical analyses of soil and groundwater samples.
- Obtained a drilling permit from Solano County Department of Resource Management, Environmental Health Services (Appendix B).
- Retained the services of Gregg Drilling to perform drilling activities.
- Retained the services of D&M Traffic Services to provide traffic control during the drilling activities.
- Arranged site work with Caltrans.

3.2 Field Activities

An initial field investigation was performed on October 19 and 20, 2015, by Geocon staff. As outlined in the original TO-37, 12 soil borings (A1 to A8 and B1 to B4) were advanced at the project location using hand-auger drilling techniques. The borings were advanced to a maximum depth of 9 feet; however, the borings were met with refusal before groundwater was encountered. In order to collect groundwater samples, TO-37 was amended and two additional borings (GWB1 and GWB2) were advanced using hollow-stem auger techniques on January 8, 2016. Groundwater samples were collected from the two new borings.

The following soil samples were collected:

- 13 samples for CAM 17 metals
- 20 samples for total lead
- 19 samples for TPHd and TPHmo
- 4 samples for TPHg
- 10 samples for pH

Two groundwater samples were collected for total (unfiltered) CAM 17 metals, dissolved (filtered) CAM 17 metals, TPHd, TPHo, TPHg, BTEX, MTBE, and VOCs.

One rinse blank sample was collected for total lead analysis. One trip blank sample was collected for TPHg, BTEX, MTBE, and VOCs analyses.

All samples were submitted under standard turnaround time to the laboratory.

4.0 INVESTIGATIVE METHODS

4.1 Sampling Procedures

Soil samples were collected from 12 boring locations (A1 to A8 and B1 to B4) identified by the Caltrans Task Order Manager using hand-auger drilling techniques. Two additional borings (GWB1 and GWB2) were advanced to collect groundwater samples using hollow-stem auger drilling techniques. Boring coordinates are presented on Table 1. Boring locations are depicted on the Site Plan, Figure 2.

Soil samples were placed in new resealable plastic bags or stainless steel tubes. Sample tubes were sealed with Teflon tape and plastic lids prior to being stored in a chest cooled with ice. The grab-groundwater samples were pumped from polyethylene tubing fitted with a check valve directly into laboratory containers. The groundwater sample collected for dissolved CAM 17 metals analysis was filtered in the laboratory prior to analysis.

Sample containers were labeled and transported to Caltrans-approved, certified environmental laboratories using standard COC documentation. Hand auger soil borings were backfilled to surface with soil cuttings. Hollow stem auger borings were backfilled 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. The trip blank sample was carried in the ice chest with groundwater samples. A rinse blank sample was collected along with the hand-auger soil samples.

4.2 Laboratory Analyses

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

The soil samples were analyzed as follows:

- 13 samples for CAM 17 metals using EPA Test Methods 6010 ICAP and 7471.
- 20 samples for total lead analysis using EPA Test Method 6010B.
- 10 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.
- 7 samples with WET lead concentrations exceeding 5.0 mg/l were further for DI-WET lead.

- 6 samples with WET lead concentrations exceeding 5.0 mg/l and total lead concentrations exceeding 100 mg/kg were further analyzed for TCLP lead.
- 19 samples for TPHd using EPA Test Method 8015B.
- 19 samples for TPHmo using EPA Test Method 8015B.
- 4 samples for TPHg using EPA Test Method 8015B.
- 10 samples for pH using EPA Test Method 9045C.

The groundwater samples were analyzed as follows:

- 2 samples for total (unfiltered) CAM 17 metals using EPA Test Methods 6010B and 7470A.
- 2 samples for dissolved (filtered) CAM 17 metals using EPA Test Methods 6010B and 7470A.
- 2 samples for TPHd and TPHmo using EPA Test Method 8015B.
- 2 samples for TPHg using EPA Test Method 8015B.
- 2 samples for VOCs using EPA Test Method 8260B.

The trip blank sample was analyzed for VOCs using EPA Test Method 8260B and TPHg using EPA Test Method 8015B. The equipment rinse blank sample was analyzed for total lead using EPA Test Method 6010 ICAP.

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 A1 to A8 and B1 to B4 were completed using hand-auger drilling techniques. Soil consisted of dry, silty sand and aggregate base to a depth of 1.5 feet and dry silty sand and sandstone to 9 feet. Refusal was encountered in all borings and groundwater was not encountered. The soil at

hollow-stem-auger borings GWB1 and GWB2 consisted of loose, landscaping chips and humus to a depth of 1 foot, followed by loose, moist to wet, dark brown gravelly silty sand to 3 feet. Soil to a depth of 10 feet consisted of fine-grained sandstone and siltstone to 18 feet underlain by apparent mudstone to 35 feet. Groundwater in boring GWB1 was encountered from between 32 to 35 feet and rose to approximately 23 feet. The first attempt at boring GWB2 met with refusal at 17 feet. The drill rig was repositioned and advanced to 25 feet. Groundwater was encountered in boring GWB2 at a depth of 24.5 feet and rose to approximately 22 feet.

5.2 Laboratory Analytical Results

The analytical results are summarized in Tables 2 through 6 and are summarized below:

Soil Sample Results:

- Chromium and lead were reported at concentrations equal to or exceeding 10 times their respective STLCs.
- Remaining CAM 17 metals were reported in the samples at total concentrations below 10 times their respective STLCs.
- Total chromium was reported at concentrations ranging from 19 mg/kg to 88 mg/kg.
- WET chromium was reported at concentrations of not detected (laboratory reporting limit of 0.25 mg/l) and 0.32 mg/l.
- Total lead was reported at concentrations ranging from not detected (laboratory reporting limit of 5.0 mg/kg) to 210 mg/kg.
- WET lead was reported at concentrations ranging from <0.25 mg/l to 27 mg/l.
- DI-WET lead was reported at concentrations ranging from not detected (0.25 mg/l laboratory reporting limit) to 0.25 mg/l.
- TCLP lead was not detected at or above the laboratory reporting limit of 0.25 mg/l.
- TPHd was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/kg) to 280 mg/kg.
- TPHmo was reported at concentrations ranging from 1.1 mg/kg to 790 mg/kg.
- TPHg was not detected at or above the laboratory reporting limit of 1.0 mg/kg.
- pH ranged from 4.8 to 8.1.

Groundwater Sample Results:

- The following metals were not detected above their respective laboratory reporting limits: antimony, beryllium, selenium, and silver.
- Arsenic, barium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, thallium, vanadium, and zinc were reported at concentrations ranging from not detected (reporting limit of 0.00020 mg/l) to 2.7 mg/l.
- TPHg was not detected at or above the laboratory reporting limit of 0.050 mg/l.

- TPHd was not detected at or above the laboratory reporting limits.
- TPHmo was not detected at or above the laboratory reporting limits.
- BTEX/MTBE were not detected at or above the laboratory reporting limits.
- VOCs were not detected at or above the laboratory reporting limits.

QA/QC Sample Results:

- Total lead was not detected at or above the laboratory reporting limit of 0.0050 mg/l in the equipment rinse blank sample.
- TPHg was not detected at or above the laboratory reporting limit of 0.050 mg/l in the trip blank samples.
- BTEX/MTBE were not detected at or above the laboratory reporting limits 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 two samples. The Relative Percent Difference (RPD) value was outside of acceptance criteria for multiple samples; therefore, the calculations were based on raw values. The Matrix Spike (MS) recovery was outside of acceptance limits for several samples; however, the analytical batches were validated by the laboratory control samples.

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 exists 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 D. The following table presents the calculated UCLs and statistics for the site:

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	137	145	110	18	210
1 to 1.5	45.2	49.0	33.1	2.5	110
3 to 3.5	7.21	7.61	5.77	2.5	9.4
6 to 6.5	NC	NC	8.25	5.5	11
8.5 to 9	NC	NC	8.2	8.2	8.2

NC - Not calculated due to insufficient data set

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 table 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 nine (x, y) data points (i.e., soil samples analyzed for both total lead [x] and WET lead [y]) from the site. In order to achieve an acceptable correlation, the data point with the highest squared residual WET value (160, 27) was omitted from the analysis. The resulting *coefficient of determination* (r^2) equaled 0.6393, which yields a corresponding *correlation coefficient* (r) of 0.80.

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 $y = 0.0698(x)$, 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 D. The predicted WET lead concentrations are summarized in Table 7.

6.0 CONCLUSIONS

6.1 Lead in Soil

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 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 depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 7.

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	137	**10**	145	**Hazardous**
Underlying soil (1 to 3.5 ft)	*37.6*	*2.6*	*40.8*	*Non-hazardous*
0 to 3 ft	75.6	**5.3**	80.9	**Hazardous**
Underlying soil (3 to 3.5 ft)	7.2	0.5	7.6	*Non-hazardous*
0 to 3.5 ft	66	4.6	70	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 California hazardous waste. 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, excavated soil 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 and lead, remaining CAM 17 metals were reported in the samples at total concentrations below 10 times their respective STLCs.

WET chromium was reported at a concentrations ranging from not detected (laboratory reporting limit of 0.25 mg/l) to 0.32 mg/l, below the STLC. Therefore, soil would not be classified as hazardous based on soluble chromium concentrations.

The CAM 17 metals concentrations in site soil were compared to CHHSLs and ESLs. Arsenic and lead were reported at concentrations greater than one or more ESL values. Because concentrations of arsenic and lead 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 and lead are summarized in the table below:

Metal	Maximum	95% UCL	Shallow Soil Residential CHHSL/ESL	Shallow Soil Commercial/ Industrial CHHSL/ESL	Worker Direct Exposure ESL	Published Background Mean[1]	Published Background Range[1]
Arsenic	12	7.40	0.07/0.39	0.24/1.6	10	3.5	0.6 to 11.0
Lead	210	72.9	150/80	3,500/320	320	23.9	12.4 to 97.1

Concentrations reported in mg/kg
[1] Kearney Foundation of Soil Science, March 1996

The 95% UCL arsenic concentration is greater than the residential and commercial land use CHHSLs and ESLs; however, it is less than the construction exposure ESL and within the published background range. The SFRWQCB *November 2007 Update to Environmental Screening Levels (ESLs) Technical Document* states that ambient background concentrations of arsenic typically exceed risk-based screening levels. In such instances, it may be more appropriate to compare site data to regionally specific established background levels.

The 95% UCL lead concentration is below the residential and commercial land use CHHSLs and ESLs, the construction exposure ESL, and is within the published background range.

Based on the reported results for arsenic and lead 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 Hydrocarbons in Soil

TPHg was not detected in the samples at or above the reporting limit of 1.0 mg/kg.

TPHd was reported at concentrations ranging from <1.0 mg/kg to 280 mg/kg. Five sample results exceeded the residential land use ESL of 100 mg/kg and met or exceeded the commercial/industrial land use ESL of 110 mg/kg. All results were below the construction/direct exposure ESL of 900 mg/kg. TPHd has a calculated 95% UCL of 92.6 mg/kg.

TPHmo was reported at concentrations ranging from 1.1 mg/kg to 790 mg/kg. Six sample results exceeded the residential land use ESL of 100 mg/kg. Two were above the commercial/industrial land use ESL of 500 mg/kg and all were below the construction/direct exposure ESL of 28,000 mg/kg. TPHmo has a calculated 95% UCL of 248 mg/kg.

Based on the reported TPHd and TPHmo concentrations exceeding the residential land use ESLs, reuse or disposal of excavated soil may be restricted based on TPHd and TPHmo content, depending on proposed use.

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

6.4 CAM 17 Metals in Groundwater

Grab-groundwater samples were collected from borings GWB1 and GWB2 and analyzed for total (unfiltered) and dissolved (filtered) CAM 17 metals. Table 5 summarizes analytical results and corresponding ESLs for total and dissolved CAM 17 Metals.

Total (unfiltered) CAM 17 Metals Analysis - Antimony, beryllium, molybdenum, selenium, silver, and thallium were not detected at or above the laboratory reporting limits. Arsenic, barium, cadmium, chromium, cobalt, copper, lead, mercury, nickel, vanadium, and zinc were reported at concentrations exceeding the ESLs for groundwater as a current/potential source of drinking water, groundwater not as a current or potential source of drinking water, and surface water for marine and estuarine environments in all samples.

Dissolved (filtered) CAM 17 Metals Analysis - Antimony, beryllium, cadmium, chromium, cobalt, lead, mercury, nickel, selenium, silver, thallium, vanadium, and zinc were not detected at or above the laboratory reporting limits. Arsenic and copper were reported at concentrations exceeding the ESLs for groundwater as a current/potential source of drinking water, groundwater not as a current or potential source of drinking water, and surface water for marine and estuarine environments (SFRWQCB, December 2013, Tables A, B, and F). Barium and molybdenum were reported at concentrations below the ESLs.

The higher concentrations and number of metals that exceeded one or more ESLs in the total CAM 17 Metals analysis are likely due to suspended sediment in the unfiltered grab-groundwater samples.

Based on the reported CAM 17 metals concentrations, groundwater generated during construction may require treatment to reduce turbidity (i.e., sediment load) and resulting metal content prior to discharge or disposal.

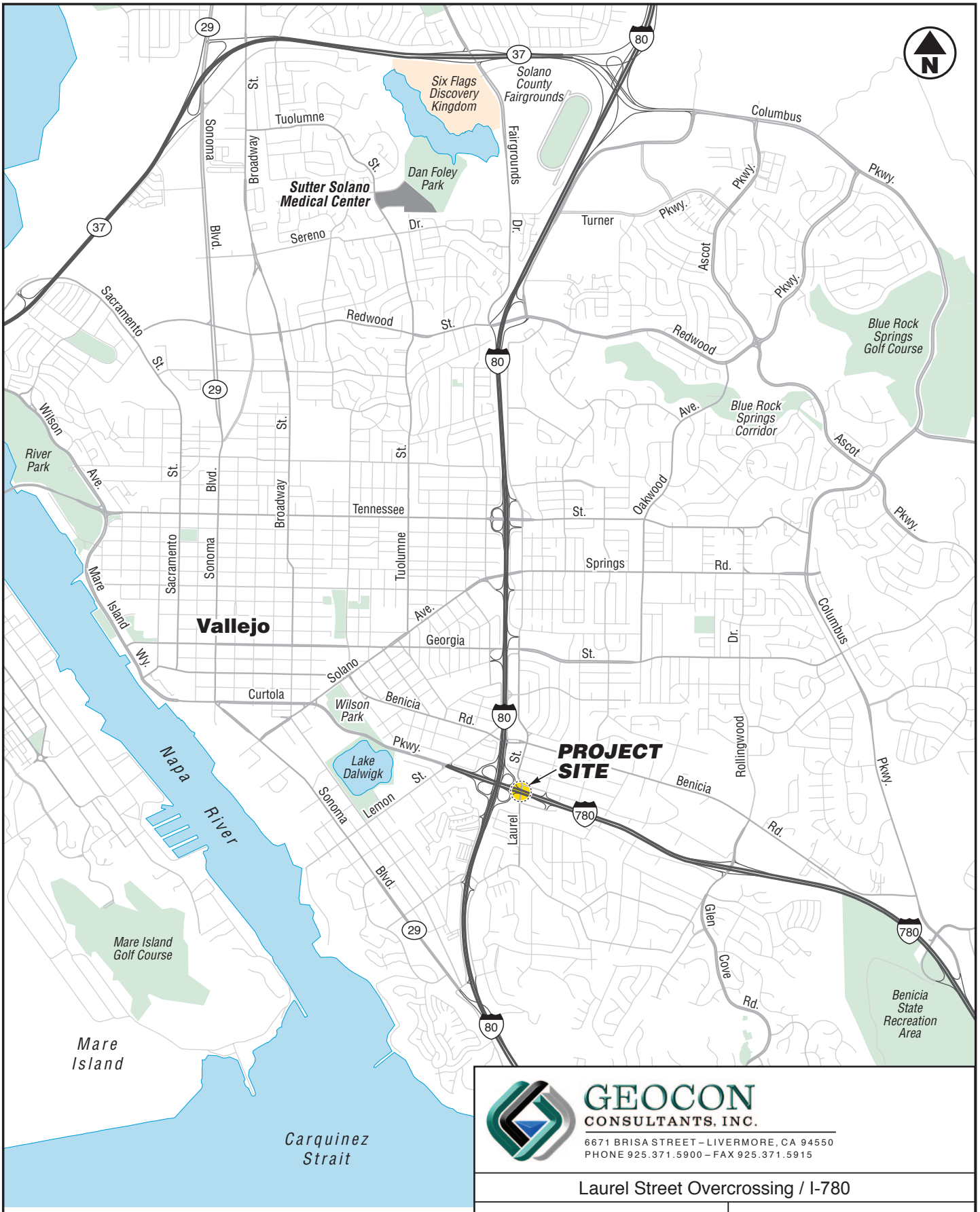
6.5 Organic Compounds in Groundwater

The groundwater samples collected from borings GWB1 and GWB2 were analyzed for TPHd, TPHmo, TPHg, BTEX, MTBE, and VOCs. These compounds were not detected at or above laboratory reporting limits.

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

6.6 Worker Protection

The contractor(s) should prepare a project-specific health and safety plan to prevent or minimize worker exposure to metals and hydrocarbons in soil and metals in 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
Scale in Miles

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Laurel Street Overcrossing / I-780

Vallejo, California

VICINITY MAP

GEOCON Proj. No. E8721-02-37

Task Order No. 37 | February 2016 | Figure 1

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Laurel Street Overcrossing / I-780

Vallejo, California

SITE PLAN

GEOCON Proj. No. E8721-02-37

EA No. 04-4G4501 | February 2016 | Figure 2

SITE0116

TABLE 1
Boring Coordinates
I-780/Laurel Street OC
Vallejo, CA

Boring	Latitude	Longitude
A1	38.090606	-122.228538
A2	38.090686	-122.228523
A3	38.090624	-122.836500
A4	38.090710	-122.228354
A5	38.091285	-122.228422
A6	38.091376	-122.228409
A7	38.091201	-122.228275
A8	38.091298	-122.228247
B1	38.090980	-122.228504
B2	38.091006	-122.228476
B3	38.090935	-122.228337
B4	38.090971	-122.228336
GWB1	38.090916	-122.228990
GWB2	38.091286	-122.228816

TABLE 2
Summary of Lead and pH Results - Soil
I-780/Laurel Street OC
Vallejo, CA

Sample ID	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
A1-0	0 to 0.5	160	27	---	---	4.8
A1-1	1 to 1.5	110	2.2	---	---	---
A1-3	3 to 3.5	9.0	---	---	---	---
A2-0	0 to 0.5	110	6.2	0.027	<0.25	7.3
A2-1	1 to 1.5	<5.0	---	---	---	7.9
A2-3	3 to 3.5	5.8	---	---	---	---
A3-0	0 to 0.5	32	---	---	---	---
A3-1	1 to 1.5	12	---	---	---	---
A4-0	0 to 0.5	36	---	---	---	---
A4-1	1 to 1.5	21	---	---	---	---
A4-3	3 to 3.5	5.4	---	---	---	---
A5-0	0 to 0.5	100	6.6	0.11	<0.25	5.4
A5-1	1 to 1.5	90	13	0.071	---	---
A6-0	0 to 0.5	200	16	0.25	<0.25	5.0
A6-1	1 to 1.5	50	<0.25	---	---	5.9
A7-0	0 to 0.5	40	---	---	---	---
A7-1	1 to 1.5	15	---	---	---	---
A7-3	3 to 3.5	9.4	---	---	---	---
A8-0	0 to 0.5	34	---	---	---	---
A8-1	1 to 1.5	27	---	---	---	---
B1-0	0 to 0.5	18	---	---	---	---
B1-1	1 to 1.5	6.5	---	---	---	---
B2-0	0 to 0.5	190	12	0.034	<0.25	7.8
B2-1	1 to 1.5	7.6	---	---	---	8.1
B2-3	3 to 3.5	<5.0	---	---	---	---
B2-6	6 to 6.5	5.5	---	---	---	---
B3-0	0 to 0.5	190	15	0.11	<0.25	7.3
B3-1	1 to 1.5	47	---	---	---	---
B4-0	0 to 0.5	210	14	<0.025	<0.25	8.1
B4-1	1 to 1.5	8.8	---	---	---	---
B4-3	3 to 3.5	<5.0	---	---	---	---
B4-6	6 to 6.5	11	---	---	---	---
B4-8.5	8.5 to 9	8.2	---	---	---	---
Rinse Blank		<0.0050 mg/l				
Hazardous Waste Criteria						

TABLE 2
Summary of Lead and pH Results - Soil
I-780/Laurel Street OC
Vallejo, CA

Sample ID	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
	TTLC (mg/kg)	1,000	---	---	---	---
	STLC (mg/l)	---	5.0	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
TCLP = Toxicity Characteristic Leaching Procedure
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration

TABLE 3
Summary of CAM 17 Metals Results - Soil
I-780/Laurel Street OC
Vallejo, CA

Sample ID	Sample Depth (ft)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
A1-0	0 to 0.5	<2.0	2.0	61	<1.0	<1.0	19	4.6	30	160	0.28	2.0	29	<1.0	<1.0	<1.0	21	230
A1-1	1 to 1.5	<4.0	7.3	180	<2.0	<2.0	32	13	31	110	0.13	<2.0	36	2.3	<2.0	<2.0	36	130
A2-3	3 to 3.5	<2.0	4.9	65	<1.0	<1.0	25	12	20	5.8	<0.099	<1.0	35	1.3	<1.0	<1.0	28	34
B2-6	6 to 6.5	<2.0	4.9	89	<1.0	<1.0	40	17	27	5.5	<0.10	<1.0	42	2.1	<1.0	<1.0	51	42
A3-1	1 to 1.5	<2.0	7.1	84	<1.0	<1.0	41	13	37	12	<0.10	<1.0	45	2.1	<1.0	<1.0	46	57
A4-1	1 to 1.5	<4.0	8.3	100	<2.0	<2.0	43	14	38	21	<0.10	<2.0	47	<2.0	<2.0	<2.0	55	160
B4-6	6 to 6.5	<2.0	12	86	<1.0	<1.0	38	19	46	11	<0.10	<1.0	56	2.4	<1.0	<1.0	37	67
B4-8.5	8.5 to 9	<2.0	7.7	74	<1.0	<1.0	31	13	42	8.2	<0.10	<1.0	32	2.8	<1.0	<1.0	36	56
A5-0	0 to 0.5	<2.0	4.3	120	<1.0	<1.0	88 *0.32*	11	40	100	0.15	1.0	76	1.7	<1.0	<1.0	38	550
A5-1	1 to 1.5	<4.0	6.9	140	<2.0	<2.0	55 *<0.25*	12	32	90	0.15	<2.0	76	<2.0	<2.0	<2.0	42	130
A7-1	1 to 1.5	<2.0	5.3	79	<1.0	<1.0	41	13	34	15	<0.10	<1.0	39	2.3	<1.0	<1.0	50	51
A7-3	3 to 3.5	<2.0	4.4	76	<1.0	<1.0	49	14	32	9.4	<0.10	<1.0	46	1.9	<1.0	<1.0	45	46
A8-1	1 to 1.5	<2.0	7.4	110	<1.0	<1.0	37	9.9	30	27	<0.10	<1.0	33	1.8	<1.0	<1.0	40	49
Hazardous Waste Criteria																		
TTLC (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	---	---	---
CHHSLs																		
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

TABLE 3
Summary of CAM 17 Metals Results - Soil
I-780/Laurel Street OC
Vallejo, CA

Sample ID	Sample Depth (ft)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
ESLs																		
Residential Land Use		20	0.39	750	4.0	12	1,000	23	230	80	6.7	40	150	10	20	0.78	200	600
Commercial/Industrial Land Use		40	1.6	1,500	8.0	12	2,500	80	230	320	10	40	150	10	40	10	200	600
Construction Worker Exposure		120	10	61,000	180	110	460,000 (1)	49	12,000	320	27	1,500	6,100	1,500	1,500	3.1	1,500	93,000
Background Concentrations (2)																		
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

TTLC = Total Threshold Limit Concentration

STLC = Soluble Threshold Limit Concentration

TCLP = Toxicity Characteristic Leaching Procedure

CHHSLs = California Human Health Screening Levels, Table 1, California EPA, January 2005

ESLs = Environmental Screening Levels, Tables A and K-3, SFRWQCB, December 2013

(1) = Value listed is for Chromium III, as there is no construction exposure standard for total chromium

(2) = 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)

TABLE 4
Summary of Petroleum Hydrocarbons Results - Soil
I-780/Laurel Street OC
Vallejo, CA

Sample ID	Sample Depth (ft)	TPHd (mg/kg)	TPHmo (mg/kg)	TPHg (mg/kg)
A1-0	0 to 0.5	200	640	---
A1-1	1 to 1.5	110	370	---
A2-0	0 to 0.5	47	170	---
A2-1	1 to 1.5	3.0	4.3	---
A2-3	3 to 3.5	---	---	<1.0
A3-1	1 to 1.5	---	---	<1.0
A4-1	1 to 1.5	8.1	22	---
A4-3	3 to 3.5	4.8	9.2	<1.0
A5-0	0 to 0.5	250	790	---
A5-1	1 to 1.5	130	390	---
A6-1	1 to 1.5	6.9	14	---
A7-1	1 to 1.5	---	---	<1.0
A7-3	3 to 3.5	15	38	---
A8-0	0 to 0.5	20	53	---
A8-1	1 to 1.5	23	53	---
B1-0	0 to 0.5	7.9	18	---
B1-1	1 to 1.5	1.0	1.6	---
B2-1	1 to 1.5	2.1	4.5	---
B2-6	6 to 6.5	<1.0	1.1	---
B3-1	1 to 1.5	11	16	---
B4-0	0 to 0.5	280	410	---
B4-1	1 to 1.5	2.0	3.7	---
	ESLs			
	Residential	100	100	100
	Commercial/Industrial	110	500	500
	Construction Exposure	900	28,000	2,700

Notes:
mg/kg = milligrams per kilogram
TPHd = Total petroleum hydrocarbons as diesel
TPHmo = Total petroleum hydrocarbons as motor oil
ESLs = Environmental Screening Levels, Tables A and K-3, SFRWQCB, December 2013.

TABLE 5
Summary of CAM 17 Metals Results - Groundwater
I-780/Laurel Street OC
Vallejo, CA

Sample ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
GWB1 (Total)	<0.010	0.13	1.9	<0.0030	0.016	1.3	0.39	0.98	0.057	0.0011	<0.0050	0.92	<0.010	<0.0030	<0.015	1.6	1.3
GWB1 (Dissolved)	<0.010	0.013	0.21	<0.0030	<0.0030	<0.0030	<0.0030	0.014	<0.010	<0.00020	0.010	<0.0050	<0.010	<0.0030	<0.015	<0.0030	<0.010
GWB2 (Total)	<0.010	0.11	2.7	<0.0030	0.016	1.1	0.43	1.1	0.065	0.0017	<0.0050	1.0	<0.010	<0.0030	<0.015	1.6	1.4
GWB2 (Dissolved)	<0.010	0.012	0.045	<0.0030	<0.0030	<0.0030	<0.0030	0.012	<0.010	<0.00020	0.0052	<0.0050	<0.010	<0.0030	0.017	<0.0030	<0.010
ESLs																	
GW is current/potential source	0.006	0.010	1.0	0.00053	0.00025	0.05	0.0030	0.0031	0.0025	0.000025	0.078	0.0082	0.0050	0.00019	0.0020	0.019	0.081
GW not current/potential source	0.030	0.036	1.0	0.00053	0.00025	0.18	0.0030	0.0031	0.0025	0.000025	0.24	0.0082	0.0050	0.00019	0.0040	0.019	0.081
Surface Water - Freshwater	0.006	0.00014	1.0	0.0027	0.00025	0.05	0.0030	0.0090	0.0025	0.000025	0.078	0.052	0.0050	0.00034	0.0020	0.019	0.12
Surface Water - Marine	0.50	0.00014	1.0	0.00053	0.0093	0.18	0.0030	0.0031	0.0081	0.000025	0.24	0.0082	0.071	0.00019	0.0040	0.019	0.081
Surface Water - Estuarine	0.030	0.00014	1.0	0.00053	0.00025	0.18	0.0030	0.0031	0.0025	0.000025	0.24	0.0082	0.0050	0.00019	0.0040	0.019	0.081

Notes:

Data are shown in milligrams per liter (mg/l).

Total metals analysis performed without filtration. Dissolved metals analysis performed after filtration

< = Not detected above the stated laboratory reporting limit

ESLs = Environmental Screening Levels, Tables A, B, and F (SFRWQCB, December 2013)

TABLE 6
Summary of Organic Compounds Results - Groundwater
I-780/Laurel Street OC
Vallejo, CA

Sample ID	TPHd (mg/l)	TPHmo (mg/l)	TPHg (mg/l)	BTEX/MTBE (µg/l)	VOCs (µg/l)
GWB1	<0.065	<0.065	<0.050	ND	ND
GWB2	<0.055	<0.055	<0.050	ND	ND
Trip Blank	---	---	<0.050	ND	ND
ESLs					
GW is current/potential source	0.10	0.10	0.10	Benzene = 1.0 Toluene = 40 Ethylbenzene = 30 MTBE = 5.0	---
GW not current/potential source	0.64	0.64	0.50	Benzene = 27 Toluene = 130 Ethylbenzene = 43 MTBE = 1,800	---
Surface Water - Freshwater	0.10	0.10	0.10	Benzene = 1.0 Toluene = 40 Ethylbenzene = 30 MTBE = 5.0	---
Surface Water - Marine	0.64	0.64	3.7	Benzene = 71 Toluene = 40 Ethylbenzene = 30 MTBE = 180	---
Surface Water - Estuarine	0.64	0.64	0.5	Benzene = 46 Toluene = 40 Ethylbenzene = 30 MTBE = 180	---
Groundwater - Soil Vapor Intrusion Residential	NV	NV	NV	Benzene = 27 Ethylbenzene = 310 Toluene = 95,000 MTBE = 9,900	---
Groundwater - Soil Vapor Intrusion Commercial/Industrial	NV	NV	NV	Benzene = 270 Toluene = NV Ethylbenzene = 3,100 MTBE = 100,000	---
Taste and Odor Threshold*	0.10	NV	0.005	Benzene = 170 Ethylbenzene = 29 Toluene = 42 MTBE = 40	---

Notes:
mg/l = milligrams per liter
µg/l = micrograms per liter
TPHd = Total petroleum hydrocarbons as diesel
TPHmo = Total petroleum hydrocarbons as motor oil
TPHg = Total petroleum hydrocarbons as gasoline
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tert-butyl ether
VOCs = Volatile organic compounds
ND = Not detected
NV = No Value
< = Not detected at or above the stated laboratory reporting limit
ESLs = Environmental Screening Levels, Tables A, B, E-1, and F (SFRWQCB, December 2013)
* Water Quality Goals, Cal EPA SWRCB, April 2011

TABLE 7
Summary of Lead Statistical Analysis
I-780/Laurel Street OC
Vallejo, CA

TOTAL LEAD

	90% UCL	95% UCL
0 ft	137	145
1 ft	45.2	49.0
3 ft	7.21	7.61

EXCAVATION SCENARIOS

	Weighted Averages		
Excavation Depth	**90% UCL Total Lead (mg/kg)**	**WET Lead* (mg/l)**	**95% UCL Total Lead (mg/kg)**
0 to 1 ft	137	10	145
Underlying Soil (1 to 3.5 ft)	*37.6*	*2.6*	*40.8*
0 to 3 ft	75.6	5.3	80.9
Underlying Soil (3 to 3.5 ft)	*7.2*	*0.5*	*7.6*
0 to 3.5 ft	66	4.6	70

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
---= Not calculated due to insufficent data set
* = WET lead concentrations are predicted using slope of regression line,
where y = predicted WET lead and x = total lead.

Regression Line Slope: y = 0.0698 x

APPENDIX A

California Environmental Protection Agency
Department of Toxic Substances Control

VARIANCE

Applicant Names:

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

Variance No. V09HQSCD006

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

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 aerially-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 xxxx");

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
Operating Facilities Team
Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Department of Toxic Substances Control

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

Edmund G. Brown Jr.
Governor

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 AERIALLY 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.

Sincerely,

Pauline Batarseh

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

cc: See next page.

Printed on Recycled Paper

Department of Toxic Substances Control

Matthew Rodriquez
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

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

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
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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

APPENDIX B

DEPARTMENT OF RESOURCE MANAGEMENT
ENVIRONMENTAL HEALTH SERVICES

675 TEXAS ST., SUITE 5500
FAIRFIELD CA 94533
(707) 784-6765

WELL PERMIT

W2015-0248

Status: Issued

Expiration Date: 12/22/2016

Site Location: Laurel street overcrossing, Vallejo

SWEEPS #:

APN(s): 0000000000

Well/Boring Type		
Number	Type	Activity
1	Environmental	Boring

Proposed Work: Two borings, one to 35 and one to 26 ft. below grade surface, at the Laurel street overcrossing in Vallejo, for the purposes of groundwater sample collection. Borings to sealed via pressure grout. L. Beadle with Geocon Consultants stated proposed work is performed under contract with Caltrans.

Property Owner:
CA Department of Transportation - CalTrans
111 Grand Ave. MS 8C
ATTN: Cristina Preciado

Well Owner:
CalTrans
111 Grand Ave
MS 8C

Well Driller:
GREGG DRILLING & TESTING INC
2726 WALNUT AVENUE
SIGNAL HILL, CA 90755

Consultant:
Geocon Consultants Inc.
6671 Brisa St.
Livermore, CA 94550

Applicant shall submit a report of finding to Environmental Health Services Division within sixty days after completion of field work

NON TRANSFERABLE

THIS PERMIT IS ISSUED SUBJECT TO ALL STATE LAWS AND ORDINANCES IN THE COUNTY OF SOLANO, STATE OF CALIFORNIA, AND IS REVOCABLE FOR VIOLATION AT ANY TIME. ALL WORK SHALL BE DONE IN CONFORMANCE WITH THE APPROVED APPLICATION.

Call (707) 784-6765 to schedule an inspection a minimum of two working days prior to conducting the field work.

Department of
Resource Management
675 Texas Street, Suite 5500
Fairfield, California 94533
Environmental Health Division
www.solanocounty.com
(707) 784-6765
Fax: (707) 784-4805

RECEIVED DEC 15 2015 COUNTY OF SOLANO RESOURCE MANAGEMENT

For Office Use Only – Environmental Health	
Program #	Sweep#:
Fee Paid on: 12/15/15	$ 258xx
Receipt# 1029227	Permit Expires 12/22/2016
Permit/Log #: W2015-0248	
Site Approved: Anthony Eulau	

WELL / BORING PERMIT APPLICATION

Complete one application per Assessors Parcel. A scaled site plan illustrating the well/boring locations, along with appropriate fee shall be submitted with the application. Please indicate who should receive the permit by checking the appropriate boxes.

Well Site Address Caltrans Right of Way I-780 median/shoulder at Laurel ST City: Vallejo APN no APN Bk 1 Pg 122

☐ Property Owner CA State Dept. of Transportation-Caltrans Phone 510-286-6220
Mailing Address 111 Grand Ave, MS 8C City/State/Zip Oakland, CA 94612

☐ Well Owner (if different from property owner) Above, Attention Cristina Preciado
Address Same City/State/Zip:

☐ Drilling Contractor Gregg Drilling Phone 925-313-5800
Address 950 Howe Rd Martinez CA 94553 License Number 656407 Expires 1-31-16

☒ Consultant Geocon Consultants Inc. Attn. L. Beadle Phone 925.371.5900 Fax
Address 6671 Brisa St City/State/Zip Livermore, CA 94550

WORKERS' COMPENSATION DECLARATION: I affirm that I have a certificate of consent to self-insure or a certificate of Workers' Compensation Insurance, or a certified copy thereof (Sec. 3800, Lab. C.) _____ Certified copy is hereby furnished. X Certified copy is filed with the Solano County Environmental Health Division. (Check which applies)

Date 12/3/15 Applicant [signature]

CERTIFICATE OF EXEMPTION FROM WORKERS' COMPENSATION INSURANCE: (This section need not be completed if the permit is for work valued at five hundred dollars ($500) or less.) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers' Compensation Laws of California.

Date _____ Applicant _____

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Workers' Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked.

Please specify the number of each (borings/wells/etc)

Technical Section - Program 2917____				Hazardous Materials Program 2918____ Site Mitigation/LOP Program 2919			
Water (Pumping) Well		Geotechnical Investigation		Hazwaste/UST/ Site (Chemical) Investigation			
Construction		Exploratory Borings		Exploratory Borings	2	Monitoring Well Const (Leak)	
Repair or Reconstruction		Well Construction		Vapor Sampling Inv.		Monitoring Well Const (Compliance)	
Destruction		Well Destruction		Monitoring Well Dest		Monitoring Well Const (Baseline study)	
Cathodic Protection		Other		Air Sparging Well		Vapor Extraction Well	
Dewatering				Other		Other	

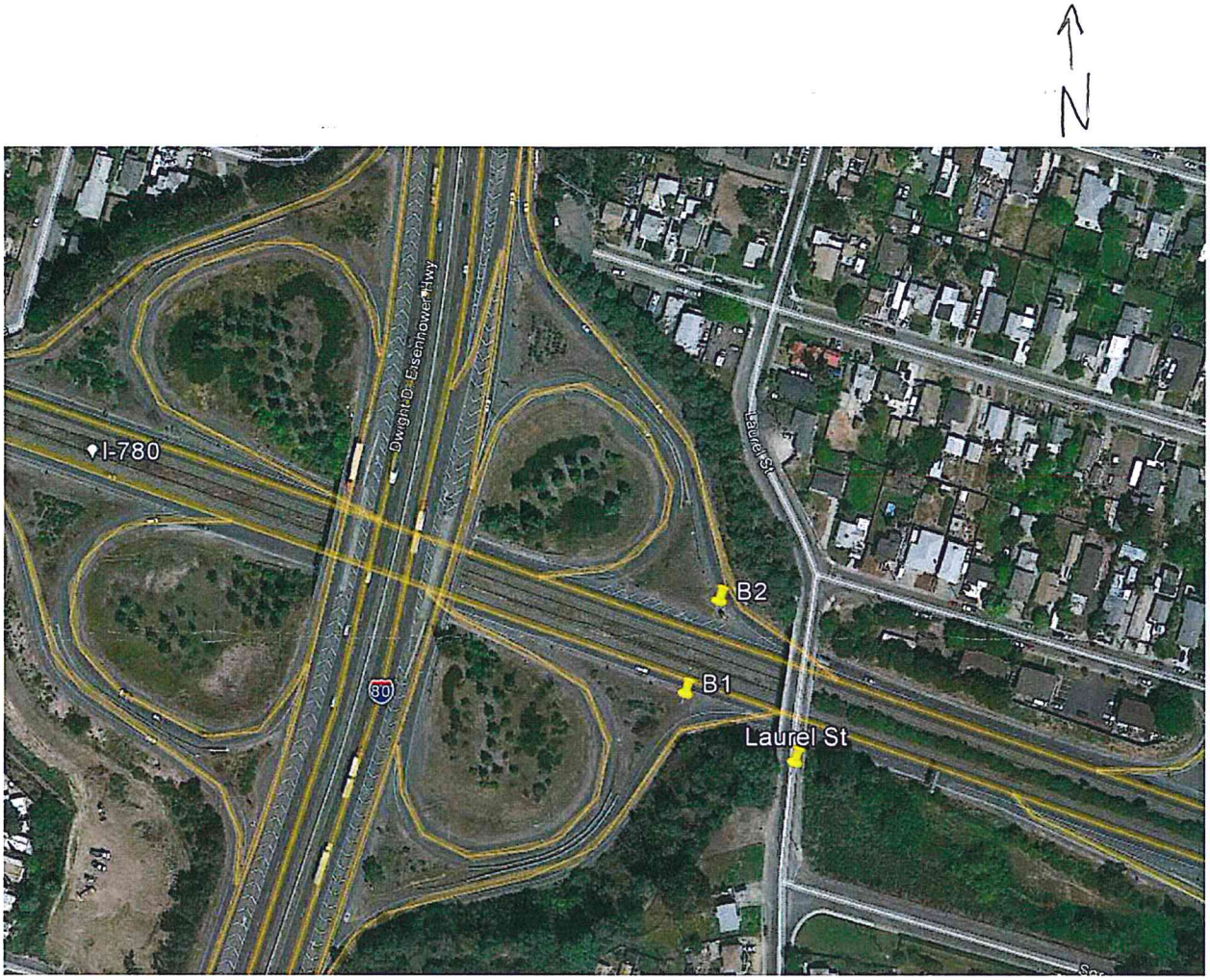
Drilling Method		Well Casing Material Information		Well/Boring Annular Seal	
Rotary		Steel		Total Depth of Boring/Well	ft
Cable		PVC		Width of Annular Space	in
Hollow Stem Auger	2	Other		Well Construction & Sealing Material	
Pneumatic		Proposed Depth of Screen	ft	Neat Cement	ft
Other		Wall/Gauge	in	Sand	ft
		Casing Diameter	in	Concrete	ft
		Well Bore Diameter	in	Bentonite	ft

Project description and additional details of work: Drill 2 borings along I-780 at Laurel St OC for groundwater sample collection. TD 35 ft and 25 ft, Pressure grout seal.

I agree to comply with all regulations of the Solano County Code Chapter 13.10 pertaining to well construction, repair, modification, destruction and abandonment. A properly licensed well driller in possession of a valid C-57 contractor's license shall furnish Environmental Health Services Division a complete well log. The Applicant shall also submit a report of findings to Environmental Health Services Division upon completion of the work.

Applicant [signature] Date 12/3/15

R:\ENVHLTH\TECH\wel~boring permit application.doc



E8721-02-37 Laurel Street OC

Drilling Date 1/6/16

B1 to 35 feet

B2 to 26 feet

HSA. Groundwater sample collection only. Pressure grout seal.

Geocon Consultants, Inc. Attn:Luann Beadle
6671 Brisa St
Livermore, CA 94550
(925) 371-5900 ext 403

APPENDIX C

November 09, 2015

Luann Beadle
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

TEL: 925-371-5900 Ext 403
FAX: (925) 371-5915

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N017337

RE: 780/LAUREL ST, E8721-02-37

Attention: Luann Beadle

Enclosed are the results for sample(s) received on October 21, 2015 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an addendum report. Please incorporate with documentation previously submitted.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Liberman for

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CLIENT: Geocon Consultants, Inc.
Project: 780/LAUREL ST, E8721-02-37
Lab Order: N017337

CASE NARRATIVE

Analytical Comments for EPA 6010B_STLC:

Dilution was necessary due to matrix.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Lead on QC samples N017433-015A-MS and N017433-015A-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
CALIFORNIA
11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436
NEVADA
3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A1-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 11:12:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-001		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP2_151105B	QC Batch: R103980			PrepDate		Analyst: **CEI**
Lead	27	0.50		mg/L	10	11/5/2015 02:19 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A1-1
Lab Order:	N017337	**Collection Date:**	10/19/2015 11:19:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-002		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP2_151105B	QC Batch: R103980			PrepDate		Analyst: **CEI**
Lead	2.2	0.25		mg/L	5	11/5/2015 02:25 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A2-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 11:15:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-004		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP2_151105B	QC Batch: R103980			PrepDate		Analyst: **CEI**
Lead	6.2	0.25		mg/L	5	11/5/2015 02:31 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A5-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 1:20:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-012		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP2_151105B	QC Batch: R103980			PrepDate		Analyst: **CEI**
Chromium	0.32	0.25		mg/L	5	11/5/2015 01:24 PM
Lead	6.6	0.25		mg/L	5	11/5/2015 01:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A5-1
Lab Order:	N017337	**Collection Date:**	10/19/2015 1:30:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-013		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP2_151105B	QC Batch: R103980			PrepDate		Analyst: **CEI**
Chromium	ND	0.25		mg/L	5	11/5/2015 01:30 PM
Lead	13	0.25		mg/L	5	11/5/2015 01:30 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A6-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 1:06:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-014		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP2_151105B	QC Batch: R103980			PrepDate		Analyst: **CEI**
Lead	16	0.25		mg/L	5	11/5/2015 01:36 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A6-1
Lab Order:	N017337	**Collection Date:**	10/19/2015 1:18:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-015		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP2_151105B	QC Batch: R103980			PrepDate		Analyst: **CEI**
Lead	ND	0.25		mg/L	5	11/5/2015 01:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B2-0
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:05:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-023		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP2_151105B	QC Batch: R103980			PrepDate		Analyst: **CEI**
Lead	12	0.25		mg/L	5	11/5/2015 01:47 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B3-0
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:50:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-027		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP2_151105B	QC Batch: R103980			PrepDate		Analyst: **CEI**
Lead	15	0.25		mg/L	5	11/5/2015 01:54 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B4-0
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:05:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-029		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP2_151105B	QC Batch: R103980			PrepDate		Analyst: **CEI**
Lead	14	0.25		mg/L	5	11/5/2015 02:12 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_ST

Sample ID **MB-R103980** SampType: **MBLK** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **103980**
Client ID: **PBS** Batch ID: **R103980** TestNo: **WET/ EPA 60** Analysis Date: **11/5/2015** SeqNo: **2127437**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.050									
Lead	ND	0.050									

Sample ID **MB1-52918 STLC** SampType: **MBLK** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **103980**
Client ID: **PBS** Batch ID: **R103980** TestNo: **WET/ EPA 60** Analysis Date: **11/5/2015** SeqNo: **2127438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.25									
Lead	0.005	0.25									

Sample ID **MB1-52918 STLC** SampType: **MBLK** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **103980**
Client ID: **PBS** Batch ID: **R103980** TestNo: **WET/ EPA 60** Analysis Date: **11/5/2015** SeqNo: **2127439**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.25									
Lead	0.010	0.25									

Sample ID **LCS-R103980** SampType: **LCS** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **103980**
Client ID: **LCSS** Batch ID: **R103980** TestNo: **WET/ EPA 60** Analysis Date: **11/5/2015** SeqNo: **2127440**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.507	0.050	0.5000	0	101	85	115				
Lead	0.511	0.050	0.5000	0	102	85	115				

Sample ID **N017433-015A-DUP** SampType: **DUP** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **103980**
Client ID: **ZZZZZZ** Batch ID: **R103980** TestNo: **WET/ EPA 60** Analysis Date: **11/5/2015** SeqNo: **2127444**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_ST

Sample ID **N017433-015A-DUP** SampType: **DUP** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **103980**
Client ID: **ZZZZZZ** Batch ID: **R103980** TestNo: **WET/ EPA 60** Analysis Date: **11/5/2015** SeqNo: **2127444**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.159	0.25						0.1516	0	20	
Lead	6.892	0.25						7.212	4.53	20	

Sample ID **N017433-015A-MS** SampType: **MS** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **103980**
Client ID: **ZZZZZZ** Batch ID: **R103980** TestNo: **WET/ EPA 60** Analysis Date: **11/5/2015** SeqNo: **2127445**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2.290	0.25	2.500	0.1516	85.5	75	125				
Lead	8.718	0.25	2.500	7.212	60.3	75	125				S

Sample ID **N017433-015A-MSD** SampType: **MSD** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **103980**
Client ID: **ZZZZZZ** Batch ID: **R103980** TestNo: **WET/ EPA 60** Analysis Date: **11/5/2015** SeqNo: **2127448**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2.187	0.25	2.500	0.1516	81.4	75	125	2.290	4.60	20	
Lead	8.330	0.25	2.500	7.212	44.7	75	125	8.718	4.56	20	S

Sample ID **N017337-004A-DUP** SampType: **DUP** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **103980**
Client ID: **ZZZZZZ** Batch ID: **R103980** TestNo: **WET/ EPA 60** Analysis Date: **11/5/2015** SeqNo: **2127451**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.292	0.25						0.3041	3.92	20	
Lead	5.423	0.25						6.240	14.0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

nancy@assetlaboratories.com

From: Glen Gesmundo [glen@assetlaboratories.com]
Sent: Monday, November 02, 2015 11:18 AM
To: 'ASSET LV Sample Control'
Subject: FW: Lab Order N017337 (TO-37 Laurel St)

Please put on schedule.

From: Luann Beadle [mailto:beadle@geoconinc.com]
Sent: Monday, November 02, 2015 11:01 AM
To: Glen (glen@assetlaboratories.com)
Subject: Lab Order N017337 (TO-37 Laurel St)

Hi Glen,

Could you run the following WET analyses on a regular TAT, please?

A5-1	Chromium	55
A5-0	Chromium	88
A6-1	Lead	50
A5-1	Lead	90
A5-0	Lead	100
A1-1	Lead	110
A2-0	Lead	110
A1-0	Lead	160
B2-0	Lead	190
B3-0	Lead	190
A6-0	Lead	200
B4-0	Lead	210

Thanks,
Luann

Luann Beadle | *Senior Staff Scientist*
GEOCON CONSULTANTS, INC.
6671 Brisa Street, Livermore, California 94550
P|925.371.5900 ext. 403 M|925.395.1669
beadle@geoconinc.com / www.geoconinc.com / Facebook / Linkedin

Bay Area ~ Sacramento ~ Fairfield ~ Los Angeles ~ Orange County ~ Riverside County ~ Palm Desert ~ San Diego

Geotechnical Engineering Environmental Services Engineering Geology Construction Inspection
Land Development Transportation Infrastructure Institutional Brownfields/Redevelopment Natural Resources

October 28, 2015

Luann Beadle
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

TEL: 925-371-5900 Ext 403
FAX: (925) 371-5915

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N017337

RE: 780/LAUREL ST, E8721-02-37

Attention: Luann Beadle

Enclosed are the results for sample(s) received on October 21, 2015 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

Samples were received intact with proper chain of custody documentation.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Samples were analyzed within method holding time.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes on QC samples N017306-001B-MS, N017306-001B-MSD, N017337-002A-MS, N017337-020A-MS, N017337-020A-MSD and N017347-011A-MS and for Lead on QC samples N017337-003A-MS, N017337-021A-MS and N017337-001A-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Sample Duplicate(DUP) is outside criteria for some analytes on QC samples N017306-001B-DUP and N017337-002A-DUP ; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

Analytical Comments for EPA 8015B DRO/ORO:

Matrix Spike Duplicate (MSD)N017337-001A-MSD is outside recovery criteria possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Matrix Spike (MS)/Matrix Spike Duplicate (MSD) is outside criteria on QC samples N017337-001A-MS/N017337-001A-MSD; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

RPD for Sample Duplicate (DUP) is outside criteria for QC samples N017337-001A-DUP and N017337-019A-DUP; however, the Laboratory Control Sample (LCS) validated the analytical batch.

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ASSET Laboratories

Date: *28-Oct-15*

CLIENT: Geocon Consultants, Inc.
Project: 780/LAUREL ST, E8721-02-37
Lab Order: N017337
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N017337-001A	A1-0	Soil	10/19/2015 11:12:00 AM	10/21/2015	10/28/2015
N017337-002A	A1-1	Soil	10/19/2015 11:19:00 AM	10/21/2015	10/28/2015
N017337-003A	A1-3	Soil	10/19/2015 11:31:00 AM	10/21/2015	10/28/2015
N017337-004A	A2-0	Soil	10/19/2015 11:15:00 AM	10/21/2015	10/28/2015
N017337-005A	A2-1	Soil	10/19/2015 11:19:00 AM	10/21/2015	10/28/2015
N017337-006A	A2-3	Soil	10/19/2015 11:30:00 AM	10/21/2015	10/28/2015
N017337-007A	A3-0	Soil	10/19/2015 11:56:00 AM	10/21/2015	10/28/2015
N017337-008A	A3-1	Soil	10/19/2015 12:04:00 PM	10/21/2015	10/28/2015
N017337-009A	A4-0	Soil	10/19/2015 11:56:00 AM	10/21/2015	10/28/2015
N017337-010A	A4-1	Soil	10/19/2015 12:01:00 PM	10/21/2015	10/28/2015
N017337-011A	A4-3	Soil	10/19/2015 12:11:00 PM	10/21/2015	10/28/2015
N017337-012A	A5-0	Soil	10/19/2015 1:20:00 PM	10/21/2015	10/28/2015
N017337-013A	A5-1	Soil	10/19/2015 1:30:00 PM	10/21/2015	10/28/2015
N017337-014A	A6-0	Soil	10/19/2015 1:06:00 PM	10/21/2015	10/28/2015
N017337-015A	A6-1	Soil	10/19/2015 1:18:00 PM	10/21/2015	10/28/2015
N017337-016A	A7-0	Soil	10/19/2015 12:37:00 PM	10/21/2015	10/28/2015
N017337-017A	A7-1	Soil	10/19/2015 12:45:00 PM	10/21/2015	10/28/2015
N017337-018A	A7-3	Soil	10/19/2015 1:02:00 PM	10/21/2015	10/28/2015
N017337-019A	A8-0	Soil	10/19/2015 12:35:00 PM	10/21/2015	10/28/2015
N017337-020A	A8-1	Soil	10/19/2015 12:47:00 PM	10/21/2015	10/28/2015
N017337-021A	B1-0	Soil	10/20/2015 8:30:00 AM	10/21/2015	10/28/2015
N017337-022A	B1-1	Soil	10/20/2015 8:35:00 AM	10/21/2015	10/28/2015
N017337-023A	B2-0	Soil	10/20/2015 9:05:00 AM	10/21/2015	10/28/2015
N017337-024A	B2-1	Soil	10/20/2015 9:10:00 AM	10/21/2015	10/28/2015
N017337-025A	B2-3	Soil	10/20/2015 9:15:00 AM	10/21/2015	10/28/2015
N017337-026A	B2-6	Soil	10/20/2015 9:31:00 AM	10/21/2015	10/28/2015
N017337-027A	B3-0	Soil	10/20/2015 9:50:00 AM	10/21/2015	10/28/2015
N017337-028A	B3-1	Soil	10/20/2015 9:55:00 AM	10/21/2015	10/28/2015
N017337-029A	B4-0	Soil	10/20/2015 9:05:00 AM	10/21/2015	10/28/2015

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3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

CLIENT: Geocon Consultants, Inc.
Project: 780/LAUREL ST, E8721-02-37
Lab Order: N017337
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N017337-030A	B4-1	Soil	10/20/2015 9:15:00 AM	10/21/2015	10/28/2015
N017337-031A	B4-3	Soil	10/20/2015 9:33:00 AM	10/21/2015	10/28/2015
N017337-032A	B4-6	Soil	10/20/2015 9:45:00 AM	10/21/2015	10/28/2015
N017337-033A	B4-8.5	Soil	10/20/2015 10:00:00 AM	10/21/2015	10/28/2015
N017337-034A	RINSE BLK	Water	10/20/2015 2:30:00 PM	10/21/2015	10/28/2015

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ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A1-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 11:12:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-001		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816				PrepDate: 10/23/2015	Analyst: **MDM**
DRO	200	10		mg/Kg	10	10/23/2015 01:26 PM
ORO	640	10		mg/Kg	10	10/23/2015 01:26 PM
Surr: p-Terphenyl	55.3	48-123		%REC	10	10/23/2015 01:26 PM
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_151028A	QC Batch: 52849				PrepDate: 10/22/2015	Analyst: **CEI**
Mercury	0.28	0.10		mg/Kg	1	10/28/2015 02:01 PM
TOTAL METALS BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151023A	QC Batch: 52797				PrepDate: 10/22/2015	Analyst: **CEI**
Antimony	ND	2.0		mg/Kg	1	10/23/2015 02:47 PM
Arsenic	2.0	1.0		mg/Kg	1	10/23/2015 02:47 PM
Barium	61	1.0		mg/Kg	1	10/23/2015 02:47 PM
Beryllium	ND	1.0		mg/Kg	1	10/23/2015 02:47 PM
Cadmium	ND	1.0		mg/Kg	1	10/23/2015 02:47 PM
Chromium	19	1.0		mg/Kg	1	10/23/2015 02:47 PM
Cobalt	4.6	1.0		mg/Kg	1	10/23/2015 02:47 PM
Copper	30	2.0		mg/Kg	1	10/23/2015 02:47 PM
Lead	160	1.0		mg/Kg	1	10/23/2015 02:47 PM
Molybdenum	2.0	1.0		mg/Kg	1	10/23/2015 02:47 PM
Nickel	29	1.0		mg/Kg	1	10/23/2015 02:47 PM
Selenium	ND	1.0		mg/Kg	1	10/23/2015 02:47 PM
Silver	ND	1.0		mg/Kg	1	10/23/2015 02:47 PM
Thallium	ND	1.0		mg/Kg	1	10/23/2015 02:47 PM
Vanadium	21	1.0		mg/Kg	1	10/23/2015 02:47 PM
Zinc	230	1.0		mg/Kg	1	10/23/2015 02:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A1-1
Lab Order:	N017337	**Collection Date:**	10/19/2015 11:19:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-002		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816				PrepDate: 10/23/2015	Analyst: **MDM**
DRO	110	10		mg/Kg	10	10/23/2015 01:52 PM
ORO	370	10		mg/Kg	10	10/23/2015 01:52 PM
Surr: p-Terphenyl	72.5	48-123		%REC	10	10/23/2015 01:52 PM
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_151026A	QC Batch: 52804				PrepDate: 10/22/2015	Analyst: **CEI**
Mercury	0.13	0.099		mg/Kg	1	10/26/2015 01:13 PM
TOTAL METALS BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151023A	QC Batch: 52797				PrepDate: 10/22/2015	Analyst: **CEI**
Antimony	ND	4.0		mg/Kg	2	10/23/2015 05:37 PM
Arsenic	7.3	2.0		mg/Kg	2	10/23/2015 05:37 PM
Barium	180	2.0		mg/Kg	2	10/23/2015 05:37 PM
Beryllium	ND	2.0		mg/Kg	2	10/23/2015 05:37 PM
Cadmium	ND	2.0		mg/Kg	2	10/23/2015 05:37 PM
Chromium	32	2.0		mg/Kg	2	10/23/2015 05:37 PM
Cobalt	13	2.0		mg/Kg	2	10/23/2015 05:37 PM
Copper	31	4.0		mg/Kg	2	10/23/2015 05:37 PM
Lead	110	2.0		mg/Kg	2	10/23/2015 05:37 PM
Molybdenum	ND	2.0		mg/Kg	2	10/23/2015 05:37 PM
Nickel	36	2.0		mg/Kg	2	10/23/2015 05:37 PM
Selenium	2.3	2.0		mg/Kg	2	10/23/2015 05:37 PM
Silver	ND	2.0		mg/Kg	2	10/23/2015 05:37 PM
Thallium	ND	2.0		mg/Kg	2	10/23/2015 05:37 PM
Vanadium	36	2.0		mg/Kg	2	10/23/2015 05:37 PM
Zinc	130	2.0		mg/Kg	2	10/23/2015 05:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A1-3
Lab Order:	N017337	**Collection Date:**	10/19/2015 11:31:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-003		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52805				PrepDate: 10/22/2015	Analyst: **CEI**
Lead	9.0	5.0		mg/Kg	1	10/26/2015 06:52 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A2-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 11:15:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-004		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816			PrepDate:	10/23/2015	Analyst: **MDM**
DRO	47	10		mg/Kg	10	10/23/2015 02:42 PM
ORO	170	10		mg/Kg	10	10/23/2015 02:42 PM
Surr: p-Terphenyl	81.2	48-123		%REC	10	10/23/2015 02:42 PM
LEAD BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52805			PrepDate:	10/22/2015	Analyst: **CEI**
Lead	110	5.0		mg/Kg	1	10/26/2015 08:15 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT: Geocon Consultants, Inc.
Lab Order: N017337
Project: 780/LAUREL ST, E8721-02-37
Lab ID: N017337-005

Client Sample ID: A2-1
Collection Date: 10/19/2015 11:19:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PH						
				EPA 9045C		
RunID: WETCHEM_151022A	QC Batch: R103716			PrepDate:		Analyst: **LR**
pH	7.9	0.10		pH Units	1	10/22/2015 11:00 AM
Temp. at time of pH Analysis	23	0		°C	1	10/22/2015 11:00 AM
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
	EPA 3550B			**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816			PrepDate:	10/23/2015	Analyst: **MDM**
DRO	3.0	1.0		mg/Kg	1	10/23/2015 03:08 PM
ORO	4.3	1.0		mg/Kg	1	10/23/2015 03:08 PM
Surr: p-Terphenyl	83.4	48-123		%REC	1	10/23/2015 03:08 PM
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52805			PrepDate:	10/22/2015	Analyst: **CEI**
Lead	ND	5.0		mg/Kg	1	10/26/2015 08:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT: Geocon Consultants, Inc.
Lab Order: N017337
Project: 780/LAUREL ST, E8721-02-37
Lab ID: N017337-006

Client Sample ID: A2-3
Collection Date: 10/19/2015 11:30:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS BY GC/FID						
				EPA 8015B		
RunID: GC4_151022A	QC Batch: E15VS121			PrepDate:		Analyst: **QBM**
GRO	ND	1.0		mg/Kg	1	10/22/2015 03:01 PM
Surr: Chlorobenzene - d5	104	46-154		%REC	1	10/22/2015 03:01 PM
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_151026A	QC Batch: 52815			PrepDate:	10/23/2015	Analyst: **CEI**
Mercury	ND	0.099		mg/Kg	1	10/26/2015 02:47 PM
TOTAL METALS BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151023A	QC Batch: 52799			PrepDate:	10/22/2015	Analyst: **CEI**
Antimony	ND	2.0		mg/Kg	1	10/23/2015 07:32 PM
Arsenic	4.9	1.0		mg/Kg	1	10/23/2015 07:32 PM
Barium	65	1.0		mg/Kg	1	10/23/2015 07:32 PM
Beryllium	ND	1.0		mg/Kg	1	10/23/2015 07:32 PM
Cadmium	ND	1.0		mg/Kg	1	10/23/2015 07:32 PM
Chromium	25	1.0		mg/Kg	1	10/23/2015 07:32 PM
Cobalt	12	1.0		mg/Kg	1	10/23/2015 07:32 PM
Copper	20	2.0		mg/Kg	1	10/23/2015 07:32 PM
Lead	5.8	1.0		mg/Kg	1	10/23/2015 07:32 PM
Molybdenum	ND	1.0		mg/Kg	1	10/23/2015 07:32 PM
Nickel	35	1.0		mg/Kg	1	10/23/2015 07:32 PM
Selenium	1.3	1.0		mg/Kg	1	10/23/2015 07:32 PM
Silver	ND	1.0		mg/Kg	1	10/23/2015 07:32 PM
Thallium	ND	1.0		mg/Kg	1	10/23/2015 07:32 PM
Vanadium	28	1.0		mg/Kg	1	10/23/2015 07:32 PM
Zinc	34	1.0		mg/Kg	1	10/23/2015 07:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A3-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 11:56:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-007		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151027A	QC Batch: 52805				PrepDate: 10/22/2015	Analyst: **CEI**
Lead	32	5.0		mg/Kg	1	10/27/2015 09:09 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT: Geocon Consultants, Inc.
Lab Order: N017337
Project: 780/LAUREL ST, E8721-02-37
Lab ID: N017337-008

Client Sample ID: A3-1
Collection Date: 10/19/2015 12:04:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS BY GC/FID						
				EPA 8015B		
RunID: GC4_151022A	QC Batch: E15VS121			PrepDate:		Analyst: **QBM**
GRO	ND	1.0		mg/Kg	1	10/22/2015 03:35 PM
Surr: Chlorobenzene - d5	100	46-154		%REC	1	10/22/2015 03:35 PM
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_151026A	QC Batch: 52815			PrepDate:	10/23/2015	Analyst: **CEI**
Mercury	ND	0.10		mg/Kg	1	10/26/2015 02:50 PM
TOTAL METALS BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151023A	QC Batch: 52799			PrepDate:	10/22/2015	Analyst: **CEI**
Antimony	ND	2.0		mg/Kg	1	10/23/2015 07:51 PM
Arsenic	7.1	1.0		mg/Kg	1	10/23/2015 07:51 PM
Barium	84	1.0		mg/Kg	1	10/23/2015 07:51 PM
Beryllium	ND	1.0		mg/Kg	1	10/23/2015 07:51 PM
Cadmium	ND	1.0		mg/Kg	1	10/23/2015 07:51 PM
Chromium	41	1.0		mg/Kg	1	10/23/2015 07:51 PM
Cobalt	13	1.0		mg/Kg	1	10/23/2015 07:51 PM
Copper	37	2.0		mg/Kg	1	10/23/2015 07:51 PM
Lead	12	1.0		mg/Kg	1	10/23/2015 07:51 PM
Molybdenum	ND	1.0		mg/Kg	1	10/23/2015 07:51 PM
Nickel	45	1.0		mg/Kg	1	10/23/2015 07:51 PM
Selenium	2.1	1.0		mg/Kg	1	10/23/2015 07:51 PM
Silver	ND	1.0		mg/Kg	1	10/23/2015 07:51 PM
Thallium	ND	1.0		mg/Kg	1	10/23/2015 07:51 PM
Vanadium	46	1.0		mg/Kg	1	10/23/2015 07:51 PM
Zinc	57	1.0		mg/Kg	1	10/23/2015 07:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A4-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 11:56:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-009		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151027A	QC Batch: 52805				PrepDate: 10/22/2015	Analyst: **CEI**
Lead	36	5.0		mg/Kg	1	10/27/2015 09:15 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT: Geocon Consultants, Inc.
Lab Order: N017337
Project: 780/LAUREL ST, E8721-02-37
Lab ID: N017337-010

Client Sample ID: A4-1
Collection Date: 10/19/2015 12:01:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816			PrepDate:	10/23/2015	Analyst: **MDM**
DRO	8.1	1.0		mg/Kg	1	10/23/2015 03:33 PM
ORO	22	1.0		mg/Kg	1	10/23/2015 03:33 PM
Surr: p-Terphenyl	92.7	48-123		%REC	1	10/23/2015 03:33 PM
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_151026A	QC Batch: 52804			PrepDate:	10/22/2015	Analyst: **CEI**
Mercury	ND	0.10		mg/Kg	1	10/26/2015 01:38 PM
TOTAL METALS BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151023A	QC Batch: 52797			PrepDate:	10/22/2015	Analyst: **CEI**
Antimony	ND	4.0		mg/Kg	2	10/23/2015 05:13 PM
Arsenic	8.3	2.0		mg/Kg	2	10/23/2015 05:13 PM
Barium	100	2.0		mg/Kg	2	10/23/2015 05:13 PM
Beryllium	ND	2.0		mg/Kg	2	10/23/2015 05:13 PM
Cadmium	ND	2.0		mg/Kg	2	10/23/2015 05:13 PM
Chromium	43	2.0		mg/Kg	2	10/23/2015 05:13 PM
Cobalt	14	2.0		mg/Kg	2	10/23/2015 05:13 PM
Copper	38	4.0		mg/Kg	2	10/23/2015 05:13 PM
Lead	21	2.0		mg/Kg	2	10/23/2015 05:13 PM
Molybdenum	ND	2.0		mg/Kg	2	10/23/2015 05:13 PM
Nickel	47	2.0		mg/Kg	2	10/23/2015 05:13 PM
Selenium	ND	2.0		mg/Kg	2	10/23/2015 05:13 PM
Silver	ND	2.0		mg/Kg	2	10/23/2015 05:13 PM
Thallium	ND	2.0		mg/Kg	2	10/23/2015 05:13 PM
Vanadium	55	2.0		mg/Kg	2	10/23/2015 05:13 PM
Zinc	160	2.0		mg/Kg	2	10/23/2015 05:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A4-3
Lab Order:	N017337	**Collection Date:**	10/19/2015 12:11:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-011		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A QC Batch: 52816				PrepDate: 10/23/2015		Analyst: **MDM**
DRO	4.8	1.0		mg/Kg	1	10/23/2015 03:58 PM
ORO	9.2	1.0		mg/Kg	1	10/23/2015 03:58 PM
Surr: p-Terphenyl	80.9	48-123		%REC	1	10/23/2015 03:58 PM
GASOLINE RANGE ORGANICS BY GC/FID						
				EPA 8015B		
RunID: GC4_151022A QC Batch: E15VS121				PrepDate:		Analyst: **QBM**
GRO	ND	1.0		mg/Kg	1	10/22/2015 07:01 PM
Surr: Chlorobenzene - d5	110	46-154		%REC	1	10/22/2015 07:01 PM
LEAD BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151026C QC Batch: 52805				PrepDate: 10/22/2015		Analyst: **CEI**
Lead	5.4	5.0		mg/Kg	1	10/26/2015 08:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A5-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 1:20:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-012		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816				PrepDate: 10/23/2015	Analyst: **MDM**
DRO	250	10		mg/Kg	10	10/23/2015 04:24 PM
ORO	790	10		mg/Kg	10	10/23/2015 04:24 PM
Surr: p-Terphenyl	77.6	48-123		%REC	10	10/23/2015 04:24 PM
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_151026A	QC Batch: 52804				PrepDate: 10/22/2015	Analyst: **CEI**
Mercury	0.15	0.099		mg/Kg	1	10/26/2015 01:40 PM
TOTAL METALS BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151023A	QC Batch: 52797				PrepDate: 10/22/2015	Analyst: **CEI**
Antimony	ND	2.0		mg/Kg	1	10/23/2015 03:30 PM
Arsenic	4.3	1.0		mg/Kg	1	10/23/2015 03:30 PM
Barium	120	1.0		mg/Kg	1	10/23/2015 03:30 PM
Beryllium	ND	1.0		mg/Kg	1	10/23/2015 03:30 PM
Cadmium	ND	1.0		mg/Kg	1	10/23/2015 03:30 PM
Chromium	88	1.0		mg/Kg	1	10/23/2015 03:30 PM
Cobalt	11	1.0		mg/Kg	1	10/23/2015 03:30 PM
Copper	40	2.0		mg/Kg	1	10/23/2015 03:30 PM
Lead	100	1.0		mg/Kg	1	10/23/2015 03:30 PM
Molybdenum	1.0	1.0		mg/Kg	1	10/23/2015 03:30 PM
Nickel	76	1.0		mg/Kg	1	10/23/2015 03:30 PM
Selenium	1.7	1.0		mg/Kg	1	10/23/2015 03:30 PM
Silver	ND	1.0		mg/Kg	1	10/23/2015 03:30 PM
Thallium	ND	1.0		mg/Kg	1	10/23/2015 03:30 PM
Vanadium	38	1.0		mg/Kg	1	10/23/2015 03:30 PM
Zinc	550	1.0		mg/Kg	1	10/23/2015 03:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A5-1
Lab Order:	N017337	**Collection Date:**	10/19/2015 1:30:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-013		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816				PrepDate: 10/23/2015	Analyst: **MDM**
DRO	130	10		mg/Kg	10	10/23/2015 04:49 PM
ORO	390	10		mg/Kg	10	10/23/2015 04:49 PM
Surr: p-Terphenyl	74.9	48-123		%REC	10	10/23/2015 04:49 PM
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
EPA 7471A						
RunID: AA1_151026A	QC Batch: 52804				PrepDate: 10/22/2015	Analyst: **CEI**
Mercury	0.15	0.099		mg/Kg	1	10/26/2015 01:43 PM
TOTAL METALS BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151023A	QC Batch: 52797				PrepDate: 10/22/2015	Analyst: **CEI**
Antimony	ND	4.0		mg/Kg	2	10/23/2015 05:19 PM
Arsenic	6.9	2.0		mg/Kg	2	10/23/2015 05:19 PM
Barium	140	2.0		mg/Kg	2	10/23/2015 05:19 PM
Beryllium	ND	2.0		mg/Kg	2	10/23/2015 05:19 PM
Cadmium	ND	2.0		mg/Kg	2	10/23/2015 05:19 PM
Chromium	55	2.0		mg/Kg	2	10/23/2015 05:19 PM
Cobalt	12	2.0		mg/Kg	2	10/23/2015 05:19 PM
Copper	32	4.0		mg/Kg	2	10/23/2015 05:19 PM
Lead	90	2.0		mg/Kg	2	10/23/2015 05:19 PM
Molybdenum	ND	2.0		mg/Kg	2	10/23/2015 05:19 PM
Nickel	76	2.0		mg/Kg	2	10/23/2015 05:19 PM
Selenium	ND	2.0		mg/Kg	2	10/23/2015 05:19 PM
Silver	ND	2.0		mg/Kg	2	10/23/2015 05:19 PM
Thallium	ND	2.0		mg/Kg	2	10/23/2015 05:19 PM
Vanadium	42	2.0		mg/Kg	2	10/23/2015 05:19 PM
Zinc	130	2.0		mg/Kg	2	10/23/2015 05:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A6-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 1:06:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-014		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151027A	QC Batch: 52805				PrepDate: 10/22/2015	Analyst: **CEI**
Lead	200	5.0		mg/Kg	1	10/27/2015 09:22 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT: Geocon Consultants, Inc.
Lab Order: N017337
Project: 780/LAUREL ST, E8721-02-37
Lab ID: N017337-015

Client Sample ID: A6-1
Collection Date: 10/19/2015 1:18:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PH						
				EPA 9045C		
RunID: WETCHEM_151022A	QC Batch: R103716			PrepDate:		Analyst: **LR**
pH	5.9	0.10		pH Units	1	10/22/2015 11:00 AM
Temp. at time of pH Analysis	23	0		°C	1	10/22/2015 11:00 AM
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
	EPA 3550B			**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816			PrepDate:	10/23/2015	Analyst: **MDM**
DRO	6.9	1.0		mg/Kg	1	10/23/2015 05:14 PM
ORO	14	1.0		mg/Kg	1	10/23/2015 05:14 PM
Surr: p-Terphenyl	78.3	48-123		%REC	1	10/23/2015 05:14 PM
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52805			PrepDate:	10/22/2015	Analyst: **CEI**
Lead	50	5.0		mg/Kg	1	10/26/2015 08:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A7-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 12:37:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-016		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52805				PrepDate: 10/22/2015	Analyst: **CEI**
Lead	40	5.0		mg/Kg	1	10/26/2015 09:10 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT: Geocon Consultants, Inc.
Lab Order: N017337
Project: 780/LAUREL ST, E8721-02-37
Lab ID: N017337-017

Client Sample ID: A7-1
Collection Date: 10/19/2015 12:45:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS BY GC/FID						
				EPA 8015B		
RunID: GC4_151022A	QC Batch: E15VS121			PrepDate:		Analyst: **QBM**
GRO	ND	1.0		mg/Kg	1	10/22/2015 02:27 PM
Surr: Chlorobenzene - d5	106	46-154		%REC	1	10/22/2015 02:27 PM
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_151026A	QC Batch: 52815			PrepDate:	10/23/2015	Analyst: **CEI**
Mercury	ND	0.10		mg/Kg	1	10/26/2015 02:53 PM
TOTAL METALS BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151023A	QC Batch: 52799			PrepDate:	10/22/2015	Analyst: **CEI**
Antimony	ND	2.0		mg/Kg	1	10/23/2015 07:57 PM
Arsenic	5.3	1.0		mg/Kg	1	10/23/2015 07:57 PM
Barium	79	1.0		mg/Kg	1	10/23/2015 07:57 PM
Beryllium	ND	1.0		mg/Kg	1	10/23/2015 07:57 PM
Cadmium	ND	1.0		mg/Kg	1	10/23/2015 07:57 PM
Chromium	41	1.0		mg/Kg	1	10/23/2015 07:57 PM
Cobalt	13	1.0		mg/Kg	1	10/23/2015 07:57 PM
Copper	34	2.0		mg/Kg	1	10/23/2015 07:57 PM
Lead	15	1.0		mg/Kg	1	10/23/2015 07:57 PM
Molybdenum	ND	1.0		mg/Kg	1	10/23/2015 07:57 PM
Nickel	39	1.0		mg/Kg	1	10/23/2015 07:57 PM
Selenium	2.3	1.0		mg/Kg	1	10/23/2015 07:57 PM
Silver	ND	1.0		mg/Kg	1	10/23/2015 07:57 PM
Thallium	ND	1.0		mg/Kg	1	10/23/2015 07:57 PM
Vanadium	50	1.0		mg/Kg	1	10/23/2015 07:57 PM
Zinc	51	1.0		mg/Kg	1	10/23/2015 07:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A7-3
Lab Order:	N017337	**Collection Date:**	10/19/2015 1:02:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-018		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816				PrepDate: 10/23/2015	Analyst: **MDM**
DRO	15	10		mg/Kg	10	10/23/2015 05:40 PM
ORO	38	10		mg/Kg	10	10/23/2015 05:40 PM
Surr: p-Terphenyl	80.0	48-123		%REC	10	10/23/2015 05:40 PM
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_151026A	QC Batch: 52804				PrepDate: 10/22/2015	Analyst: **CEI**
Mercury	ND	0.10		mg/Kg	1	10/26/2015 01:46 PM
TOTAL METALS BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151023A	QC Batch: 52797				PrepDate: 10/22/2015	Analyst: **CEI**
Antimony	ND	2.0		mg/Kg	1	10/23/2015 03:42 PM
Arsenic	4.4	1.0		mg/Kg	1	10/23/2015 03:42 PM
Barium	76	1.0		mg/Kg	1	10/23/2015 03:42 PM
Beryllium	ND	1.0		mg/Kg	1	10/23/2015 03:42 PM
Cadmium	ND	1.0		mg/Kg	1	10/23/2015 03:42 PM
Chromium	49	1.0		mg/Kg	1	10/23/2015 03:42 PM
Cobalt	14	1.0		mg/Kg	1	10/23/2015 03:42 PM
Copper	32	2.0		mg/Kg	1	10/23/2015 03:42 PM
Lead	9.4	1.0		mg/Kg	1	10/23/2015 03:42 PM
Molybdenum	ND	1.0		mg/Kg	1	10/23/2015 03:42 PM
Nickel	46	1.0		mg/Kg	1	10/23/2015 03:42 PM
Selenium	1.9	1.0		mg/Kg	1	10/23/2015 03:42 PM
Silver	ND	1.0		mg/Kg	1	10/23/2015 03:42 PM
Thallium	ND	1.0		mg/Kg	1	10/23/2015 03:42 PM
Vanadium	45	1.0		mg/Kg	1	10/23/2015 03:42 PM
Zinc	46	1.0		mg/Kg	1	10/23/2015 03:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT: Geocon Consultants, Inc.
Lab Order: N017337
Project: 780/LAUREL ST, E8721-02-37
Lab ID: N017337-019

Client Sample ID: A8-0
Collection Date: 10/19/2015 12:35:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
	EPA 3550B			**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816				PrepDate: 10/23/2015	Analyst: **MDM**
DRO	20	10		mg/Kg	10	10/23/2015 09:03 PM
ORO	53	10		mg/Kg	10	10/23/2015 09:03 PM
Surr: p-Terphenyl	79.9	48-123		%REC	10	10/23/2015 09:03 PM
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52805				PrepDate: 10/22/2015	Analyst: **CEI**
Lead	34	5.0		mg/Kg	1	10/26/2015 09:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A8-1
Lab Order:	N017337	**Collection Date:**	10/19/2015 12:47:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-020		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816				PrepDate: 10/23/2015	Analyst: **MDM**
DRO	23	10		mg/Kg	10	10/23/2015 09:54 PM
ORO	53	10		mg/Kg	10	10/23/2015 09:54 PM
Surr: p-Terphenyl	75.7	48-123		%REC	10	10/23/2015 09:54 PM
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_151026A	QC Batch: 52804				PrepDate: 10/22/2015	Analyst: **CEI**
Mercury	ND	0.10		mg/Kg	1	10/26/2015 01:49 PM
TOTAL METALS BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151023A	QC Batch: 52799				PrepDate: 10/22/2015	Analyst: **CEI**
Antimony	ND	2.0		mg/Kg	1	10/23/2015 08:04 PM
Arsenic	7.4	1.0		mg/Kg	1	10/23/2015 08:04 PM
Barium	110	1.0		mg/Kg	1	10/23/2015 08:04 PM
Beryllium	ND	1.0		mg/Kg	1	10/23/2015 08:04 PM
Cadmium	ND	1.0		mg/Kg	1	10/23/2015 08:04 PM
Chromium	37	1.0		mg/Kg	1	10/23/2015 08:04 PM
Cobalt	9.9	1.0		mg/Kg	1	10/23/2015 08:04 PM
Copper	30	2.0		mg/Kg	1	10/23/2015 08:04 PM
Lead	27	1.0		mg/Kg	1	10/23/2015 08:04 PM
Molybdenum	ND	1.0		mg/Kg	1	10/23/2015 08:04 PM
Nickel	33	1.0		mg/Kg	1	10/23/2015 08:04 PM
Selenium	1.8	1.0		mg/Kg	1	10/23/2015 08:04 PM
Silver	ND	1.0		mg/Kg	1	10/23/2015 08:04 PM
Thallium	ND	1.0		mg/Kg	1	10/23/2015 08:04 PM
Vanadium	40	1.0		mg/Kg	1	10/23/2015 08:04 PM
Zinc	49	1.0		mg/Kg	1	10/23/2015 08:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B1-0
Lab Order:	N017337	**Collection Date:**	10/20/2015 8:30:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-021		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816			PrepDate:	10/23/2015	Analyst: **MDM**
DRO	7.9	1.0		mg/Kg	1	10/23/2015 10:20 PM
ORO	18	1.0		mg/Kg	1	10/23/2015 10:20 PM
Surr: p-Terphenyl	81.2	48-123		%REC	1	10/23/2015 10:20 PM
LEAD BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52805			PrepDate:	10/22/2015	Analyst: **CEI**
Lead	18	5.0		mg/Kg	1	10/26/2015 09:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B1-1
Lab Order:	N017337	**Collection Date:**	10/20/2015 8:35:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-022		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816			PrepDate:	10/23/2015	Analyst: **MDM**
DRO	1.0	1.0		mg/Kg	1	10/23/2015 10:45 PM
ORO	1.6	1.0		mg/Kg	1	10/23/2015 10:45 PM
Surr: p-Terphenyl	76.2	48-123		%REC	1	10/23/2015 10:45 PM
LEAD BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52805			PrepDate:	10/22/2015	Analyst: **CEI**
Lead	6.5	5.0		mg/Kg	1	10/26/2015 09:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B2-0
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:05:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-023		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52805				PrepDate: 10/22/2015	Analyst: **CEI**
Lead	190	5.0		mg/Kg	1	10/26/2015 09:48 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT: Geocon Consultants, Inc.
Lab Order: N017337
Project: 780/LAUREL ST, E8721-02-37
Lab ID: N017337-024

Client Sample ID: B2-1
Collection Date: 10/20/2015 9:10:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PH						
				EPA 9045C		
RunID: WETCHEM_151022A	QC Batch: R103716			PrepDate:		Analyst: **LR**
pH	8.1	0.10		pH Units	1	10/22/2015 11:00 AM
Temp. at time of pH Analysis	23	0		°C	1	10/22/2015 11:00 AM
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
	EPA 3550B			**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816			PrepDate:	10/23/2015	Analyst: **MDM**
DRO	2.1	1.0		mg/Kg	1	10/23/2015 11:11 PM
ORO	4.5	1.0		mg/Kg	1	10/23/2015 11:11 PM
Surr: p-Terphenyl	87.0	48-123		%REC	1	10/23/2015 11:11 PM
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52805			PrepDate:	10/22/2015	Analyst: **CEI**
Lead	7.6	5.0		mg/Kg	1	10/26/2015 09:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B2-3
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:15:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-025		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS BY GC/FID						
				EPA 8015B		
RunID: GC4_151022A	QC Batch:	E15VS121		PrepDate:		Analyst: **QBM**
GRO	ND	1.0		mg/Kg	1	10/22/2015 05:51 PM
Surr: Chlorobenzene - d5	111	46-154		%REC	1	10/22/2015 05:51 PM
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151026C	QC Batch:	52805		PrepDate:	10/22/2015	Analyst: **CEI**
Lead	ND	5.0		mg/Kg	1	10/26/2015 10:01 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B2-6
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:31:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-026		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816			PrepDate:	10/23/2015	Analyst: **MDM**
DRO	ND	1.0		mg/Kg	1	10/23/2015 11:36 PM
ORO	1.1	1.0		mg/Kg	1	10/23/2015 11:36 PM
Surr: p-Terphenyl	85.1	48-123		%REC	1	10/23/2015 11:36 PM
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_151026A	QC Batch: 52804			PrepDate:	10/22/2015	Analyst: **CEI**
Mercury	ND	0.10		mg/Kg	1	10/26/2015 01:51 PM
TOTAL METALS BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151023A	QC Batch: 52799			PrepDate:	10/22/2015	Analyst: **CEI**
Antimony	ND	2.0		mg/Kg	1	10/23/2015 08:39 PM
Arsenic	4.9	1.0		mg/Kg	1	10/23/2015 08:39 PM
Barium	89	1.0		mg/Kg	1	10/23/2015 08:39 PM
Beryllium	ND	1.0		mg/Kg	1	10/23/2015 08:39 PM
Cadmium	ND	1.0		mg/Kg	1	10/23/2015 08:39 PM
Chromium	40	1.0		mg/Kg	1	10/23/2015 08:39 PM
Cobalt	17	1.0		mg/Kg	1	10/23/2015 08:39 PM
Copper	27	2.0		mg/Kg	1	10/23/2015 08:39 PM
Lead	5.5	1.0		mg/Kg	1	10/23/2015 08:39 PM
Molybdenum	ND	1.0		mg/Kg	1	10/23/2015 08:39 PM
Nickel	42	1.0		mg/Kg	1	10/23/2015 08:39 PM
Selenium	2.1	1.0		mg/Kg	1	10/23/2015 08:39 PM
Silver	ND	1.0		mg/Kg	1	10/23/2015 08:39 PM
Thallium	ND	1.0		mg/Kg	1	10/23/2015 08:39 PM
Vanadium	51	1.0		mg/Kg	1	10/23/2015 08:39 PM
Zinc	42	1.0		mg/Kg	1	10/23/2015 08:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B3-0
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:50:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-027		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52805				PrepDate: 10/22/2015	Analyst: **CEI**
Lead	190	5.0		mg/Kg	1	10/26/2015 10:07 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B3-1
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:55:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-028		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816			PrepDate:	10/23/2015	Analyst: **MDM**
DRO	11	1.0		mg/Kg	1	10/24/2015 12:02 AM
ORO	16	1.0		mg/Kg	1	10/24/2015 12:02 AM
Surr: p-Terphenyl	79.4	48-123		%REC	1	10/24/2015 12:02 AM
GASOLINE RANGE ORGANICS BY GC/FID						
				EPA 8015B		
RunID: GC4_151022A	QC Batch: E15VS121			PrepDate:		Analyst: **QBM**
GRO	ND	1.0		mg/Kg	1	10/22/2015 07:36 PM
Surr: Chlorobenzene - d5	109	46-154		%REC	1	10/22/2015 07:36 PM
LEAD BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52805			PrepDate:	10/22/2015	Analyst: **CEI**
Lead	47	5.0		mg/Kg	1	10/26/2015 10:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B4-0
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:05:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-029		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816			PrepDate:	10/23/2015	Analyst: **MDM**
DRO	280	10		mg/Kg	10	10/24/2015 12:27 AM
ORO	410	10		mg/Kg	10	10/24/2015 12:27 AM
Surr: p-Terphenyl	80.2	48-123		%REC	10	10/24/2015 12:27 AM
LEAD BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151026C	QC Batch: 52805			PrepDate:	10/22/2015	Analyst: **CEI**
Lead	210	5.0		mg/Kg	1	10/26/2015 10:31 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B4-1
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:15:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-030		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3550B				**EPA 8015B**		
RunID: GC1_151023A	QC Batch: 52816			PrepDate:	10/23/2015	Analyst: **MDM**
DRO	2.0	1.0		mg/Kg	1	10/24/2015 12:53 AM
ORO	3.7	1.0		mg/Kg	1	10/24/2015 12:53 AM
Surr: p-Terphenyl	81.3	48-123		%REC	1	10/24/2015 12:53 AM
LEAD BY ICP						
EPA 3050B				**EPA 6010B**		
RunID: ICP2_151027A	QC Batch: 52805			PrepDate:	10/22/2015	Analyst: **CEI**
Lead	8.8	5.0		mg/Kg	1	10/27/2015 09:28 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B4-3
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:33:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-031		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS BY GC/FID						
				EPA 8015B		
RunID: GC4_151022A	QC Batch: E15VS121			PrepDate:		Analyst: **QBM**
GRO	ND	1.0		mg/Kg	1	10/22/2015 08:10 PM
Surr: Chlorobenzene - d5	101	46-154		%REC	1	10/22/2015 08:10 PM
LEAD BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151027A	QC Batch: 52805			PrepDate:	10/22/2015	Analyst: **CEI**
Lead	ND	5.0		mg/Kg	1	10/27/2015 09:44 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT: Geocon Consultants, Inc.
Lab Order: N017337
Project: 780/LAUREL ST, E8721-02-37
Lab ID: N017337-032

Client Sample ID: B4-6
Collection Date: 10/20/2015 9:45:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
			EPA 7471A			
RunID: AA1_151026A	QC Batch: 52804			PrepDate:	10/22/2015	Analyst: **CEI**
Mercury	ND	0.10		mg/Kg	1	10/26/2015 01:54 PM
TOTAL METALS BY ICP						
	EPA 3050B			**EPA 6010B**		
RunID: ICP2_151023A	QC Batch: 52799			PrepDate:	10/22/2015	Analyst: **CEI**
Antimony	ND	2.0		mg/Kg	1	10/23/2015 08:46 PM
Arsenic	12	1.0		mg/Kg	1	10/23/2015 08:46 PM
Barium	86	1.0		mg/Kg	1	10/23/2015 08:46 PM
Beryllium	ND	1.0		mg/Kg	1	10/23/2015 08:46 PM
Cadmium	ND	1.0		mg/Kg	1	10/23/2015 08:46 PM
Chromium	38	1.0		mg/Kg	1	10/23/2015 08:46 PM
Cobalt	19	1.0		mg/Kg	1	10/23/2015 08:46 PM
Copper	46	2.0		mg/Kg	1	10/23/2015 08:46 PM
Lead	11	1.0		mg/Kg	1	10/23/2015 08:46 PM
Molybdenum	ND	1.0		mg/Kg	1	10/23/2015 08:46 PM
Nickel	56	1.0		mg/Kg	1	10/23/2015 08:46 PM
Selenium	2.4	1.0		mg/Kg	1	10/23/2015 08:46 PM
Silver	ND	1.0		mg/Kg	1	10/23/2015 08:46 PM
Thallium	ND	1.0		mg/Kg	1	10/23/2015 08:46 PM
Vanadium	37	1.0		mg/Kg	1	10/23/2015 08:46 PM
Zinc	67	1.0		mg/Kg	1	10/23/2015 08:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT: Geocon Consultants, Inc.
Lab Order: N017337
Project: 780/LAUREL ST, E8721-02-37
Lab ID: N017337-033

Client Sample ID: B4-8.5
Collection Date: 10/20/2015 10:00:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
			EPA 7471A			
RunID: AA1_151026A	QC Batch: 52804			PrepDate:	10/22/2015	Analyst: **CEI**
Mercury	ND	0.10		mg/Kg	1	10/26/2015 01:57 PM
TOTAL METALS BY ICP						
	EPA 3050B		**EPA 6010B**			
RunID: ICP2_151023A	QC Batch: 52799			PrepDate:	10/22/2015	Analyst: **CEI**
Antimony	ND	2.0		mg/Kg	1	10/23/2015 08:52 PM
Arsenic	7.7	1.0		mg/Kg	1	10/23/2015 08:52 PM
Barium	74	1.0		mg/Kg	1	10/23/2015 08:52 PM
Beryllium	ND	1.0		mg/Kg	1	10/23/2015 08:52 PM
Cadmium	ND	1.0		mg/Kg	1	10/23/2015 08:52 PM
Chromium	31	1.0		mg/Kg	1	10/23/2015 08:52 PM
Cobalt	13	1.0		mg/Kg	1	10/23/2015 08:52 PM
Copper	42	2.0		mg/Kg	1	10/23/2015 08:52 PM
Lead	8.2	1.0		mg/Kg	1	10/23/2015 08:52 PM
Molybdenum	ND	1.0		mg/Kg	1	10/23/2015 08:52 PM
Nickel	32	1.0		mg/Kg	1	10/23/2015 08:52 PM
Selenium	2.8	1.0		mg/Kg	1	10/23/2015 08:52 PM
Silver	ND	1.0		mg/Kg	1	10/23/2015 08:52 PM
Thallium	ND	1.0		mg/Kg	1	10/23/2015 08:52 PM
Vanadium	36	1.0		mg/Kg	1	10/23/2015 08:52 PM
Zinc	56	1.0		mg/Kg	1	10/23/2015 08:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *28-Oct-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	RINSE BLK
Lab Order:	N017337	**Collection Date:**	10/20/2015 2:30:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	WATER
Lab ID:	N017337-034		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP						
EPA 3010A			**EPA 6010B**			
RunID: ICP2_151022A	QC Batch: 52792			PrepDate:	10/22/2015	Analyst: **CEI**
Lead	ND	0.0050		mg/L	1	10/22/2015 02:24 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **MB2-52797** SampType: **MBLK** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **PBS** Batch ID: **52797** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114351**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.132	2.0									
Arsenic	0.094	1.0									
Barium	ND	1.0									
Beryllium	ND	1.0									
Cadmium	ND	1.0									
Chromium	ND	1.0									
Cobalt	ND	1.0									
Copper	ND	2.0									
Lead	ND	1.0									
Molybdenum	ND	1.0									
Nickel	ND	1.0									
Selenium	ND	1.0									
Silver	ND	1.0									
Thallium	0.069	1.0									
Vanadium	ND	1.0									
Zinc	ND	1.0									

Sample ID: **MB1-52797** SampType: **MBLK** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **PBS** Batch ID: **52797** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114353**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0									
Arsenic	0.058	1.0									
Barium	ND	1.0									
Beryllium	ND	1.0									
Cadmium	ND	1.0									
Chromium	ND	1.0									
Cobalt	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **MB1-52797** SampType: **MBLK** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **PBS** Batch ID: **52797** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114353**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	2.0									
Lead	ND	1.0									
Molybdenum	ND	1.0									
Nickel	ND	1.0									
Selenium	ND	1.0									
Silver	ND	1.0									
Thallium	0.084	1.0									
Vanadium	ND	1.0									
Zinc	ND	1.0									

Sample ID: **LCS-52797** SampType: **LCS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **LCSS** Batch ID: **52797** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114354**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	25.327	2.0	25.00	0	101	80	120				
Arsenic	25.492	1.0	25.00	0	102	80	120				
Barium	25.771	1.0	25.00	0	103	80	120				
Beryllium	25.828	1.0	25.00	0	103	80	120				
Cadmium	25.879	1.0	25.00	0	104	80	120				
Chromium	25.704	1.0	25.00	0	103	80	120				
Cobalt	25.659	1.0	25.00	0	103	80	120				
Copper	25.739	2.0	25.00	0	103	80	120				
Lead	25.707	1.0	25.00	0	103	80	120				
Molybdenum	25.733	1.0	25.00	0	103	80	120				
Nickel	25.802	1.0	25.00	0	103	80	120				
Selenium	25.626	1.0	25.00	0	103	80	120				
Silver	25.878	1.0	25.00	0	104	80	120				
Thallium	25.579	1.0	25.00	0	102	80	120				
Vanadium	25.881	1.0	25.00	0	104	80	120				
Zinc	25.703	1.0	25.00	0	103	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **N017306-001B-DUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52797** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114358**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.1						0	0	20	
Arsenic	2.933	1.0						3.127	6.39	20	
Barium	95.043	1.0						97.83	2.89	20	
Beryllium	0.192	1.0						0.1865	0	20	
Cadmium	ND	1.0						0	0	20	
Chromium	14.095	1.0						14.57	3.29	20	
Cobalt	4.236	1.0						4.176	1.42	20	
Copper	13.712	2.1						17.97	26.9	20	R
Lead	7.028	1.0						4.876	36.2	20	R
Molybdenum	0.040	1.0						0.08724	0	20	
Nickel	10.130	1.0						10.11	0.240	20	
Selenium	0.174	1.0						0.2517	0	20	
Silver	ND	1.0						0	0	20	
Thallium	0.176	1.0						0.1833	0	20	
Vanadium	19.408	1.0						20.00	3.00	20	
Zinc	22.027	1.0						24.63	11.2	20	

Sample ID: **N017306-001B-MS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52797** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114359**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	11.597	2.1	25.64	0	45.2	75	125				S
Arsenic	21.142	1.0	25.64	3.127	70.3	75	125				S
Barium	102.146	1.0	25.64	97.83	16.8	75	125				S
Beryllium	19.134	1.0	25.64	0.1865	73.9	75	125				S
Cadmium	16.670	1.0	25.64	0	65.0	75	125				S
Chromium	32.998	1.0	25.64	14.57	71.9	75	125				S
Cobalt	23.985	1.0	25.64	4.176	77.3	75	125				
Copper	34.891	2.1	25.64	17.97	66.0	75	125				S
Lead	23.375	1.0	25.64	4.876	72.1	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **N017306-001B-MS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52797** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114359**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	17.451	1.0	25.64	0.08724	67.7	75	125				S
Nickel	27.880	1.0	25.64	10.11	69.3	75	125				S
Selenium	16.406	1.0	25.64	0.2517	63.0	75	125				S
Silver	16.221	1.0	25.64	0	63.3	75	125				S
Thallium	17.866	1.0	25.64	0.1833	69.0	75	125				S
Vanadium	41.204	1.0	25.64	20.00	82.7	75	125				
Zinc	40.265	1.0	25.64	24.63	61.0	75	125				S

Sample ID: **N017306-001B-MSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52797** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114362**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	11.726	2.1	25.76	0	45.5	75	125	11.60	1.11	20	S
Arsenic	21.561	1.0	25.76	3.127	71.6	75	125	21.14	1.96	20	S
Barium	105.886	1.0	25.76	97.83	31.3	75	125	102.1	3.60	20	S
Beryllium	19.741	1.0	25.76	0.1865	75.9	75	125	19.13	3.12	20	
Cadmium	17.245	1.0	25.76	0	67.0	75	125	16.67	3.39	20	S
Chromium	34.000	1.0	25.76	14.57	75.5	75	125	33.00	2.99	20	
Cobalt	24.409	1.0	25.76	4.176	78.6	75	125	23.99	1.75	20	
Copper	34.201	2.1	25.76	17.97	63.0	75	125	34.89	2.00	20	S
Lead	23.759	1.0	25.76	4.876	73.3	75	125	23.38	1.63	20	S
Molybdenum	17.909	1.0	25.76	0.08724	69.2	75	125	17.45	2.59	20	S
Nickel	29.141	1.0	25.76	10.11	73.9	75	125	27.88	4.42	20	S
Selenium	16.876	1.0	25.76	0.2517	64.5	75	125	16.41	2.82	20	S
Silver	16.783	1.0	25.76	0	65.2	75	125	16.22	3.40	20	S
Thallium	18.479	1.0	25.76	0.1833	71.0	75	125	17.87	3.37	20	S
Vanadium	41.620	1.0	25.76	20.00	83.9	75	125	41.20	1.00	20	
Zinc	40.421	1.0	25.76	24.63	61.3	75	125	40.26	0.388	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **N017337-002A-DUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52797** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114392**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	4.0						0	0	20	
Arsenic	7.155	2.0						7.279	1.72	20	
Barium	89.624	2.0						175.8	64.9	20	R
Beryllium	0.417	2.0						0.6516	0	20	
Cadmium	ND	2.0						0.2040	0	20	
Chromium	33.899	2.0						32.13	5.36	20	
Cobalt	15.148	2.0						12.96	15.6	20	
Copper	31.404	4.0						31.47	0.221	20	
Lead	85.250	2.0						109.5	24.9	20	R
Molybdenum	ND	2.0						0	0	20	
Nickel	39.645	2.0						36.22	9.02	20	
Selenium	1.751	2.0						2.287	0	20	
Silver	ND	2.0						0	0	20	
Thallium	ND	2.0						0	0	20	
Vanadium	38.341	2.0						36.37	5.28	20	
Zinc	112.828	2.0						133.4	16.7	20	

Sample ID: **N017337-002A-MS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52797** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	4.172	4.0	24.96	0	16.7	75	125				S
Arsenic	24.436	2.0	24.96	7.279	68.7	75	125				S
Barium	111.520	2.0	24.96	175.8	-258	75	125				S
Beryllium	19.794	2.0	24.96	0.6516	76.7	75	125				
Cadmium	18.713	2.0	24.96	0.2040	74.1	75	125				S
Chromium	56.334	2.0	24.96	32.13	97.0	75	125				
Cobalt	30.873	2.0	24.96	12.96	71.8	75	125				S
Copper	52.410	4.0	24.96	31.47	83.9	75	125				
Lead	142.262	2.0	24.96	109.5	131	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **N017337-002A-MS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52797** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	17.200	2.0	24.96	0	68.9	75	125				S
Nickel	57.577	2.0	24.96	36.22	85.5	75	125				
Selenium	17.781	2.0	24.96	2.287	62.1	75	125				S
Silver	13.262	2.0	24.96	0	53.1	75	125				S
Thallium	18.862	2.0	24.96	0	75.6	75	125				
Vanadium	63.564	2.0	24.96	36.37	109	75	125				
Zinc	164.503	2.0	24.96	133.4	125	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **MB2-52799** SampType: **MBLK** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **PBS** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114415**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.116	2.0									
Arsenic	ND	1.0									
Barium	0.057	1.0									
Beryllium	ND	1.0									
Cadmium	ND	1.0									
Chromium	ND	1.0									
Cobalt	ND	1.0									
Copper	ND	2.0									
Lead	ND	1.0									
Molybdenum	ND	1.0									
Nickel	0.020	1.0									
Selenium	ND	1.0									
Silver	ND	1.0									
Thallium	ND	1.0									
Vanadium	ND	1.0									
Zinc	0.197	1.0									

Sample ID: **LCS-52799** SampType: **LCS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **LCSS** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114416**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	23.573	2.0	25.00	0	94.3	80	120				
Arsenic	22.905	1.0	25.00	0	91.6	80	120				
Barium	24.612	1.0	25.00	0	98.4	80	120				
Beryllium	25.227	1.0	25.00	0	101	80	120				
Cadmium	25.408	1.0	25.00	0	102	80	120				
Chromium	24.182	1.0	25.00	0	96.7	80	120				
Cobalt	25.455	1.0	25.00	0	102	80	120				
Copper	24.216	2.0	25.00	0	96.9	80	120				
Lead	23.963	1.0	25.00	0	95.9	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **LCS-52799** SampType: **LCS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **LCSS** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114416**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	25.396	1.0	25.00	0	102	80	120				
Nickel	26.238	1.0	25.00	0	105	80	120				
Selenium	24.695	1.0	25.00	0	98.8	80	120				
Silver	25.207	1.0	25.00	0	101	80	120				
Thallium	25.204	1.0	25.00	0	101	80	120				
Vanadium	24.742	1.0	25.00	0	99.0	80	120				
Zinc	25.591	1.0	25.00	0	102	80	120				

Sample ID: **N017337-020A-DUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0						0	0	20	
Arsenic	7.540	1.0						7.437	1.37	20	
Barium	124.941	1.0						114.4	8.77	20	
Beryllium	0.495	1.0						0.4797	0	20	
Cadmium	ND	1.0						0	0	20	
Chromium	38.820	1.0						36.81	5.32	20	
Cobalt	10.954	1.0						9.941	9.69	20	
Copper	30.539	2.0						30.29	0.816	20	
Lead	26.368	1.0						27.33	3.57	20	
Molybdenum	ND	1.0						0	0	20	
Nickel	39.796	1.0						33.18	18.1	20	
Selenium	1.978	1.0						1.779	10.6	20	
Silver	ND	1.0						0	0	20	
Thallium	ND	1.0						0	0	20	
Vanadium	41.864	1.0						39.78	5.11	20	
Zinc	52.660	1.0						49.27	6.65	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **N017337-020A-MS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114424**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0	25.01	0	0	75	125				S
Arsenic	23.252	1.0	25.01	7.437	63.2	75	125				S
Barium	145.816	1.0	25.01	114.4	125	75	125				S
Beryllium	18.869	1.0	25.01	0.4797	73.5	75	125				S
Cadmium	15.677	1.0	25.01	0	62.7	75	125				S
Chromium	58.402	1.0	25.01	36.81	86.3	75	125				
Cobalt	30.083	1.0	25.01	9.941	80.5	75	125				
Copper	50.161	2.0	25.01	30.29	79.4	75	125				
Lead	45.065	1.0	25.01	27.33	70.9	75	125				S
Molybdenum	14.495	1.0	25.01	0	58.0	75	125				S
Nickel	56.683	1.0	25.01	33.18	94.0	75	125				
Selenium	16.623	1.0	25.01	1.779	59.3	75	125				S
Silver	13.796	1.0	25.01	0	55.2	75	125				S
Thallium	16.617	1.0	25.01	0	66.4	75	125				S
Vanadium	66.355	1.0	25.01	39.78	106	75	125				
Zinc	71.209	1.0	25.01	49.27	87.7	75	125				

Sample ID: **N017337-020A-MSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.576	2.0	24.93	0	2.31	75	125	0	0	20	S
Arsenic	22.890	1.0	24.93	7.437	62.0	75	125	23.25	1.57	20	S
Barium	135.089	1.0	24.93	114.4	82.8	75	125	145.8	7.64	20	
Beryllium	18.756	1.0	24.93	0.4797	73.3	75	125	18.87	0.600	20	S
Cadmium	15.596	1.0	24.93	0	62.6	75	125	15.68	0.516	20	S
Chromium	55.400	1.0	24.93	36.81	74.6	75	125	58.40	5.28	20	S
Cobalt	29.552	1.0	24.93	9.941	78.7	75	125	30.08	1.78	20	
Copper	49.011	2.0	24.93	30.29	75.1	75	125	50.16	2.32	20	
Lead	43.320	1.0	24.93	27.33	64.2	75	125	45.06	3.95	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **N017337-020A-MSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	14.530	1.0	24.93	0	58.3	75	125	14.49	0.244	20	S
Nickel	54.031	1.0	24.93	33.18	83.7	75	125	56.68	4.79	20	
Selenium	16.553	1.0	24.93	1.779	59.3	75	125	16.62	0.421	20	S
Silver	13.937	1.0	24.93	0	55.9	75	125	13.80	1.02	20	S
Thallium	16.588	1.0	24.93	0	66.6	75	125	16.62	0.174	20	S
Vanadium	62.326	1.0	24.93	39.78	90.5	75	125	66.36	6.26	20	
Zinc	66.189	1.0	24.93	49.27	67.9	75	125	71.21	7.31	20	S

Sample ID: **N017347-011A-DUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114443**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0						0	0	20	
Arsenic	2.711	1.0						2.651	2.27	20	
Barium	138.468	1.0						137.0	1.08	20	
Beryllium	0.206	1.0						0.2063	0	20	
Cadmium	ND	1.0						0	0	20	
Chromium	13.832	1.0						13.99	1.13	20	
Cobalt	6.323	1.0						6.394	1.12	20	
Copper	11.031	2.0						11.04	0.0944	20	
Lead	3.951	1.0						4.399	10.7	20	
Molybdenum	ND	1.0						0	0	20	
Nickel	9.605	1.0						9.656	0.531	20	
Selenium	0.380	1.0						0.4268	0	20	
Silver	ND	1.0						0	0	20	
Thallium	3.970	1.0						4.326	8.58	20	
Vanadium	29.852	1.0						29.91	0.185	20	
Zinc	47.097	1.0						50.06	6.09	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **N017347-011A-MS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103766**
Client ID: **ZZZZZZ** Batch ID: **52799** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/23/2015** SeqNo: **2114444**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0	25.06	0	0	75	125				S
Arsenic	18.225	1.0	25.06	2.651	62.1	75	125				S
Barium	150.004	1.0	25.06	137.0	51.9	75	125				S
Beryllium	19.685	1.0	25.06	0.2063	77.7	75	125				
Cadmium	16.668	1.0	25.06	0	66.5	75	125				S
Chromium	31.846	1.0	25.06	13.99	71.2	75	125				S
Cobalt	27.853	1.0	25.06	6.394	85.6	75	125				
Copper	30.687	2.0	25.06	11.04	78.4	75	125				
Lead	22.030	1.0	25.06	4.399	70.3	75	125				S
Molybdenum	17.108	1.0	25.06	0	68.3	75	125				S
Nickel	28.465	1.0	25.06	9.656	75.0	75	125				
Selenium	16.934	1.0	25.06	0.4268	65.9	75	125				S
Silver	15.971	1.0	25.06	0	63.7	75	125				S
Thallium	22.166	1.0	25.06	4.326	71.2	75	125				S
Vanadium	49.279	1.0	25.06	29.91	77.3	75	125				
Zinc	73.878	1.0	25.06	50.06	95.0	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB1-52805** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103799**
Client ID: **PBS** Batch ID: **52805** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/26/2015** SeqNo: **2118049**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: **MB2-52805** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103799**
Client ID: **PBS** Batch ID: **52805** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/26/2015** SeqNo: **2118050**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: **LCS-52805** SampType: **LCS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103799**
Client ID: **LCSS** Batch ID: **52805** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/26/2015** SeqNo: **2118051**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	24.345	5.0	25.00	0	97.4	80	120				

Sample ID: **N017337-003A-DUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103799**
Client ID: **ZZZZZZ** Batch ID: **52805** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/26/2015** SeqNo: **2118063**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	9.427	5.0						9.038	4.21	20	

Sample ID: **N017337-003A-MS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103799**
Client ID: **ZZZZZZ** Batch ID: **52805** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/26/2015** SeqNo: **2118064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	26.332	5.0	24.95	9.038	69.3	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **N017337-003A-MSD** SampType: **MSD** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103799**
Client ID: **ZZZZZZ** Batch ID: **52805** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/26/2015** SeqNo: **2118065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	27.865	5.0	24.93	9.038	75.5	75	125	26.33	5.66	20	

Sample ID: **N017337-021A-DUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103799**
Client ID: **ZZZZZZ** Batch ID: **52805** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/26/2015** SeqNo: **2118078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	16.604	5.0						18.48	10.7	20	

Sample ID: **N017337-021A-MS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103799**
Client ID: **ZZZZZZ** Batch ID: **52805** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **10/26/2015** SeqNo: **2118079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	31.299	5.0	25.06	18.48	51.1	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_W

Sample ID: **MB-52792** SampType: **MBLK** TestCode: **6010_W** Units: **mg/L** Prep Date: **10/22/2015** RunNo: **103725**
Client ID: **PBW** Batch ID: **52792** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/22/2015** SeqNo: **2112910**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.010									
Arsenic	ND	0.010									
Barium	ND	0.0030									
Beryllium	ND	0.0030									
Cadmium	0.000278	0.0030									
Chromium	0.000292	0.0030									
Cobalt	ND	0.0030									
Copper	ND	0.0050									
Lead	ND	0.0050									
Molybdenum	0.002	0.0050									
Nickel	ND	0.0050									
Selenium	ND	0.010									
Silver	0.00099	0.0030									
Thallium	0.002	0.015									
Vanadium	ND	0.0030									
Zinc	ND	0.010									

Sample ID: **LCS-52792** SampType: **LCS** TestCode: **6010_W** Units: **mg/L** Prep Date: **10/22/2015** RunNo: **103725**
Client ID: **LCSW** Batch ID: **52792** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/22/2015** SeqNo: **2112911**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.507	0.010	0.5000	0	101	85	115				
Arsenic	0.525	0.010	0.5000	0	105	85	115				
Barium	0.532	0.0030	0.5000	0	106	85	115				
Beryllium	0.518	0.0030	0.5000	0	104	85	115				
Cadmium	0.509	0.0030	0.5000	0	102	85	115				
Chromium	0.508	0.0030	0.5000	0	102	85	115				
Cobalt	0.504	0.0030	0.5000	0	101	85	115				
Copper	0.500	0.0050	0.5000	0	100	85	115				
Lead	0.533	0.0050	0.5000	0	107	85	115				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_W

Sample ID: **LCS-52792** SampType: **LCS** TestCode: **6010_W** Units: **mg/L** Prep Date: **10/22/2015** RunNo: **103725**
Client ID: **LCSW** Batch ID: **52792** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/22/2015** SeqNo: **2112911**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.521	0.0050	0.5000	0	104	85	115				
Nickel	0.527	0.0050	0.5000	0	105	85	115				
Selenium	0.510	0.010	0.5000	0	102	85	115				
Silver	0.485	0.0030	0.5000	0	97.0	85	115				
Thallium	0.495	0.015	0.5000	0	99.0	85	115				
Vanadium	0.485	0.0030	0.5000	0	96.9	85	115				
Zinc	0.504	0.010	0.5000	0	101	85	115				

Sample ID: **N017337-034A-DUP** SampType: **DUP** TestCode: **6010_W** Units: **mg/L** Prep Date: **10/22/2015** RunNo: **103725**
Client ID: **ZZZZZZ** Batch ID: **52792** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/22/2015** SeqNo: **2112923**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.010						0	0	20	
Arsenic	ND	0.010						0	0	20	
Barium	ND	0.0030						0.0004008	0	20	
Beryllium	0.000144	0.0030						0.0001747	0	20	
Cadmium	ND	0.0030						0	0	20	
Chromium	0.00045	0.0030						0.0005215	0	20	
Cobalt	ND	0.0030						0	0	20	
Copper	ND	0.0050						0	0	20	
Lead	ND	0.0050						0	0	20	
Molybdenum	0.000615	0.0050						0.0006862	0	20	
Nickel	ND	0.0050						0	0	20	
Selenium	ND	0.010						0	0	20	
Silver	ND	0.0030						0	0	20	
Thallium	ND	0.015						0	0	20	
Vanadium	ND	0.0030						0	0	20	
Zinc	ND	0.010						0	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_W

Sample ID: **N017337-034A-MS** SampType: **MS** TestCode: **6010_W** Units: **mg/L** Prep Date: **10/22/2015** RunNo: **103725**
Client ID: **ZZZZZZ** Batch ID: **52792** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/22/2015** SeqNo: **2112925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.496	0.010	0.5000	0	99.2	75	125				
Arsenic	0.497	0.010	0.5000	0	99.5	75	125				
Barium	0.520	0.0030	0.5000	0.0004008	104	75	125				
Beryllium	0.519	0.0030	0.5000	0.0001747	104	75	125				
Cadmium	0.491	0.0030	0.5000	0	98.3	75	125				
Chromium	0.505	0.0030	0.5000	0.0005215	101	75	125				
Cobalt	0.506	0.0030	0.5000	0	101	75	125				
Copper	0.473	0.0050	0.5000	0	94.7	75	125				
Lead	0.543	0.0050	0.5000	0	109	75	125				
Molybdenum	0.501	0.0050	0.5000	0.0006862	100	75	125				
Nickel	0.527	0.0050	0.5000	0	105	75	125				
Selenium	0.457	0.010	0.5000	0	91.4	75	125				
Silver	0.460	0.0030	0.5000	0	91.9	75	125				
Thallium	0.494	0.015	0.5000	0	98.9	75	125				
Vanadium	0.536	0.0030	0.5000	0	107	75	125				
Zinc	0.480	0.010	0.5000	0	96.1	75	125				

Sample ID: **N017337-034A-MSD** SampType: **MSD** TestCode: **6010_W** Units: **mg/L** Prep Date: **10/22/2015** RunNo: **103725**
Client ID: **ZZZZZZ** Batch ID: **52792** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/22/2015** SeqNo: **2112926**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.500	0.010	0.5000	0	99.9	75	125	0.4958	0.749	20	
Arsenic	0.500	0.010	0.5000	0	100	75	125	0.4974	0.512	20	
Barium	0.521	0.0030	0.5000	0.0004008	104	75	125	0.5197	0.325	20	
Beryllium	0.520	0.0030	0.5000	0.0001747	104	75	125	0.5185	0.299	20	
Cadmium	0.492	0.0030	0.5000	0	98.3	75	125	0.4913	0.0744	20	
Chromium	0.506	0.0030	0.5000	0.0005215	101	75	125	0.5049	0.249	20	
Cobalt	0.506	0.0030	0.5000	0	101	75	125	0.5062	0.0372	20	
Copper	0.474	0.0050	0.5000	0	94.7	75	125	0.4734	0.0489	20	
Lead	0.545	0.0050	0.5000	0	109	75	125	0.5433	0.319	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_W

Sample ID: **N017337-034A-MSD** SampType: **MSD** TestCode: **6010_W** Units: **mg/L** Prep Date: **10/22/2015** RunNo: **103725**
Client ID: **ZZZZZZ** Batch ID: **52792** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/22/2015** SeqNo: **2112926**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.501	0.0050	0.5000	0.0006862	100	75	125	0.5012	0.0295	20	
Nickel	0.529	0.0050	0.5000	0	106	75	125	0.5270	0.354	20	
Selenium	0.463	0.010	0.5000	0	92.5	75	125	0.4570	1.24	20	
Silver	0.459	0.0030	0.5000	0	91.8	75	125	0.4597	0.138	20	
Thallium	0.498	0.015	0.5000	0	99.5	75	125	0.4944	0.631	20	
Vanadium	0.536	0.0030	0.5000	0	107	75	125	0.5360	0.0914	20	
Zinc	0.482	0.010	0.5000	0	96.3	75	125	0.4805	0.226	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID: **MB1-52804** SampType: **MBLK** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103788**
Client ID: **PBS** Batch ID: **52804** TestNo: **EPA 7471A** Analysis Date: **10/26/2015** SeqNo: **2116743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.027	0.10									

Sample ID: **MB2-52804** SampType: **MBLK** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103788**
Client ID: **PBS** Batch ID: **52804** TestNo: **EPA 7471A** Analysis Date: **10/26/2015** SeqNo: **2116744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.028	0.10									

Sample ID: **LCS-52804** SampType: **LCS** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103788**
Client ID: **LCSS** Batch ID: **52804** TestNo: **EPA 7471A** Analysis Date: **10/26/2015** SeqNo: **2116745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.475	0.10	0.4167	0	114	80	120				

Sample ID: **N017337-002A-MS** SampType: **MS** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103788**
Client ID: **ZZZZZZ** Batch ID: **52804** TestNo: **EPA 7471A** Analysis Date: **10/26/2015** SeqNo: **2116746**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.545	0.098	0.4099	0.1331	101	75	125				

Sample ID: **N017337-002A-MSD** SampType: **MSD** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103788**
Client ID: **ZZZZZZ** Batch ID: **52804** TestNo: **EPA 7471A** Analysis Date: **10/26/2015** SeqNo: **2116747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.550	0.10	0.4167	0.1331	100	75	125	0.5453	0.792	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID: **N017337-002A-DUP** SampType: **DUP** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103788**
Client ID: **ZZZZZZ** Batch ID: **52804** TestNo: **EPA 7471A** Analysis Date: **10/26/2015** SeqNo: **2116748**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.145	0.10						0.1331	8.52	20	

Sample ID: **N017346-002A-MS** SampType: **MS** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103788**
Client ID: **ZZZZZZ** Batch ID: **52804** TestNo: **EPA 7471A** Analysis Date: **10/26/2015** SeqNo: **2116750**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.450	0.10	0.4167	0.02828	101	75	125				

Sample ID: **N017346-002A-DUP** SampType: **DUP** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/22/2015** RunNo: **103788**
Client ID: **ZZZZZZ** Batch ID: **52804** TestNo: **EPA 7471A** Analysis Date: **10/26/2015** SeqNo: **2116751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.028	0.099						0.02828	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID: **MB-52815** SampType: **MBLK** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/23/2015** RunNo: **103788**
Client ID: **PBS** Batch ID: **52815** TestNo: **EPA 7471A** Analysis Date: **10/26/2015** SeqNo: **2118868**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.030	0.10									

Sample ID: **LCS-52815** SampType: **LCS** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/23/2015** RunNo: **103788**
Client ID: **LCSS** Batch ID: **52815** TestNo: **EPA 7471A** Analysis Date: **10/26/2015** SeqNo: **2118869**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.486	0.10	0.4167	0	117	80	120				

Sample ID: **N017337-006A-MS** SampType: **MS** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/23/2015** RunNo: **103788**
Client ID: **ZZZZZZ** Batch ID: **52815** TestNo: **EPA 7471A** Analysis Date: **10/26/2015** SeqNo: **2118872**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.500	0.099	0.4139	0.07496	103	75	125				

Sample ID: **N017337-006A-MSD** SampType: **MSD** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/23/2015** RunNo: **103788**
Client ID: **ZZZZZZ** Batch ID: **52815** TestNo: **EPA 7471A** Analysis Date: **10/26/2015** SeqNo: **2118873**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.480	0.10	0.4146	0.07496	97.7	75	125	0.5005	4.19	20	

Sample ID: **N017337-006A-DUP** SampType: **DUP** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/23/2015** RunNo: **103788**
Client ID: **ZZZZZZ** Batch ID: **52815** TestNo: **EPA 7471A** Analysis Date: **10/26/2015** SeqNo: **2118874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.067	0.10						0.07496	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID: **MB-52849** SampType: **MBLK** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/27/2015** RunNo: **103829**
Client ID: **PBS** Batch ID: **52849** TestNo: **EPA 7471A** Analysis Date: **10/28/2015** SeqNo: **2118932**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Sample ID: **LCS-52849** SampType: **LCS** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/27/2015** RunNo: **103829**
Client ID: **LCSS** Batch ID: **52849** TestNo: **EPA 7471A** Analysis Date: **10/28/2015** SeqNo: **2118933**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.387	0.10	0.4167	0	92.9	80	120				

Sample ID: **N017369-003A-MS** SampType: **MS** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/27/2015** RunNo: **103829**
Client ID: **ZZZZZZ** Batch ID: **52849** TestNo: **EPA 7471A** Analysis Date: **10/28/2015** SeqNo: **2118934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.382	0.10	0.4167	0	91.7	75	125				

Sample ID: **N017369-003A-MSD** SampType: **MSD** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **10/27/2015** RunNo: **103829**
Client ID: **ZZZZZZ** Batch ID: **52849** TestNo: **EPA 7471A** Analysis Date: **10/28/2015** SeqNo: **2118935**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.379	0.10	0.4167	0	90.9	75	125	0.3820	0.857	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_S_DM LL

Sample ID: **MB1-52816** SampType: **MBLK** TestCode: **8015_S_DM L** Units: **mg/Kg** Prep Date: **10/23/2015** RunNo: **103745**
Client ID: **PBS** Batch ID: **52816** TestNo: **EPA 8015B EPA 3550B** Analysis Date: **10/23/2015** SeqNo: **2113595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	ND	1.0									
ORO	ND	1.0									
Surr: p-Terphenyl	25.967		26.67		97.4	48	123				

Sample ID: **N017337-001A-DUP** SampType: **DUP** TestCode: **8015_S_DM L** Units: **mg/Kg** Prep Date: **10/23/2015** RunNo: **103745**
Client ID: **ZZZZZZ** Batch ID: **52816** TestNo: **EPA 8015B EPA 3550B** Analysis Date: **10/23/2015** SeqNo: **2113598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	262.676	10						198.0	28.1	20	R
ORO	856.585	10						638.1	29.2	20	R
Surr: p-Terphenyl	15.936		26.66		59.8	48	123		0		

Sample ID: **N017337-001A-MS** SampType: **MS** TestCode: **8015_S_DM L** Units: **mg/Kg** Prep Date: **10/23/2015** RunNo: **103745**
Client ID: **ZZZZZZ** Batch ID: **52816** TestNo: **EPA 8015B EPA 3550B** Analysis Date: **10/23/2015** SeqNo: **2114921**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	529.550	10	333.7	198.0	99.3	31	108				
Surr: p-Terphenyl	16.419		26.71		61.5	48	123				

Sample ID: **N017337-001A-MSD** SampType: **MSD** TestCode: **8015_S_DM L** Units: **mg/Kg** Prep Date: **10/23/2015** RunNo: **103745**
Client ID: **ZZZZZZ** Batch ID: **52816** TestNo: **EPA 8015B EPA 3550B** Analysis Date: **10/23/2015** SeqNo: **2114922**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	653.834	10	333.6	198.0	137	31	108	529.6	21.0	20	SR
Surr: p-Terphenyl	17.636		26.70		66.1	48	123		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_S_DM LL

Sample ID: **LCS-52816** SampType: **LCS** TestCode: **8015_S_DM L** Units: **mg/Kg** Prep Date: **10/23/2015** RunNo: **103745**
Client ID: **LCSS** Batch ID: **52816** TestNo: **EPA 8015B EPA 3550B** Analysis Date: **10/23/2015** SeqNo: **2114923**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	317.408	1.0	333.3	0	95.2	51	100				
Surr: p-Terphenyl	26.615		26.67		99.8	48	123				

Sample ID: **MB2-52816** SampType: **MBLK** TestCode: **8015_S_DM L** Units: **mg/Kg** Prep Date: **10/23/2015** RunNo: **103745**
Client ID: **PBS** Batch ID: **52816** TestNo: **EPA 8015B EPA 3550B** Analysis Date: **10/23/2015** SeqNo: **2114924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	ND	1.0									
ORO	ND	1.0									
Surr: p-Terphenyl	26.685		26.67		100	48	123				

Sample ID: **N017337-019A-DUP** SampType: **DUP** TestCode: **8015_S_DM L** Units: **mg/Kg** Prep Date: **10/23/2015** RunNo: **103745**
Client ID: **ZZZZZZ** Batch ID: **52816** TestNo: **EPA 8015B EPA 3550B** Analysis Date: **10/23/2015** SeqNo: **2117124**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	13.966	10						20.00	35.5	20	R
ORO	41.317	10						53.09	24.9	20	R
Surr: p-Terphenyl	17.533		26.64		65.8	48	123		0		

Sample ID: **N017337-019A-MS** SampType: **MS** TestCode: **8015_S_DM L** Units: **mg/Kg** Prep Date: **10/23/2015** RunNo: **103745**
Client ID: **ZZZZZZ** Batch ID: **52816** TestNo: **EPA 8015B EPA 3550B** Analysis Date: **10/24/2015** SeqNo: **2117133**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	252.102	10	333.4	20.00	69.6	31	108				
Surr: p-Terphenyl	23.617		26.68		88.5	48	123				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_S

Sample ID: **E151022LCS** SampType: **LCS** TestCode: **8015GAS_S** Units: **mg/Kg** Prep Date: RunNo: **103718**
Client ID: **LCSS** Batch ID: **E15VS121** TestNo: **EPA 8015B** Analysis Date: **10/22/2015** SeqNo: **2112277**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	4.851	1.0	5.000	0	97.0	70	137				
Surr: Chlorobenzene - d5	103.461		100.0		103	46	154				

Sample ID: **E151022MB1** SampType: **MBLK** TestCode: **8015GAS_S** Units: **mg/Kg** Prep Date: RunNo: **103718**
Client ID: **PBS** Batch ID: **E15VS121** TestNo: **EPA 8015B** Analysis Date: **10/22/2015** SeqNo: **2112278**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	1.0									
Surr: Chlorobenzene - d5	110.204		100.0		110	46	154				

Sample ID: **N017337-006ADUP** SampType: **DUP** TestCode: **8015GAS_S** Units: **mg/Kg** Prep Date: RunNo: **103718**
Client ID: **ZZZZZZ** Batch ID: **E15VS121** TestNo: **EPA 8015B** Analysis Date: **10/22/2015** SeqNo: **2112811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	1.0						0	0	20	
Surr: Chlorobenzene - d5	108.834		100.0		109	46	154		0		

Sample ID: **N017337-017AMS** SampType: **MS** TestCode: **8015GAS_S** Units: **mg/Kg** Prep Date: RunNo: **103718**
Client ID: **ZZZZZZ** Batch ID: **E15VS121** TestNo: **EPA 8015B** Analysis Date: **10/22/2015** SeqNo: **2112812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	4.614	1.0	5.000	0	92.3	46	155				
Surr: Chlorobenzene - d5	91.851		100.0		91.9	46	154				

Sample ID: **N017337-017AMSD** SampType: **MSD** TestCode: **8015GAS_S** Units: **mg/Kg** Prep Date: RunNo: **103718**
Client ID: **ZZZZZZ** Batch ID: **E15VS121** TestNo: **EPA 8015B** Analysis Date: **10/22/2015** SeqNo: **2112813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	4.710	1.0	5.000	0	94.2	46	155	4.614	2.06	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_S

Sample ID: **N017337-017AMSD** SampType: **MSD** TestCode: **8015GAS_S** Units: **mg/Kg** Prep Date: RunNo: **103718**
Client ID: **ZZZZZZ** Batch ID: **E15VS121** TestNo: **EPA 8015B** Analysis Date: **10/22/2015** SeqNo: **2112813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Chlorobenzene - d5	99.574		100.0		99.6	46	154		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID: **N017337-005A DUP** SampType: **DUP** TestCode: **9045_S** Units: **pH Units** Prep Date: RunNo: **103716**
Client ID: **ZZZZZZ** Batch ID: **R103716** TestNo: **EPA 9045C** Analysis Date: **10/22/2015** SeqNo: **2112273**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.960	0.10						7.930	0.378	20	
Temp. at time of pH Analysis	23.100	0						23.10	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CHAIN OF CUSTODY RECORD

5.0°C IR#1

ADVANCED TECHNOLOGY LABORATORIES
3151 W. Post Road, Las Vegas, NV 89118
Tel: (702) 307-2659 • Fax: (702) 307-2691

P.O. #: _____ Quote #: _____
Logged By: _____ Date: _____

NOTE: Please include your Quote No. to ensure proper pricing of your project.

FOR LABORATORY USE ONLY

Method of Transport: ☐ Client ☐ ATL ☐ FedEx ☐ OnTrac ☒ GSO ☐ Other:

Sample Condition Upon Receipt:
1. CHILLED Y ☑ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ NA
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: GEOCON
Address: 6671 BRISA ST
Tel: 925-371-5700
Attention: LLOYD BEADLE
City: LIVERMORE State: CA Zip Code: 94550 Fax:

Project Name: 780/LAUREL ST
Project #: E8721-02-37
Sampler: C GIUNTOLI (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
C GIUNTOLI	10/20/15		Anthony Hattori	10-21-15	1203

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: CG 10/20/15
Print Name Date
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 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested — SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☒ Legal ☐ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Batch #: Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO)	8015B (DRO)	8021 (BTEX)	TITLE 22 (CAM 17 (6010 / 7000))	TOTAL LEAD	pH	SEDIMENT	SOLID	SOIL	DRINKING WATER	GROUND WATER	WASTEWATER	STORMWATER	AQUEOUS	TAT	Container(s) #	Type	PRESERVATION	REMARKS
	N017337-1	A1-0	10/19/15	1112						X	X							+						E	1	SS T	C	
	-2	A1-1		1119						X	X																	
	-3	A1-3		1131								X														SS T		
	-4	A2-0		1115						X		X														SS T		
	-5	A2-1		1119						X		X	X															
	-6	A2-3		1130					X		X																	
	-7	A3-0		1156								X														P B		
	-8	A3-1		1204					X		X															SS T		

- TAT starts 8AM the following day if samples received after 5 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☐ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

5.0°C IR#1

ADVANCED TECHNOLOGY LABORATORIES
3151 W. Post Road, Las Vegas, NV 89118
Tel: (702) 307-2659 • Fax: (702) 307-2691

P.O. #: _____ Quote #: _____
Logged By: _____ Date: _____

NOTE: Please include your Quote No. to ensure proper pricing of your project.

FOR LABORATORY USE ONLY

Method of Transport: ☐ Client ☐ ATL ☐ FedEx ☐ OnTrac ☒ GSO ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☑ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ N/A
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: SECOR
Attention: LLANDEESLE
Address: 6671 BRISA ST
City: LIVERMORE State: CA Zip Code:
Tel: 925-371-5900
Fax:

Project Name: 780 / LAUREL ST
Project #: E8721-02-37
Sampler: C GIUNTOLI (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
	10/20/15	1700	Anthony Hattori	10-21-15	1203

I hereby authorize ATL to perform the work indicated below:

Project Mgr /Submitter: CG 10/20/15
Print Name Date
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 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested — SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☒ Legal ☐ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Batch #: Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO)	8015B (DRO)	8021 (BTEX)	TITLE 22 (CAM 17 (6010 / 7000))	TOTAL LEAD	PH	SEDIMENT	SOLID	SOIL	DRINKING WATER	GROUND WATER	WASTEWATER	STORMWATER	AQUEOUS	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	N017337-9	A4-0	10/19/15	1156									X				X							E	1	P B	C	
	-10	A4-1		1201						X	X															S T		
	-11	A4-3		1211					X	X		X																
	-12	A5-0		1320						X	X																	
	-13	A5-1		1330						X	X																	
	-14	A6-0		1306								X														P B		
	-15	A6-1		1318						X		X	X													S T		
	-16	A7-0		1237								X														P B		
	-17	A7-1		1245					X		X															S T		
	-18	A7-3		1302						X	X																	

- TAT starts 8AM the following day if samples received after 5 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☐ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives:
H=HCl N=HNO_3 S=H_2SO_4 C=4°C
Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

5.0c IR#1

ADVANCED TECHNOLOGY LABORATORIES
3151 W. Post Road, Las Vegas, NV 89118
Tel: (702) 307-2659 • Fax: (702) 307-2691

P.O. #: _____ Quote #: _____
Logged By: _____ Date: _____

NOTE: Please include your Quote No. to ensure proper pricing of your project.

FOR LABORATORY USE ONLY

Method of Transport: ☐ Client ☐ ATL ☐ FedEx ☐ OnTrac ☒ GSO ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☒ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ NA
3. CONTAINER INTACT Y ☒ N ☐
4. SEALED Y ☐ N ☒
5. # OF SPLS MATCH COC Y ☒ N ☐
6. PRESERVED Y ☐ N ☒

Client: GEOCON
Address: 6671 BRISA ST
Tel: 925-371-5900
Attention: LUANN BEADLE
City: LIVERMORE State: CA Zip Code: 94550
Fax:

Project Name: 780/LAUREL ST
Project #: E8721-02-37
Sampler: C GINSTOCK (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
	10/20/15	1700		10-21-15	1203
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:
Project Mgr /Submitter: CS 10/20/15
Print Name Date
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.

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- 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

QA/QC: RTNE ☐ CT ☒ Legal ☐ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Batch #: Lab No.	Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO)	8015B (DRO)	8021 (BTEX)	TITLE 22 (CAM 17 (6010 / 7000))	TOTAL LEAD	PH	SEDIMENT	SOLID	SOIL	DRINKING WATER	GROUND WATER	WASTEWATER	STORMWATER	AQUEOUS	TAT	Container(s) #	Type	PRESERVATION	REMARKS
	N017337-19	A8-0	10/19/15	1235						X		X					X							E	1	5g T	C	
	-20	A8-1	↓	1247						X	X																	
	-21	B1-0	10/20/15	0830						X		X																
	-22	B1-1		0835						X		X																
	-23	B2-0		905								X														P B		
	-24	B2-1		910						X		X	X													5g T		
	-25	B2-3		915					X			X																
	-26	B2-6		931						X	X																	
	-27	B3-0		950								X														P B		
	-28	B3-1	↓	955					X	X		X					↓							↓	↓	5g T	↓	

■ TAT starts 8AM the following day if samples received after 5 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☐ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

5.0°C IR#1

ADVANCED TECHNOLOGY LABORATORIES
3151 W. Post Road, Las Vegas, NV 89118
Tel: (702) 307-2659 • Fax: (702) 307-2691

P.O. #: _____ Quote #: _____
Logged By: _____ Date: _____

NOTE: Please include your Quote No. to ensure proper pricing of your project.

FOR LABORATORY USE ONLY

Method of Transport: ☐ Client ☐ ATL ☐ FedEx ☐ OnTrac ☒ GSO ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☒ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ NA
3. CONTAINER INTACT Y ☒ N ☐
4. SEALED Y ☐ N ☒
5. # OF SPLS MATCH COC Y ☒ N ☐
6. PRESERVED Y ☐ N ☒

Client: GEOCON
Address: 6671 BRISA ST
Tel: 925-371-5900
Attention: LUANN BEACLE
City: LIVERMORE State: CA Zip Code: 94550
Fax:

Project Name: 780/LAUREL ST
Project #: E8721-02-37
Sampler: C GIONTOLI (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
	10/20/15	1700	Anthony Hattori	10-21-15	1203

I hereby authorize ATL to perform the work indicated below:

Project Mgr /Submitter: CG 10/20/15
Print Name Date
Signature

Send Report To: Attn: SEE ABOVE
Co:
Addr:
City: State: Zip:

Bill To: Attn: SAME
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Addr:
City: State: Zip:

Special Instructions/Comments:

Sample/Records - Archival & Disposal
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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

QA/QC: RTNE ☐ CT ☒ Legal ☐ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Batch #: Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8021 (BTEX)	8015B (DRO) + MOTOR OIL	TITLE 22 (CAM 17 (6010 / 7000)) TOTAL LEAD	SEDIMENT	SOLID	SOIL	DRINKING WATER	GROUND WATER	WASTEWATER	STORMWATER	AQUEOUS	WATER	TAT	#	Container(s) Type	PRESERVATION	REMARKS
	N07337-29	B4-0	10/20/15	905						X		X			X							E	1	8oz T	C	
	-30	B4-1	↓	915						X		X			↓							↓	↓	↓	↓	
	-31	B4-3	↓	933					X			X			↓							↓	↓	↓	↓	
	-32	B4-6	↓	945						X					↓							↓	↓	↓	↓	
	-33	B4-8.5	↓	1000						X					↓							↓	↓	↓	↓	
*	34	RINSE BLK	10/20/15	1430								X								X		E	1	P 1L T	HNO3 C	

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☐ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

- TAT starts 8AM the following day if samples received after 5 PM

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	10/21/2015	Workorder:	N017337
Rep sample Temp (Deg C):	5.0	IR Gun ID:	1
Temp Blank:	☐ Yes ☑ No		
Carrier name:	Golden State Overnight		
Last 4 digits of Tracking No.:	5341	Packing Material Used:	Bubble Wrap
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments

Checklist Completed B for MBC pA 10/26/2015

Reviewed By: gsg 10/26/15

GSO GOLDEN STATE OVERNIGHT

800-322-5555 www.gso.com

Ship From
GEOCON, INC.
GEOCON - LIVERMORE OFFICE
6671 BRISA STREET
LIVERMORE, CA 94550

Ship To
ADVANCED TECHNOLOGY LABS - LAS VEGAS
SAMPLE RECEIVING
3151 W. POST ROAD
LAS VEGAS, NV 89118

COD: $0.00
Weight: 0 lb(s)
Reference:
E8721-02-37
Delivery Instructions:

Signature Type: REQUIRED

Tracking #: 529665341

CPS

LVS

A

LAS VEGAS

N89103A

43811962

Print Date: 10/20/2015 1:06 PM

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer. Securely attach this label to your package, do not cover the barcode.

November 25, 2015

Luann Beadle
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

TEL: 925-371-5900 Ext 403
FAX: (925) 371-5915

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N017337

RE: 780/LAUREL ST, E8721-02-37

Attention: Luann Beadle

Enclosed are the results for sample(s) received on October 21, 2015 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an addendum report. Please incorporate with documentation previously submitted.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *25-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A1-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 11:12:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-001A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PH						
			EPA 9045C			
RunID: WETCHEM_151118B	QC Batch: R104228			PrepDate:		Analyst: **LR**
pH	4.8	0.10		pH Units	1	11/18/2015 03:20 PM
Temp. at time of pH Analysis	24	0		°C	1	11/18/2015 03:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *25-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A2-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 11:15:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-004A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PH						
			EPA 9045C			
RunID: WETCHEM_151119B	QC Batch: R104250			PrepDate:		Analyst: **LR**
pH	7.3	0.10		pH Units	1	11/19/2015 01:30 PM
Temp. at time of pH Analysis	24	0		°C	1	11/19/2015 01:30 PM
ICP METALS BY WET DI EXTRACTION						
			WET DI/ EPA 6010B			
RunID: ICP2_151125A	QC Batch: R104355			PrepDate:		Analyst: **CEI**
Lead	0.027	0.0050		mg/L	1	11/25/2015 11:24 AM
ICP METALS BY TCLP EXTRACTION						
	EPA 3010A		**EPA 1311/ 6010B**			
RunID: ICP2_151121A	QC Batch: 54118			PrepDate:	11/19/2015	Analyst: **CEI**
Lead	ND	0.25		mg/L	5	11/21/2015 10:47 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *25-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A5-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 1:20:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-012A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PH						
			EPA 9045C			
RunID: WETCHEM_151118B QC Batch: R104228 PrepDate: Analyst: **LR**						
pH	5.4	0.10		pH Units	1	11/18/2015 03:20 PM
Temp. at time of pH Analysis	23	0		°C	1	11/18/2015 03:20 PM
ICP METALS BY WET DI EXTRACTION						
			WET DI/ EPA 6010B			
RunID: ICP2_151125A QC Batch: R104355 PrepDate: Analyst: **CEI**						
Lead	0.11	0.025		mg/L	5	11/25/2015 12:12 PM
ICP METALS BY TCLP EXTRACTION						
	EPA 3010A		**EPA 1311/ 6010B**			
RunID: ICP2_151121A QC Batch: 54118 PrepDate: 11/19/2015 Analyst: **CEI**						
Lead	ND	0.25		mg/L	5	11/21/2015 11:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *25-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A5-1
Lab Order:	N017337	**Collection Date:**	10/19/2015 1:30:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-013A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY WET DI EXTRACTION						
			WET DI/ EPA 6010B			
RunID: ICP2_151125A	QC Batch: R104355			PrepDate:		Analyst: **CEI**
Lead	0.071	0.025		mg/L	5	11/25/2015 12:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *25-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	A6-0
Lab Order:	N017337	**Collection Date:**	10/19/2015 1:06:00 PM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-014A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PH						
			EPA 9045C			
RunID: WETCHEM_151118B QC Batch: R104228 PrepDate: Analyst: **LR**						
pH	5.0	0.10		pH Units	1	11/18/2015 03:20 PM
Temp. at time of pH Analysis	23	0		°C	1	11/18/2015 03:20 PM
ICP METALS BY WET DI EXTRACTION						
			WET DI/ EPA 6010B			
RunID: ICP2_151125A QC Batch: R104355 PrepDate: Analyst: **CEI**						
Lead	0.25	0.025		mg/L	5	11/25/2015 12:23 PM
ICP METALS BY TCLP EXTRACTION						
	EPA 3010A		**EPA 1311/ 6010B**			
RunID: ICP2_151121A QC Batch: 54118 PrepDate: 11/19/2015 Analyst: **CEI**						
Lead	ND	0.25		mg/L	5	11/21/2015 11:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *25-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B2-0
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:05:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-023A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PH						
			EPA 9045C			
RunID: WETCHEM_151118B	QC Batch: R104228			PrepDate:		Analyst: **LR**
pH	7.8	0.10		pH Units	1	11/18/2015 03:20 PM
Temp. at time of pH Analysis	23	0		°C	1	11/18/2015 03:20 PM
ICP METALS BY WET DI EXTRACTION						
			WET DI/ EPA 6010B			
RunID: ICP2_151125A	QC Batch: R104355			PrepDate:		Analyst: **CEI**
Lead	0.034	0.025		mg/L	5	11/25/2015 12:18 PM
ICP METALS BY TCLP EXTRACTION						
	EPA 3010A		**EPA 1311/ 6010B**			
RunID: ICP2_151121A	QC Batch: 54118			PrepDate:	11/19/2015	Analyst: **CEI**
Lead	ND	0.25		mg/L	5	11/21/2015 11:26 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *25-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B3-0
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:50:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-027A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PH						
			EPA 9045C			
RunID: WETCHEM_151118B QC Batch: R104228 PrepDate: Analyst: **LR**						
pH	7.3	0.10		pH Units	1	11/18/2015 03:20 PM
Temp. at time of pH Analysis	23	0		°C	1	11/18/2015 03:20 PM
ICP METALS BY WET DI EXTRACTION						
			WET DI/ EPA 6010B			
RunID: ICP2_151125A QC Batch: R104355 PrepDate: Analyst: **CEI**						
Lead	0.11	0.025		mg/L	5	11/25/2015 12:29 PM
ICP METALS BY TCLP EXTRACTION						
	EPA 3010A		**EPA 1311/ 6010B**			
RunID: ICP2_151121A QC Batch: 54118 PrepDate: 11/19/2015 Analyst: **CEI**						
Lead	ND	0.25		mg/L	5	11/21/2015 11:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *25-Nov-15*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B4-0
Lab Order:	N017337	**Collection Date:**	10/20/2015 9:05:00 AM
Project:	780/LAUREL ST, E8721-02-37	**Matrix:**	SOIL
Lab ID:	N017337-029A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PH						
			EPA 9045C			
RunID: WETCHEM_151118B QC Batch: R104228 PrepDate: Analyst: **LR**						
pH	8.1	0.10		pH Units	1	11/18/2015 03:20 PM
Temp. at time of pH Analysis	22	0		°C	1	11/18/2015 03:20 PM
ICP METALS BY WET DI EXTRACTION						
			WET DI/ EPA 6010B			
RunID: ICP2_151125A QC Batch: R104355 PrepDate: Analyst: **CEI**						
Lead	ND	0.025		mg/L	5	11/25/2015 12:33 PM
ICP METALS BY TCLP EXTRACTION						
	EPA 3010A		**EPA 1311/ 6010B**			
RunID: ICP2_151121A QC Batch: 54118 PrepDate: 11/19/2015 Analyst: **CEI**						
Lead	ND	0.25		mg/L	5	11/21/2015 11:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_STDIPB

Sample ID: **MB-R104355** SampType: **MBLK** TestCode: **6010_STDIPB** Units: **mg/L** Prep Date: RunNo: **104355**
Client ID: **PBW** Batch ID: **R104355** TestNo: **WET DI/ EPA** Analysis Date: **11/25/2015** SeqNo: **2148699**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.0050									

Sample ID: **MB-54119 STLC** SampType: **MBLK** TestCode: **6010_STDIPB** Units: **mg/L** Prep Date: RunNo: **104355**
Client ID: **PBW** Batch ID: **R104355** TestNo: **WET DI/ EPA** Analysis Date: **11/25/2015** SeqNo: **2148700**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.0050									

Sample ID: **LCS-R104355** SampType: **LCS** TestCode: **6010_STDIPB** Units: **mg/L** Prep Date: RunNo: **104355**
Client ID: **LCSW** Batch ID: **R104355** TestNo: **WET DI/ EPA** Analysis Date: **11/25/2015** SeqNo: **2148701**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.504	0.0050	0.5000	0	101	85	115				

Sample ID: **N017337-012A-DUP** SampType: **DUP** TestCode: **6010_STDIPB** Units: **mg/L** Prep Date: RunNo: **104355**
Client ID: **ZZZZZZ** Batch ID: **R104355** TestNo: **WET DI/ EPA** Analysis Date: **11/25/2015** SeqNo: **2148717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.106	0.025						0.1054	0.615	20	

Sample ID: **N017337-012A-MS** SampType: **MS** TestCode: **6010_STDIPB** Units: **mg/L** Prep Date: RunNo: **104355**
Client ID: **ZZZZZZ** Batch ID: **R104355** TestNo: **WET DI/ EPA** Analysis Date: **11/25/2015** SeqNo: **2148718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.731	0.025	2.500	0.1054	105	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_STDIPB

Sample ID: **N017337-012A-MSD** SampType: **MSD** TestCode: **6010_STDIPB** Units: **mg/L** Prep Date: RunNo: **104355**
Client ID: **ZZZZZZ** Batch ID: **R104355** TestNo: **WET DI/ EPA** Analysis Date: **11/25/2015** SeqNo: **2148719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.764	0.025	2.500	0.1054	106	75	125	2.731	1.22	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_TC

Sample ID: **MB-54118** SampType: **MBLK** TestCode: **6010_TC** Units: **mg/L** Prep Date: **11/19/2015** RunNo: **104282**
Client ID: **PBS** Batch ID: **54118** TestNo: **EPA 1311/ 60 EPA 3010A** Analysis Date: **11/21/2015** SeqNo: **2144862**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.050									

Sample ID: **MB-54114-TCLP** SampType: **MBLK** TestCode: **6010_TC** Units: **mg/L** Prep Date: **11/20/2015** RunNo: **104282**
Client ID: **PBS** Batch ID: **54118** TestNo: **EPA 1311/ 60 EPA 3010A** Analysis Date: **11/21/2015** SeqNo: **2144863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: **LCS-54118** SampType: **LCS** TestCode: **6010_TC** Units: **mg/L** Prep Date: **11/19/2015** RunNo: **104282**
Client ID: **LCSS** Batch ID: **54118** TestNo: **EPA 1311/ 60 EPA 3010A** Analysis Date: **11/21/2015** SeqNo: **2144864**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.532	0.050	0.5000	0	106	85	115				

Sample ID: **N017670-001A-MS** SampType: **MS** TestCode: **6010_TC** Units: **mg/L** Prep Date: **11/19/2015** RunNo: **104282**
Client ID: **ZZZZZZ** Batch ID: **54118** TestNo: **EPA 1311/ 60 EPA 3010A** Analysis Date: **11/21/2015** SeqNo: **2144868**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.693	1.2	0.5000	0	139	75	125				S

Sample ID: **N017670-001A-MSD** SampType: **MSD** TestCode: **6010_TC** Units: **mg/L** Prep Date: **11/19/2015** RunNo: **104282**
Client ID: **ZZZZZZ** Batch ID: **54118** TestNo: **EPA 1311/ 60 EPA 3010A** Analysis Date: **11/21/2015** SeqNo: **2144869**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.679	1.2	0.5000	0	136	75	125	0.6931	0	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_TC

Sample ID: **N017337-012A-DUP** SampType: **DUP** TestCode: **6010_TC** Units: **mg/L** Prep Date: **11/20/2015** RunNo: **104282**
Client ID: **ZZZZZZ** Batch ID: **54118** TestNo: **EPA 1311/ 60 EPA 3010A** Analysis Date: **11/21/2015** SeqNo: **2144876**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.057	0.25						0.06474	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID: **N017337-027ADUP** SampType: **DUP** TestCode: **9045_S** Units: **pH Units** Prep Date: RunNo: **104228**
Client ID: **ZZZZZZ** Batch ID: **R104228** TestNo: **EPA 9045C** Analysis Date: **11/18/2015** SeqNo: **2142048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.250	0.10						7.340	1.23	20	
Temp. at time of pH Analysis	22.800	0						23.00	0.873	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N017337
Project: 780/LAUREL ST, E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID: **N017337-004ADUP** SampType: **DUP** TestCode: **9045_S** Units: **pH Units** Prep Date: RunNo: **104250**
Client ID: **ZZZZZZ** Batch ID: **R104250** TestNo: **EPA 9045C** Analysis Date: **11/19/2015** SeqNo: **2143163**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.270	0.10						7.320	0.685	20	
Temp. at time of pH Analysis	23.900	0						24.40	2.07	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Glen Gesmundo

From: Luann Beadle [beadle@geoconinc.com]
Sent: Wednesday, November 18, 2015 1:09 PM
To: reports.lv@assetlaboratories.com
Cc: Kimberlina Gomez
Subject: RE: 780/LAUREL ST, E8721-02-37 (ASSET Labs No.N017337)

Hi Asset,

Could you please run the following samples as indicated with an "X" on a regular TAT?

Sample ID	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
A1-0	X	X	X
A2-0	X	X	—
A5-0	X	X	X
A5-1	X	—	—
A6-0	X	X	X
B2-0	X	X	X
B3-0	X	X	X
B4-0	X	X	X

Thank you,
Luann

From: reports.lv@assetlaboratories.com [mailto:reports.lv@assetlaboratories.com]
Sent: Monday, November 09, 2015 4:16 PM
To: Luann Beadle
Cc: Rick Day
Subject: 780/LAUREL ST, E8721-02-37 (ASSET Labs No.N017337)

Enclosed are the addendum report and EDD for the above project.

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
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NEVADA
3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
"Serving Clients with Passion and Professionalism"

Thanks,

Nancy Sibucao
Project Manager
Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | **P:** 702.307.2659 Ext. 412 | **F:** 702.307.2691
California: 11060 Artesia Blvd., Ste. C, Cerritos, CA 90703 | **P:** 562.219.7435 | **F:** 562.219.7436
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ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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Glen Gesmundo

From: Hanah Glodoviza [hanah.glodoviza@assetlaboratories.com]
Sent: Thursday, November 19, 2015 8:46 AM
To: beadle@geoconinc.com
Cc: reports.lv@assetlaboratories.com; 'ASSET LV Sample Control'
Subject: RE: 780/LAUREL ST, E8721-02-37 (ASSET Labs No.N017337)

Hi Luann,
Just want to inform you that we don't have sample left to run additional request (DI-WET / TCLP / pH) for sample A1-0.

Thanks,
Hanah

From: Luann Beadle [mailto:beadle@geoconinc.com]
Sent: Wednesday, November 18, 2015 1:09 PM
To: reports.lv@assetlaboratories.com
Cc: Kimberlina Gomez
Subject: RE: 780/LAUREL ST, E8721-02-37 (ASSET Labs No.N017337)

Hi Asset,

Could you please run the following samples as indicated with an "X" on a regular TAT?

Sample ID	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
A1-0	X	X	X
A2-0	X	X	---
A5-0	X	X	X
A5-1	X	---	---
A6-0	X	X	X
B2-0	X	X	X
B3-0	X	X	X
B4-0	X	X	X

Thank you,
Luann

From: reports.lv@assetlaboratories.com [mailto:reports.lv@assetlaboratories.com]
Sent: Monday, November 09, 2015 4:16 PM
To: Luann Beadle
Cc: Rick Day
Subject: 780/LAUREL ST, E8721-02-37 (ASSET Labs No.N017337)

Enclosed are the addendum report and EDD for the above project.

Thanks,

Nancy Sibucao
Project Manager
Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | **P:** 702.307.2659 Ext. 412 | **F:** 702.307.2691
California: 11060 Artesia Blvd., Ste. C, Cerritos, CA 90703 | **P:** 562.219.7435 | **F:** 562.219.7436
www.assetlaboratories.com

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January 18, 2016

Luann Beadle\Rick Day
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

TEL: (925) 371-5900
FAX: (925) 371-5915

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N018322

RE: I780/LAUREL O.C., E8721-02-37

Attention: Luann Beadle\Rick Day

Enclosed are the results for sample(s) received on January 09, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

ASSET Laboratories **Date:** *18-Jan-16*

CLIENT: Geocon Consultants, Inc.
Project: I780/LAUREL O.C., E8721-02-37
Lab Order: N018322

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

Samples were received intact with proper chain of custody documentation.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Samples were analyzed within method holding time.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium on QC samples N018325-002B-MS and N018325-002B-MSD. Laboratory Control Sample (LCS) recovery was acceptable.

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Date: *18-Jan-16*

CLIENT: Geocon Consultants, Inc.
Project: I780/LAUREL O.C., E8721-02-37
Lab Order: N018322
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018322-001A	B1-GW	Groundwater	1/8/2016 10:15:00 AM	1/9/2016	1/18/2016
N018322-001B	B1-GW	Groundwater	1/8/2016 10:15:00 AM	1/9/2016	1/18/2016
N018322-001C	B1-GW	Groundwater	1/8/2016 10:15:00 AM	1/9/2016	1/18/2016
N018322-001D	B1-GW	Groundwater	1/8/2016 10:15:00 AM	1/9/2016	1/18/2016
N018322-001E	B1-GW	Groundwater	1/8/2016 10:15:00 AM	1/9/2016	1/18/2016
N018322-002A	B2-GW	Groundwater	1/8/2016 1:30:00 PM	1/9/2016	1/18/2016
N018322-002B	B2-GW	Groundwater	1/8/2016 1:30:00 PM	1/9/2016	1/18/2016
N018322-002C	B2-GW	Groundwater	1/8/2016 1:30:00 PM	1/9/2016	1/18/2016
N018322-002D	B2-GW	Groundwater	1/8/2016 1:30:00 PM	1/9/2016	1/18/2016
N018322-002E	B2-GW	Groundwater	1/8/2016 1:30:00 PM	1/9/2016	1/18/2016
N018322-003A	TRIP BLANK	Groundwater	1/8/2016	1/9/2016	1/18/2016

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ANALYTICAL RESULTS

Print Date: *18-Jan-16*

CLIENT: Geocon Consultants, Inc.
Lab Order: N018322
Project: I780/LAUREL O.C., E8721-02-37
Lab ID: N018322-001

Client Sample ID: B1-GW
Collection Date: 1/8/2016 10:15:00 AM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
			EPA 8260B			
RunID: MS5_160111A	QC Batch: P16VW010			PrepDate:		Analyst: **QBM**
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,1,1-Trichloroethane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,1,2-Trichloroethane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,1-Dichloroethane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,1-Dichloroethene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,1-Dichloropropene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,2,3-Trichloropropane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,2-Dibromo-3-chloropropane	ND	1.0		µg/L	1	1/12/2016 04:10 AM
1,2-Dibromoethane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,2-Dichlorobenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,2-Dichloroethane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,2-Dichloropropane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,3-Dichlorobenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,3-Dichloropropane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
1,4-Dichlorobenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
2,2-Dichloropropane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
2-Butanone	ND	5.0		µg/L	1	1/12/2016 04:10 AM
2-Chlorotoluene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
4-Chlorotoluene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
4-Isopropyltoluene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Benzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Bromobenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Bromodichloromethane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Bromoform	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Bromomethane	ND	1.0		µg/L	1	1/12/2016 04:10 AM
Carbon tetrachloride	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Chlorobenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Chloroethane	ND	1.0		µg/L	1	1/12/2016 04:10 AM
Chloroform	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Chloromethane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
cis-1,2-Dichloroethene	ND	0.50		µg/L	1	1/12/2016 04:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Jan-16*

CLIENT: Geocon Consultants, Inc.
Lab Order: N018322
Project: I780/LAUREL O.C., E8721-02-37
Lab ID: N018322-001

Client Sample ID: B1-GW
Collection Date: 1/8/2016 10:15:00 AM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
			EPA 8260B			
RunID: MS5_160111A	QC Batch:	P16VW010			PrepDate:	Analyst: **QBM**
cis-1,3-Dichloropropene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Di-isopropyl ether	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Dibromochloromethane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Dibromomethane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Dichlorodifluoromethane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Ethyl tert-butyl ether	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Ethylbenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Freon-113	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Hexachlorobutadiene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Isopropylbenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
m,p-Xylene	ND	1.0		µg/L	1	1/12/2016 04:10 AM
Methylene chloride	ND	2.0		µg/L	1	1/12/2016 04:10 AM
MTBE	ND	0.50		µg/L	1	1/12/2016 04:10 AM
n-Butylbenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
n-Propylbenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Naphthalene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
o-Xylene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
sec-Butylbenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Styrene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Tert-amyl methyl ether	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Tert-Butanol	ND	5.0		µg/L	1	1/12/2016 04:10 AM
tert-Butylbenzene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Tetrachloroethene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Toluene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
trans-1,2-Dichloroethene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Trichloroethene	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Trichlorofluoromethane	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Vinyl chloride	ND	0.50		µg/L	1	1/12/2016 04:10 AM
Xylenes, Total	ND	1.5		µg/L	1	1/12/2016 04:10 AM
Surr: 1,2-Dichloroethane-d4	101	78-125		%REC	1	1/12/2016 04:10 AM
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	1/12/2016 04:10 AM
Surr: Dibromofluoromethane	103	80-122		%REC	1	1/12/2016 04:10 AM
Surr: Toluene-d8	102	80-120		%REC	1	1/12/2016 04:10 AM
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3510C			**EPA 8015B**			
RunID: GC3_160111A	QC Batch:	55742			PrepDate:	1/11/2016 Analyst: **MDM**

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Jan-16*

CLIENT: Geocon Consultants, Inc.
Lab Order: N018322
Project: I780/LAUREL O.C., E8721-02-37
Lab ID: N018322-001

Client Sample ID: B1-GW
Collection Date: 1/8/2016 10:15:00 AM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
	EPA 3510C			**EPA 8015B**		
RunID: GC3_160111A	QC Batch: 55742			PrepDate:	1/11/2016	Analyst: **MDM**
DRO	ND	0.065		mg/L	1	1/11/2016 05:44 PM
ORO	ND	0.065		mg/L	1	1/11/2016 05:44 PM
Surr: p-Terphenyl	88.2	44-138		%REC	1	1/11/2016 05:44 PM
GASOLINE RANGE ORGANICS BY GC/FID						
				EPA 8015B		
RunID: GC4_160111A	QC Batch: E16VW002			PrepDate:		Analyst: **QBM**
GRO	ND	0.050		mg/L	1	1/11/2016 04:23 PM
Surr: Chlorobenzene - d5	113	73-132		%REC	1	1/11/2016 04:23 PM
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7470A		
RunID: AA1_160113A	QC Batch: 55762			PrepDate:	1/13/2016	Analyst: **AM**
Mercury	1.1	0.20		µg/L	1	1/13/2016 05:13 PM
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7470A		
RunID: AA1_160113A	QC Batch: 55762			PrepDate:	1/13/2016	Analyst: **AM**
Mercury	ND	0.20		µg/L	1	1/13/2016 05:32 PM
TOTAL METALS BY ICP						
	EPA 3010A			**EPA 6010B**		
RunID: ICP2_160113A	QC Batch: 55758			PrepDate:	1/13/2016	Analyst: **CEI**
Antimony	ND	0.010		mg/L	1	1/13/2016 07:42 PM
Arsenic	0.13	0.010		mg/L	1	1/13/2016 07:42 PM
Barium	1.9	0.0030		mg/L	1	1/13/2016 07:42 PM
Beryllium	ND	0.0030		mg/L	1	1/13/2016 07:42 PM
Cadmium	0.016	0.0030		mg/L	1	1/13/2016 07:42 PM
Chromium	1.3	0.0030		mg/L	1	1/13/2016 07:42 PM
Cobalt	0.39	0.0030		mg/L	1	1/13/2016 07:42 PM
Copper	0.98	0.0050		mg/L	1	1/13/2016 07:42 PM
Lead	0.057	0.0050		mg/L	1	1/13/2016 07:42 PM
Molybdenum	ND	0.0050		mg/L	1	1/13/2016 07:42 PM
Nickel	0.92	0.0050		mg/L	1	1/13/2016 07:42 PM
Selenium	ND	0.010		mg/L	1	1/13/2016 07:42 PM
Silver	ND	0.0030		mg/L	1	1/13/2016 07:42 PM
Thallium	ND	0.015		mg/L	1	1/13/2016 07:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Jan-16*

CLIENT: Geocon Consultants, Inc.
Lab Order: N018322
Project: I780/LAUREL O.C., E8721-02-37
Lab ID: N018322-001

Client Sample ID: B1-GW
Collection Date: 1/8/2016 10:15:00 AM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP						
	EPA 3010A			**EPA 6010B**		
RunID: ICP2_160113A	QC Batch: 55758				PrepDate: 1/13/2016	Analyst: **CEI**
Vanadium	1.6	0.0030		mg/L	1	1/13/2016 07:42 PM
Zinc	1.3	0.010		mg/L	1	1/13/2016 07:42 PM
DISSOLVED METALS BY ICP						
	EPA 3010A			**EPA 6010B**		
RunID: ICP2_160113B	QC Batch: 55758				PrepDate: 1/13/2016	Analyst: **CEI**
Antimony	ND	0.010		mg/L	1	1/13/2016 07:31 PM
Arsenic	0.013	0.010		mg/L	1	1/13/2016 07:31 PM
Barium	0.21	0.0030		mg/L	1	1/13/2016 07:31 PM
Beryllium	ND	0.0030		mg/L	1	1/13/2016 07:31 PM
Cadmium	ND	0.0030		mg/L	1	1/13/2016 07:31 PM
Chromium	ND	0.0030		mg/L	1	1/13/2016 07:31 PM
Cobalt	ND	0.0030		mg/L	1	1/13/2016 07:31 PM
Copper	0.014	0.0050		mg/L	1	1/13/2016 07:31 PM
Lead	ND	0.010		mg/L	1	1/13/2016 07:31 PM
Molybdenum	0.010	0.0050		mg/L	1	1/13/2016 07:31 PM
Nickel	ND	0.0050		mg/L	1	1/13/2016 07:31 PM
Selenium	ND	0.010		mg/L	1	1/13/2016 07:31 PM
Silver	ND	0.0030		mg/L	1	1/13/2016 07:31 PM
Thallium	ND	0.015		mg/L	1	1/13/2016 07:31 PM
Vanadium	ND	0.0030		mg/L	1	1/13/2016 07:31 PM
Zinc	ND	0.010		mg/L	1	1/13/2016 07:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Jan-16*

CLIENT: Geocon Consultants, Inc.
Lab Order: N018322
Project: I780/LAUREL O.C., E8721-02-37
Lab ID: N018322-002

Client Sample ID: B2-GW
Collection Date: 1/8/2016 1:30:00 PM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
			EPA 8260B			
RunID: MS5_160111A	QC Batch: P16VW010			PrepDate:		Analyst: **QBM**
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,1,1-Trichloroethane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,1,2-Trichloroethane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,1-Dichloroethane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,1-Dichloroethene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,1-Dichloropropene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,2,3-Trichloropropane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,2-Dibromo-3-chloropropane	ND	1.0		µg/L	1	1/12/2016 05:01 AM
1,2-Dibromoethane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,2-Dichlorobenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,2-Dichloroethane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,2-Dichloropropane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,3-Dichlorobenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,3-Dichloropropane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
1,4-Dichlorobenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
2,2-Dichloropropane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
2-Butanone	ND	5.0		µg/L	1	1/12/2016 05:01 AM
2-Chlorotoluene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
4-Chlorotoluene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
4-Isopropyltoluene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Benzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Bromobenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Bromodichloromethane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Bromoform	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Bromomethane	ND	1.0		µg/L	1	1/12/2016 05:01 AM
Carbon tetrachloride	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Chlorobenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Chloroethane	ND	1.0		µg/L	1	1/12/2016 05:01 AM
Chloroform	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Chloromethane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
cis-1,2-Dichloroethene	ND	0.50		µg/L	1	1/12/2016 05:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Jan-16*

CLIENT: Geocon Consultants, Inc.
Lab Order: N018322
Project: I780/LAUREL O.C., E8721-02-37
Lab ID: N018322-002

Client Sample ID: B2-GW
Collection Date: 1/8/2016 1:30:00 PM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
			EPA 8260B			
RunID: MS5_160111A	QC Batch:	P16VW010			PrepDate:	Analyst: **QBM**
cis-1,3-Dichloropropene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Di-isopropyl ether	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Dibromochloromethane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Dibromomethane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Dichlorodifluoromethane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Ethyl tert-butyl ether	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Ethylbenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Freon-113	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Hexachlorobutadiene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Isopropylbenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
m,p-Xylene	ND	1.0		µg/L	1	1/12/2016 05:01 AM
Methylene chloride	ND	2.0		µg/L	1	1/12/2016 05:01 AM
MTBE	ND	0.50		µg/L	1	1/12/2016 05:01 AM
n-Butylbenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
n-Propylbenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Naphthalene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
o-Xylene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
sec-Butylbenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Styrene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Tert-amyl methyl ether	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Tert-Butanol	ND	5.0		µg/L	1	1/12/2016 05:01 AM
tert-Butylbenzene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Tetrachloroethene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Toluene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
trans-1,2-Dichloroethene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Trichloroethene	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Trichlorofluoromethane	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Vinyl chloride	ND	0.50		µg/L	1	1/12/2016 05:01 AM
Xylenes, Total	ND	1.5		µg/L	1	1/12/2016 05:01 AM
Surr: 1,2-Dichloroethane-d4	104	78-125		%REC	1	1/12/2016 05:01 AM
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	1/12/2016 05:01 AM
Surr: Dibromofluoromethane	105	80-122		%REC	1	1/12/2016 05:01 AM
Surr: Toluene-d8	104	80-120		%REC	1	1/12/2016 05:01 AM
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3510C			**EPA 8015B**			
RunID: GC3_160111A	QC Batch:	55742			PrepDate:	1/11/2016 Analyst: **MDM**

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Jan-16*

CLIENT: Geocon Consultants, Inc.
Lab Order: N018322
Project: I780/LAUREL O.C., E8721-02-37
Lab ID: N018322-002

Client Sample ID: B2-GW
Collection Date: 1/8/2016 1:30:00 PM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
EPA 3510C				**EPA 8015B**		
RunID: GC3_160111A QC Batch: 55742				PrepDate:	1/11/2016	Analyst: **MDM**
DRO	ND	0.055		mg/L	1	1/11/2016 06:10 PM
ORO	ND	0.055		mg/L	1	1/11/2016 06:10 PM
Surr: p-Terphenyl	81.5	44-138		%REC	1	1/11/2016 06:10 PM
GASOLINE RANGE ORGANICS BY GC/FID						
				EPA 8015B		
RunID: GC4_160111A QC Batch: E16VW002				PrepDate:		Analyst: **QBM**
GRO	ND	0.050		mg/L	1	1/11/2016 04:58 PM
Surr: Chlorobenzene - d5	116	73-132		%REC	1	1/11/2016 04:58 PM
TOTAL MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7470A		
RunID: AA1_160113A QC Batch: 55762				PrepDate:	1/13/2016	Analyst: **AM**
Mercury	1.7	0.20		µg/L	1	1/13/2016 05:29 PM
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7470A		
RunID: AA1_160113A QC Batch: 55762				PrepDate:	1/13/2016	Analyst: **AM**
Mercury	ND	0.20		µg/L	1	1/13/2016 05:37 PM
TOTAL METALS BY ICP						
EPA 3010A				**EPA 6010B**		
RunID: ICP2_160113A QC Batch: 55758				PrepDate:	1/13/2016	Analyst: **CEI**
Antimony	ND	0.010		mg/L	1	1/13/2016 07:55 PM
Arsenic	0.11	0.010		mg/L	1	1/13/2016 07:55 PM
Barium	2.7	0.0030		mg/L	1	1/13/2016 07:55 PM
Beryllium	ND	0.0030		mg/L	1	1/13/2016 07:55 PM
Cadmium	0.016	0.0030		mg/L	1	1/13/2016 07:55 PM
Chromium	1.1	0.0030		mg/L	1	1/13/2016 07:55 PM
Cobalt	0.43	0.0030		mg/L	1	1/13/2016 07:55 PM
Copper	1.1	0.0050		mg/L	1	1/13/2016 07:55 PM
Lead	0.065	0.0050		mg/L	1	1/13/2016 07:55 PM
Molybdenum	ND	0.0050		mg/L	1	1/13/2016 07:55 PM
Nickel	1.0	0.0050		mg/L	1	1/13/2016 07:55 PM
Selenium	ND	0.010		mg/L	1	1/13/2016 07:55 PM
Silver	ND	0.0030		mg/L	1	1/13/2016 07:55 PM
Thallium	ND	0.015		mg/L	1	1/13/2016 07:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Jan-16*

CLIENT: Geocon Consultants, Inc.
Lab Order: N018322
Project: I780/LAUREL O.C., E8721-02-37
Lab ID: N018322-002

Client Sample ID: B2-GW
Collection Date: 1/8/2016 1:30:00 PM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP						
	EPA 3010A			**EPA 6010B**		
RunID: ICP2_160113A	QC Batch: 55758				PrepDate: 1/13/2016	Analyst: **CEI**
Vanadium	1.6	0.0030		mg/L	1	1/13/2016 07:55 PM
Zinc	1.4	0.010		mg/L	1	1/13/2016 07:55 PM
DISSOLVED METALS BY ICP						
	EPA 3010A			**EPA 6010B**		
RunID: ICP2_160113B	QC Batch: 55758				PrepDate: 1/13/2016	Analyst: **CEI**
Antimony	ND	0.010		mg/L	1	1/13/2016 08:23 PM
Arsenic	0.012	0.010		mg/L	1	1/13/2016 08:23 PM
Barium	0.045	0.0030		mg/L	1	1/13/2016 08:23 PM
Beryllium	ND	0.0030		mg/L	1	1/13/2016 08:23 PM
Cadmium	ND	0.0030		mg/L	1	1/13/2016 08:23 PM
Chromium	ND	0.0030		mg/L	1	1/13/2016 08:23 PM
Cobalt	ND	0.0030		mg/L	1	1/13/2016 08:23 PM
Copper	0.012	0.0050		mg/L	1	1/13/2016 08:23 PM
Lead	ND	0.010		mg/L	1	1/13/2016 08:23 PM
Molybdenum	0.0052	0.0050		mg/L	1	1/13/2016 08:23 PM
Nickel	ND	0.0050		mg/L	1	1/13/2016 08:23 PM
Selenium	ND	0.010		mg/L	1	1/13/2016 08:23 PM
Silver	ND	0.0030		mg/L	1	1/13/2016 08:23 PM
Thallium	0.017	0.015		mg/L	1	1/13/2016 08:23 PM
Vanadium	ND	0.0030		mg/L	1	1/13/2016 08:23 PM
Zinc	ND	0.010		mg/L	1	1/13/2016 08:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Jan-16*

CLIENT: Geocon Consultants, Inc.
Lab Order: N018322
Project: I780/LAUREL O.C., E8721-02-37
Lab ID: N018322-003

Client Sample ID: TRIP BLANK
Collection Date: 1/8/2016
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
			EPA 8260B			
RunID: MS5_160111A	QC Batch: P16VW010			PrepDate:		Analyst: **QBM**
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,1,1-Trichloroethane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,1,2-Trichloroethane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,1-Dichloroethane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,1-Dichloroethene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,1-Dichloropropene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,2,3-Trichloropropane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,2-Dibromo-3-chloropropane	ND	1.0		µg/L	1	1/12/2016 01:37 AM
1,2-Dibromoethane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,2-Dichlorobenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,2-Dichloroethane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,2-Dichloropropane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,3-Dichlorobenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,3-Dichloropropane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
1,4-Dichlorobenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
2,2-Dichloropropane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
2-Butanone	ND	5.0		µg/L	1	1/12/2016 01:37 AM
2-Chlorotoluene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
4-Chlorotoluene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
4-Isopropyltoluene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Benzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Bromobenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Bromodichloromethane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Bromoform	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Bromomethane	ND	1.0		µg/L	1	1/12/2016 01:37 AM
Carbon tetrachloride	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Chlorobenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Chloroethane	ND	1.0		µg/L	1	1/12/2016 01:37 AM
Chloroform	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Chloromethane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
cis-1,2-Dichloroethene	ND	0.50		µg/L	1	1/12/2016 01:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Jan-16*

CLIENT: Geocon Consultants, Inc.
Lab Order: N018322
Project: I780/LAUREL O.C., E8721-02-37
Lab ID: N018322-003

Client Sample ID: TRIP BLANK
Collection Date: 1/8/2016
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
			EPA 8260B			
RunID: MS5_160111A	QC Batch:	P16VW010		PrepDate:		Analyst: **QBM**
cis-1,3-Dichloropropene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Di-isopropyl ether	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Dibromochloromethane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Dibromomethane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Dichlorodifluoromethane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Ethyl tert-butyl ether	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Ethylbenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Freon-113	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Hexachlorobutadiene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Isopropylbenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
m,p-Xylene	ND	1.0		µg/L	1	1/12/2016 01:37 AM
Methylene chloride	ND	2.0		µg/L	1	1/12/2016 01:37 AM
MTBE	ND	0.50		µg/L	1	1/12/2016 01:37 AM
n-Butylbenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
n-Propylbenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Naphthalene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
o-Xylene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
sec-Butylbenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Styrene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Tert-amyl methyl ether	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Tert-Butanol	ND	5.0		µg/L	1	1/12/2016 01:37 AM
tert-Butylbenzene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Tetrachloroethene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Toluene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
trans-1,2-Dichloroethene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Trichloroethene	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Trichlorofluoromethane	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Vinyl chloride	ND	0.50		µg/L	1	1/12/2016 01:37 AM
Xylenes, Total	ND	1.5		µg/L	1	1/12/2016 01:37 AM
Surr: 1,2-Dichloroethane-d4	104	78-125		%REC	1	1/12/2016 01:37 AM
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	1/12/2016 01:37 AM
Surr: Dibromofluoromethane	104	80-122		%REC	1	1/12/2016 01:37 AM
Surr: Toluene-d8	101	80-120		%REC	1	1/12/2016 01:37 AM
GASOLINE RANGE ORGANICS BY GC/FID						
			EPA 8015B			
RunID: GC4_160111A	QC Batch:	E16VW002		PrepDate:		Analyst: **QBM**

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Jan-16*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	TRIP BLANK
Lab Order:	N018322	**Collection Date:**	1/8/2016
Project:	I780/LAUREL O.C., E8721-02-37	**Matrix:**	GROUNDWATER
Lab ID:	N018322-003		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS BY GC/FID						
			EPA 8015B			
RunID: GC4_160111A	QC Batch: E16VW002			PrepDate:		Analyst: **QBM**
GRO	ND	0.050		mg/L	1	1/11/2016 12:54 PM
Surr: Chlorobenzene - d5	110	73-132		%REC	1	1/11/2016 12:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WD

Sample ID: **MB-55758** SampType: **MBLK** TestCode: **6010_WD** Units: **mg/L** Prep Date: **1/13/2016** RunNo: **105202**
Client ID: **PBW** Batch ID: **55758** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/13/2016** SeqNo: **2197876**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.010									
Arsenic	ND	0.010									
Barium	ND	0.0030									
Beryllium	ND	0.0030									
Cadmium	ND	0.0030									
Chromium	ND	0.0030									
Cobalt	ND	0.0030									
Copper	ND	0.0050									
Lead	ND	0.010									
Molybdenum	0.000828	0.0050									
Nickel	ND	0.0050									
Selenium	ND	0.010									
Silver	0.000238	0.0030									
Thallium	0.001	0.015									
Vanadium	ND	0.0030									
Zinc	ND	0.010									

Sample ID: **LCS-55758** SampType: **LCS** TestCode: **6010_WD** Units: **mg/L** Prep Date: **1/13/2016** RunNo: **105202**
Client ID: **LCSW** Batch ID: **55758** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/13/2016** SeqNo: **2197878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.529	0.010	0.5000	0	106	85	115				
Arsenic	0.523	0.010	0.5000	0	105	85	115				
Barium	0.531	0.0030	0.5000	0	106	85	115				
Beryllium	0.513	0.0030	0.5000	0	103	85	115				
Cadmium	0.511	0.0030	0.5000	0	102	85	115				
Chromium	0.515	0.0030	0.5000	0	103	85	115				
Cobalt	0.534	0.0030	0.5000	0	107	85	115				
Copper	0.517	0.0050	0.5000	0	103	85	115				
Lead	0.523	0.010	0.5000	0	105	85	115				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WD

Sample ID: **LCS-55758** SampType: **LCS** TestCode: **6010_WD** Units: **mg/L** Prep Date: **1/13/2016** RunNo: **105202**
Client ID: **LCSW** Batch ID: **55758** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/13/2016** SeqNo: **2197878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.506	0.0050	0.5000	0	101	85	115				
Nickel	0.515	0.0050	0.5000	0	103	85	115				
Selenium	0.516	0.010	0.5000	0	103	85	115				
Silver	0.509	0.0030	0.5000	0	102	85	115				
Thallium	0.508	0.015	0.5000	0	102	85	115				
Vanadium	0.499	0.0030	0.5000	0	99.8	85	115				
Zinc	0.530	0.010	0.5000	0	106	85	115				

Sample ID: **N018325-002B-MS** SampType: **MS** TestCode: **6010_WD** Units: **mg/L** Prep Date: **1/13/2016** RunNo: **105202**
Client ID: **ZZZZZZ** Batch ID: **55758** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/13/2016** SeqNo: **2197883**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.617	0.010	0.5000	0.002956	123	75	125				
Arsenic	0.604	0.010	0.5000	0.01385	118	75	125				
Barium	0.623	0.0030	0.5000	0.04562	116	75	125				
Beryllium	0.591	0.0030	0.5000	0	118	75	125				
Cadmium	0.551	0.0030	0.5000	0	110	75	125				
Chromium	5.871	0.0030	0.5000	6.291	-84.0	75	125				S
Cobalt	0.603	0.0030	0.5000	0	121	75	125				
Copper	0.595	0.0050	0.5000	0.01175	117	75	125				
Lead	0.590	0.010	0.5000	0	118	75	125				
Molybdenum	0.569	0.0050	0.5000	0.002149	113	75	125				
Nickel	0.569	0.0050	0.5000	0	114	75	125				
Selenium	0.526	0.010	0.5000	0	105	75	125				
Silver	0.607	0.0030	0.5000	0	121	75	125				
Thallium	0.577	0.015	0.5000	0.01940	111	75	125				
Vanadium	0.585	0.0030	0.5000	0	117	90	113				S
Zinc	0.562	0.010	0.5000	0.02253	108	64	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WD

Sample ID: **N018325-002B-MSD** SampType: **MSD** TestCode: **6010_WD** Units: **mg/L** Prep Date: **1/13/2016** RunNo: **105202**
Client ID: **ZZZZZZ** Batch ID: **55758** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/13/2016** SeqNo: **2197884**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.618	0.010	0.5000	0.002956	123	75	125	0.6175	0.0114	20	
Arsenic	0.606	0.010	0.5000	0.01385	118	75	125	0.6039	0.345	20	
Barium	0.621	0.0030	0.5000	0.04562	115	75	125	0.6233	0.350	20	
Beryllium	0.593	0.0030	0.5000	0	119	75	125	0.5915	0.193	20	
Cadmium	0.552	0.0030	0.5000	0	110	75	125	0.5511	0.247	20	
Chromium	5.857	0.0030	0.5000	6.291	-86.8	75	125	5.871	0.234	20	S
Cobalt	0.604	0.0030	0.5000	0	121	75	125	0.6031	0.134	20	
Copper	0.594	0.0050	0.5000	0.01175	116	75	125	0.5952	0.273	20	
Lead	0.590	0.010	0.5000	0	118	75	125	0.5900	0.0751	20	
Molybdenum	0.570	0.0050	0.5000	0.002149	114	75	125	0.5691	0.184	20	
Nickel	0.568	0.0050	0.5000	0	114	75	125	0.5687	0.187	20	
Selenium	0.530	0.010	0.5000	0	106	75	125	0.5263	0.624	20	
Silver	0.606	0.0030	0.5000	0	121	75	125	0.6069	0.112	20	
Thallium	0.580	0.015	0.5000	0.01940	112	75	125	0.5767	0.624	20	
Vanadium	0.584	0.0030	0.5000	0	117	90	113	0.5846	0.191	20	S
Zinc	0.562	0.010	0.5000	0.02253	108	64	125	0.5622	0.0219	20	

Sample ID: **N018322-001C-DUP** SampType: **DUP** TestCode: **6010_WD** Units: **mg/L** Prep Date: **1/13/2016** RunNo: **105202**
Client ID: **ZZZZZZ** Batch ID: **55758** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/13/2016** SeqNo: **2197895**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.010						0	0	20	
Arsenic	0.133	0.010						0.1317	0.835	20	
Barium	1.813	0.0030						1.877	3.48	20	
Beryllium	ND	0.0030						0	0	20	
Cadmium	0.015	0.0030						0.01572	2.07	20	
Chromium	1.242	0.0030						1.262	1.56	20	
Cobalt	0.372	0.0030						0.3857	3.74	20	
Copper	0.933	0.0050						0.9809	4.99	20	
Lead	0.053	0.010						0.05693	7.13	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WD

Sample ID: **N018322-001C-DUP** SampType: **DUP** TestCode: **6010_WD** Units: **mg/L** Prep Date: **1/13/2016** RunNo: **105202**
Client ID: **ZZZZZZ** Batch ID: **55758** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/13/2016** SeqNo: **2197895**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.0050						0	0	20	
Nickel	0.893	0.0050						0.9246	3.48	20	
Selenium	ND	0.010						0	0	20	
Silver	ND	0.0030						0	0	20	
Thallium	ND	0.015						0	0	20	
Vanadium	1.620	0.0030						1.624	0.238	20	
Zinc	1.234	0.010						1.284	3.96	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W

Sample ID: **MB1-55762** SampType: **MBLK** TestCode: **7470_W** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **PBW** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2196961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: **MB2-55762** SampType: **MBLK** TestCode: **7470_W** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **PBW** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2196962**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: **MB-55729 TCLP** SampType: **MBLK** TestCode: **7470_W** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **PBW** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2196963**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: **N018313-001A-MS** SampType: **MS** TestCode: **7470_W** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **ZZZZZZ** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2196965**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	11.225	0.20	10.00	0	112	75	125				

Sample ID: **N018313-001A-MSD** SampType: **MSD** TestCode: **7470_W** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **ZZZZZZ** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2196966**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	11.045	0.20	10.00	0	110	75	125	11.23	1.62	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W

Sample ID: **LCS-55762** SampType: **LCS** TestCode: **7470_W** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **LCSW** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2196968**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.790	0.20	10.00	0	97.9	85	115				

Sample ID: **N018322-001D-DUP** SampType: **DUP** TestCode: **7470_W** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **ZZZZZZ** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2196975**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20						0	0	20	

Sample ID: **N018355-001A-DUP** SampType: **DUP** TestCode: **7470_W** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **ZZZZZZ** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2196982**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20						0.02859	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W_DISS

Sample ID: **MB1-55762** SampType: **MBLK** TestCode: **7470_W_DIS** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **PBW** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2196998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: **MB2-55762** SampType: **MBLK** TestCode: **7470_W_DIS** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **PBW** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2196999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: **MB-55729 TCLP** SampType: **MBLK** TestCode: **7470_W_DIS** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **PBW** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2197000**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: **N018313-001A-MS** SampType: **MS** TestCode: **7470_W_DIS** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **ZZZZZZ** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2197002**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	11.225	0.20	10.00	0	112	75	125				

Sample ID: **N018313-001A-MSD** SampType: **MSD** TestCode: **7470_W_DIS** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **ZZZZZZ** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2197003**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	11.045	0.20	10.00	0	110	75	125	11.23	1.62	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W_DISS

Sample ID: **LCS-55762** SampType: **LCS** TestCode: **7470_W_DIS** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **LCSW** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2197005**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.790	0.20	10.00	0	97.9	85	115				

Sample ID: **N018322-001D-DUP** SampType: **DUP** TestCode: **7470_W_DIS** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **ZZZZZZ** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2197012**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20						0	0	20	

Sample ID: **N018355-001A-DUP** SampType: **DUP** TestCode: **7470_W_DIS** Units: **µg/L** Prep Date: **1/13/2016** RunNo: **105194**
Client ID: **ZZZZZZ** Batch ID: **55762** TestNo: **EPA 7470A** Analysis Date: **1/13/2016** SeqNo: **2197019**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20						0.02859	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_DM_LL

Sample ID: **LCS-55742** SampType: **LCS** TestCode: **8015_W_DM_** Units: **mg/L** Prep Date: **1/11/2016** RunNo: **105155**
Client ID: **LCSW** Batch ID: **55742** TestNo: **EPA 8015B** **EPA 3510C** Analysis Date: **1/11/2016** SeqNo: **2195657**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	0.817	0.050	1.000	0	81.7	38	103				
Surr: p-Terphenyl	0.068		0.08000		84.9	44	138				

Sample ID: **LCSD-55742** SampType: **LCSD** TestCode: **8015_W_DM_** Units: **mg/L** Prep Date: **1/11/2016** RunNo: **105155**
Client ID: **LCSS02** Batch ID: **55742** TestNo: **EPA 8015B** **EPA 3510C** Analysis Date: **1/11/2016** SeqNo: **2195658**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	0.787	0.050	1.000	0	78.7	38	103	0.8171	3.72	20	
Surr: p-Terphenyl	0.067		0.08000		84.3	44	138		0		

Sample ID: **MB-55742** SampType: **MBLK** TestCode: **8015_W_DM_** Units: **mg/L** Prep Date: **1/11/2016** RunNo: **105155**
Client ID: **PBW** Batch ID: **55742** TestNo: **EPA 8015B** **EPA 3510C** Analysis Date: **1/11/2016** SeqNo: **2195659**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	ND	0.050									
ORO	ND	0.050									
Surr: p-Terphenyl	0.068		0.08000		85.1	44	138				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WP

Sample ID: **E160111LCS** SampType: **LCS** TestCode: **8015GAS_WP** Units: **mg/L** Prep Date: RunNo: **105163**
Client ID: **LCSW** Batch ID: **E16VW002** TestNo: **EPA 8015B** Analysis Date: **1/11/2016** SeqNo: **2195721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	0.945	0.050	1.000	0	94.5	75	127				
Surr: Chlorobenzene - d5	51.256		50.00		103	73	132				

Sample ID: **E160111MB1** SampType: **MBLK** TestCode: **8015GAS_WP** Units: **mg/L** Prep Date: RunNo: **105163**
Client ID: **PBW** Batch ID: **E16VW002** TestNo: **EPA 8015B** Analysis Date: **1/11/2016** SeqNo: **2195722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	0.050									
Surr: Chlorobenzene - d5	57.511		50.00		115	73	132				

Sample ID: **N018322-002BDUP** SampType: **DUP** TestCode: **8015GAS_WP** Units: **mg/L** Prep Date: RunNo: **105163**
Client ID: **ZZZZZZ** Batch ID: **E16VW002** TestNo: **EPA 8015B** Analysis Date: **1/11/2016** SeqNo: **2195731**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	0.050						0	0	20	
Surr: Chlorobenzene - d5	55.422		50.00		111	73	132		0		

Sample ID: **N018322-001BMS** SampType: **MS** TestCode: **8015GAS_WP** Units: **mg/L** Prep Date: RunNo: **105163**
Client ID: **ZZZZZZ** Batch ID: **E16VW002** TestNo: **EPA 8015B** Analysis Date: **1/11/2016** SeqNo: **2195732**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	0.963	0.050	1.000	0	96.3	74	130				
Surr: Chlorobenzene - d5	50.929		50.00		102	73	132				

Sample ID: **N018322-001BMSD** SampType: **MSD** TestCode: **8015GAS_WP** Units: **mg/L** Prep Date: RunNo: **105163**
Client ID: **ZZZZZZ** Batch ID: **E16VW002** TestNo: **EPA 8015B** Analysis Date: **1/11/2016** SeqNo: **2195733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	0.990	0.050	1.000	0	99.0	74	130	0.9630	2.76	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WP

Sample ID: **N018322-001BMSD** SampType: **MSD** TestCode: **8015GAS_WP** Units: **mg/L** Prep Date: RunNo: **105163**
Client ID: **ZZZZZZ** Batch ID: **E16VW002** TestNo: **EPA 8015B** Analysis Date: **1/11/2016** SeqNo: **2195733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Chlorobenzene - d5	50.928		50.00		102	73	132		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P160111LCS** SampType: **LCS** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **105174**
Client ID: **LCSW** Batch ID: **P16VW010** TestNo: **EPA 8260B** Analysis Date: **1/11/2016** SeqNo: **2196131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	21.390	0.50	20.00	0	107	80	121				
1,1,1-Trichloroethane	20.300	0.50	20.00	0	102	77	122				
1,1,2,2-Tetrachloroethane	19.580	0.50	20.00	0	97.9	77	123				
1,1,2-Trichloroethane	20.420	0.50	20.00	0	102	87	120				
1,1-Dichloroethane	19.550	0.50	20.00	0	97.8	72	127				
1,1-Dichloroethene	19.890	0.50	20.00	0	99.4	71	127				
1,1-Dichloropropene	20.200	0.50	20.00	0	101	87	120				
1,2,3-Trichlorobenzene	20.630	0.50	20.00	0	103	77	124				
1,2,3-Trichloropropane	19.490	0.50	20.00	0	97.5	77	120				
1,2,4-Trichlorobenzene	20.670	0.50	20.00	0	103	76	122				
1,2,4-Trimethylbenzene	20.990	0.50	20.00	0	105	85	120				
1,2-Dibromo-3-chloropropane	19.230	1.0	20.00	0	96.2	67	125				
1,2-Dibromoethane	21.120	0.50	20.00	0	106	80	120				
1,2-Dichlorobenzene	20.030	0.50	20.00	0	100	80	120				
1,2-Dichloroethane	20.030	0.50	20.00	0	100	80	120				
1,2-Dichloropropane	19.820	0.50	20.00	0	99.1	80	120				
1,3,5-Trimethylbenzene	20.990	0.50	20.00	0	105	80	120				
1,3-Dichlorobenzene	20.210	0.50	20.00	0	101	80	120				
1,3-Dichloropropane	19.720	0.50	20.00	0	98.6	80	120				
1,4-Dichlorobenzene	19.770	0.50	20.00	0	98.8	80	120				
2,2-Dichloropropane	17.290	0.50	20.00	0	86.5	53	142				
2-Butanone	192.700	5.0	200.0	0	96.4	23	175				
2-Chlorotoluene	20.520	0.50	20.00	0	103	80	120				
4-Chlorotoluene	20.560	0.50	20.00	0	103	80	120				
4-Isopropyltoluene	21.340	0.50	20.00	0	107	80	120				
Benzene	20.370	0.50	20.00	0	102	80	120				
Bromobenzene	20.370	0.50	20.00	0	102	80	120				
Bromodichloromethane	20.700	0.50	20.00	0	104	80	120				
Bromoform	19.100	0.50	20.00	0	95.5	72	133				
Bromomethane	22.680	1.0	20.00	0	113	19	178				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P160111LCS** SampType: **LCS** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **105174**
Client ID: **LCSW** Batch ID: **P16VW010** TestNo: **EPA 8260B** Analysis Date: **1/11/2016** SeqNo: **2196131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon tetrachloride	21.420	0.50	20.00	0	107	72	131				
Chlorobenzene	20.060	0.50	20.00	0	100	80	120				
Chloroethane	20.640	1.0	20.00	0	103	66	140				
Chloroform	19.330	0.50	20.00	0	96.7	77	120				
Chloromethane	18.700	0.50	20.00	0	93.5	47	154				
cis-1,2-Dichloroethene	20.020	0.50	20.00	0	100	80	120				
cis-1,3-Dichloropropene	20.860	0.50	20.00	0	104	80	120				
Di-isopropyl ether	20.390	0.50	20.00	0	102	69	129				
Dibromochloromethane	21.530	0.50	20.00	0	108	80	122				
Dibromomethane	20.640	0.50	20.00	0	103	80	120				
Dichlorodifluoromethane	20.450	0.50	20.00	0	102	53	166				
Ethyl tert-butyl ether	20.330	0.50	20.00	0	102	70	129				
Ethylbenzene	20.160	0.50	20.00	0	101	80	120				
Freon-113	19.570	0.50	20.00	0	97.9	71	129				
Hexachlorobutadiene	19.160	0.50	20.00	0	95.8	79	123				
Isopropylbenzene	20.790	0.50	20.00	0	104	80	120				
m,p-Xylene	40.940	1.0	40.00	0	102	80	120				
Methylene chloride	20.080	2.0	20.00	0	100	71	124				
MTBE	20.010	0.50	20.00	0	100	77	120				
n-Butylbenzene	20.450	0.50	20.00	0	102	80	127				
n-Propylbenzene	20.420	0.50	20.00	0	102	80	122				
Naphthalene	21.490	0.50	20.00	0	107	63	131				
o-Xylene	21.020	0.50	20.00	0	105	80	120				
sec-Butylbenzene	20.760	0.50	20.00	0	104	80	120				
Styrene	21.200	0.50	20.00	0	106	80	120				
Tert-amyl methyl ether	20.730	0.50	20.00	0	104	80	120				
Tert-Butanol	107.220	5.0	100.0	0	107	25	161				
tert-Butylbenzene	20.750	0.50	20.00	0	104	80	120				
Tetrachloroethene	19.770	0.50	20.00	0	98.8	80	120				
Toluene	20.140	0.50	20.00	0	101	80	120				

Qualifiers:

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ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
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CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P160111LCS** SampType: **LCS** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **105174**
Client ID: **LCSW** Batch ID: **P16VW010** TestNo: **EPA 8260B** Analysis Date: **1/11/2016** SeqNo: **2196131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	20.390	0.50	20.00	0	102	78	126				
Trichloroethene	20.230	0.50	20.00	0	101	80	120				
Trichlorofluoromethane	21.100	0.50	20.00	0	106	67	149				
Vinyl chloride	20.140	0.50	20.00	0	101	70	135				
Xylenes, Total	61.960	1.5	60.00	0	103	70	130				
Surr: 1,2-Dichloroethane-d4	25.120		25.00		100	78	125				
Surr: 4-Bromofluorobenzene	25.690		25.00		103	80	120				
Surr: Dibromofluoromethane	25.030		25.00		100	80	122				
Surr: Toluene-d8	25.720		25.00		103	80	120				

Sample ID: **P160111LCSD** SampType: **LCSD** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **105174**
Client ID: **LCSS02** Batch ID: **P16VW010** TestNo: **EPA 8260B** Analysis Date: **1/11/2016** SeqNo: **2196132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	21.550	0.50	20.00	0	108	80	121	21.39	0.745	20	
1,1,1-Trichloroethane	19.970	0.50	20.00	0	99.8	77	122	20.30	1.64	20	
1,1,2,2-Tetrachloroethane	20.020	0.50	20.00	0	100	77	123	19.58	2.22	20	
1,1,2-Trichloroethane	20.220	0.50	20.00	0	101	87	120	20.42	0.984	20	
1,1-Dichloroethane	19.850	0.50	20.00	0	99.2	72	127	19.55	1.52	20	
1,1-Dichloroethene	20.260	0.50	20.00	0	101	71	127	19.89	1.84	20	
1,1-Dichloropropene	20.390	0.50	20.00	0	102	87	120	20.20	0.936	20	
1,2,3-Trichlorobenzene	20.720	0.50	20.00	0	104	77	124	20.63	0.435	20	
1,2,3-Trichloropropane	19.450	0.50	20.00	0	97.3	77	120	19.49	0.205	20	
1,2,4-Trichlorobenzene	21.120	0.50	20.00	0	106	76	122	20.67	2.15	20	
1,2,4-Trimethylbenzene	21.320	0.50	20.00	0	107	85	120	20.99	1.56	20	
1,2-Dibromo-3-chloropropane	19.050	1.0	20.00	0	95.2	67	125	19.23	0.940	20	
1,2-Dibromoethane	20.590	0.50	20.00	0	103	80	120	21.12	2.54	20	
1,2-Dichlorobenzene	20.230	0.50	20.00	0	101	80	120	20.03	0.994	20	
1,2-Dichloroethane	19.750	0.50	20.00	0	98.8	80	120	20.03	1.41	20	
1,2-Dichloropropane	20.070	0.50	20.00	0	100	80	120	19.82	1.25	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P160111LCSD** SampType: **LCSD** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **105174**
Client ID: **LCSS02** Batch ID: **P16VW010** TestNo: **EPA 8260B** Analysis Date: **1/11/2016** SeqNo: **2196132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	21.180	0.50	20.00	0	106	80	120	20.99	0.901	20	
1,3-Dichlorobenzene	20.490	0.50	20.00	0	102	80	120	20.21	1.38	20	
1,3-Dichloropropane	20.330	0.50	20.00	0	102	80	120	19.72	3.05	20	
1,4-Dichlorobenzene	19.740	0.50	20.00	0	98.7	80	120	19.77	0.152	20	
2,2-Dichloropropane	16.940	0.50	20.00	0	84.7	53	142	17.29	2.04	20	
2-Butanone	193.130	5.0	200.0	0	96.6	23	175	192.7	0.223	20	
2-Chlorotoluene	20.610	0.50	20.00	0	103	80	120	20.52	0.438	20	
4-Chlorotoluene	20.760	0.50	20.00	0	104	80	120	20.56	0.968	20	
4-Isopropyltoluene	21.170	0.50	20.00	0	106	80	120	21.34	0.800	20	
Benzene	20.420	0.50	20.00	0	102	80	120	20.37	0.245	20	
Bromobenzene	20.400	0.50	20.00	0	102	80	120	20.37	0.147	20	
Bromodichloromethane	20.970	0.50	20.00	0	105	80	120	20.70	1.30	20	
Bromoform	18.850	0.50	20.00	0	94.3	72	133	19.10	1.32	20	
Bromomethane	21.550	1.0	20.00	0	108	19	178	22.68	5.11	20	
Carbon tetrachloride	21.390	0.50	20.00	0	107	72	131	21.42	0.140	20	
Chlorobenzene	20.240	0.50	20.00	0	101	80	120	20.06	0.893	20	
Chloroethane	19.900	1.0	20.00	0	99.5	66	140	20.64	3.65	20	
Chloroform	19.370	0.50	20.00	0	96.9	77	120	19.33	0.207	20	
Chloromethane	19.260	0.50	20.00	0	96.3	47	154	18.70	2.95	20	
cis-1,2-Dichloroethene	20.000	0.50	20.00	0	100	80	120	20.02	0.100	20	
cis-1,3-Dichloropropene	20.990	0.50	20.00	0	105	80	120	20.86	0.621	20	
Di-isopropyl ether	20.490	0.50	20.00	0	102	69	129	20.39	0.489	20	
Dibromochloromethane	21.060	0.50	20.00	0	105	80	122	21.53	2.21	20	
Dibromomethane	21.280	0.50	20.00	0	106	80	120	20.64	3.05	20	
Dichlorodifluoromethane	20.530	0.50	20.00	0	103	53	166	20.45	0.390	20	
Ethyl tert-butyl ether	20.850	0.50	20.00	0	104	70	129	20.33	2.53	20	
Ethylbenzene	19.960	0.50	20.00	0	99.8	80	120	20.16	0.997	20	
Freon-113	19.870	0.50	20.00	0	99.4	71	129	19.57	1.52	20	
Hexachlorobutadiene	19.690	0.50	20.00	0	98.4	79	123	19.16	2.73	20	
Isopropylbenzene	20.910	0.50	20.00	0	105	80	120	20.79	0.576	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P160111LCSD** SampType: **LCSD** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **105174**
Client ID: **LCSS02** Batch ID: **P16VW010** TestNo: **EPA 8260B** Analysis Date: **1/11/2016** SeqNo: **2196132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	40.990	1.0	40.00	0	102	80	120	40.94	0.122	20	
Methylene chloride	19.990	2.0	20.00	0	100	71	124	20.08	0.449	20	
MTBE	20.170	0.50	20.00	0	101	77	120	20.01	0.796	20	
n-Butylbenzene	20.580	0.50	20.00	0	103	80	127	20.45	0.634	20	
n-Propylbenzene	20.850	0.50	20.00	0	104	80	122	20.42	2.08	20	
Naphthalene	21.570	0.50	20.00	0	108	63	131	21.49	0.372	20	
o-Xylene	21.050	0.50	20.00	0	105	80	120	21.02	0.143	20	
sec-Butylbenzene	20.810	0.50	20.00	0	104	80	120	20.76	0.241	20	
Styrene	21.540	0.50	20.00	0	108	80	120	21.20	1.59	20	
Tert-amyl methyl ether	20.700	0.50	20.00	0	104	80	120	20.73	0.145	20	
Tert-Butanol	107.430	5.0	100.0	0	107	25	161	107.2	0.196	20	
tert-Butylbenzene	20.820	0.50	20.00	0	104	80	120	20.75	0.337	20	
Tetrachloroethene	19.410	0.50	20.00	0	97.0	80	120	19.77	1.84	20	
Toluene	20.240	0.50	20.00	0	101	80	120	20.14	0.495	20	
trans-1,2-Dichloroethene	20.540	0.50	20.00	0	103	78	126	20.39	0.733	20	
Trichloroethene	20.230	0.50	20.00	0	101	80	120	20.23	0	20	
Trichlorofluoromethane	21.340	0.50	20.00	0	107	67	149	21.10	1.13	20	
Vinyl chloride	20.200	0.50	20.00	0	101	70	135	20.14	0.297	20	
Xylenes, Total	62.040	1.5	60.00	0	103	70	130	61.96	0.129	20	
Surr: 1,2-Dichloroethane-d4	25.560		25.00		102	78	125		0		
Surr: 4-Bromofluorobenzene	26.100		25.00		104	80	120		0		
Surr: Dibromofluoromethane	25.230		25.00		101	80	122		0		
Surr: Toluene-d8	25.590		25.00		102	80	120		0		

Sample ID: **P160111MB3** SampType: **MBLK** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **105174**
Client ID: **PBW** Batch ID: **P16VW010** TestNo: **EPA 8260B** Analysis Date: **1/11/2016** SeqNo: **2196133**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.50									
1,1,1-Trichloroethane	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P160111MB3** SampType: **MBLK** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **105174**
Client ID: **PBW** Batch ID: **P16VW010** TestNo: **EPA 8260B** Analysis Date: **1/11/2016** SeqNo: **2196133**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	0.50									
1,1,2-Trichloroethane	ND	0.50									
1,1-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	0.50									
1,1-Dichloropropene	ND	0.50									
1,2,3-Trichlorobenzene	0.070	0.50									
1,2,3-Trichloropropane	ND	0.50									
1,2,4-Trichlorobenzene	0.080	0.50									
1,2,4-Trimethylbenzene	ND	0.50									
1,2-Dibromo-3-chloropropane	ND	1.0									
1,2-Dibromoethane	ND	0.50									
1,2-Dichlorobenzene	ND	0.50									
1,2-Dichloroethane	ND	0.50									
1,2-Dichloropropane	ND	0.50									
1,3,5-Trimethylbenzene	0.040	0.50									
1,3-Dichlorobenzene	ND	0.50									
1,3-Dichloropropane	ND	0.50									
1,4-Dichlorobenzene	ND	0.50									
2,2-Dichloropropane	ND	0.50									
2-Butanone	ND	5.0									
2-Chlorotoluene	ND	0.50									
4-Chlorotoluene	0.040	0.50									
4-Isopropyltoluene	0.050	0.50									
Benzene	ND	0.50									
Bromobenzene	ND	0.50									
Bromodichloromethane	ND	0.50									
Bromoform	ND	0.50									
Bromomethane	ND	1.0									
Carbon tetrachloride	ND	0.50									
Chlorobenzene	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P160111MB3** SampType: **MBLK** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **105174**
Client ID: **PBW** Batch ID: **P16VW010** TestNo: **EPA 8260B** Analysis Date: **1/11/2016** SeqNo: **2196133**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroethane	ND	1.0									
Chloroform	0.050	0.50									
Chloromethane	ND	0.50									
cis-1,2-Dichloroethene	ND	0.50									
cis-1,3-Dichloropropene	ND	0.50									
Di-isopropyl ether	ND	0.50									
Dibromochloromethane	ND	0.50									
Dibromomethane	ND	0.50									
Dichlorodifluoromethane	ND	0.50									
Ethyl tert-butyl ether	ND	0.50									
Ethylbenzene	ND	0.50									
Freon-113	ND	0.50									
Hexachlorobutadiene	ND	0.50									
Isopropylbenzene	ND	0.50									
m,p-Xylene	0.060	1.0									
Methylene chloride	ND	2.0									
MTBE	ND	0.50									
n-Butylbenzene	0.080	0.50									
n-Propylbenzene	0.040	0.50									
Naphthalene	ND	0.50									
o-Xylene	ND	0.50									
sec-Butylbenzene	0.040	0.50									
Styrene	ND	0.50									
Tert-amyl methyl ether	ND	0.50									
Tert-Butanol	ND	5.0									
tert-Butylbenzene	0.040	0.50									
Tetrachloroethene	ND	0.50									
Toluene	ND	0.50									
trans-1,2-Dichloroethene	ND	0.50									
Trichloroethene	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **P160111MB3** SampType: **MBLK** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **105174**
Client ID: **PBW** Batch ID: **P16VW010** TestNo: **EPA 8260B** Analysis Date: **1/11/2016** SeqNo: **2196133**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane	ND	0.50									
Vinyl chloride	ND	0.50									
Xylenes, Total	ND	1.5									
Surr: 1,2-Dichloroethane-d4	25.510		25.00		102	78	125				
Surr: 4-Bromofluorobenzene	25.800		25.00		103	80	120				
Surr: Dibromofluoromethane	25.770		25.00		103	80	122				
Surr: Toluene-d8	25.640		25.00		103	80	120				

Sample ID: **N018322-001BDUP** SampType: **DUP** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **105174**
Client ID: **ZZZZZZ** Batch ID: **P16VW010** TestNo: **EPA 8260B** Analysis Date: **1/12/2016** SeqNo: **2196144**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.50						0	0	20	
1,1,1-Trichloroethane	ND	0.50						0	0	20	
1,1,2,2-Tetrachloroethane	ND	0.50						0	0	20	
1,1,2-Trichloroethane	ND	0.50						0	0	20	
1,1-Dichloroethane	ND	0.50						0	0	20	
1,1-Dichloroethene	ND	0.50						0	0	20	
1,1-Dichloropropene	ND	0.50						0	0	20	
1,2,3-Trichlorobenzene	ND	0.50						0	0	20	
1,2,3-Trichloropropane	ND	0.50						0	0	20	
1,2,4-Trichlorobenzene	ND	0.50						0	0	20	
1,2,4-Trimethylbenzene	ND	0.50						0	0	20	
1,2-Dibromo-3-chloropropane	ND	1.0						0	0	20	
1,2-Dibromoethane	ND	0.50						0	0	20	
1,2-Dichlorobenzene	ND	0.50						0	0	20	
1,2-Dichloroethane	ND	0.50						0	0	20	
1,2-Dichloropropane	ND	0.50						0	0	20	
1,3,5-Trimethylbenzene	ND	0.50						0	0	20	
1,3-Dichlorobenzene	ND	0.50						0	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **N018322-001BDUP** SampType: **DUP** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **105174**
Client ID: **ZZZZZZ** Batch ID: **P16VW010** TestNo: **EPA 8260B** Analysis Date: **1/12/2016** SeqNo: **2196144**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	ND	0.50						0	0	20	
1,4-Dichlorobenzene	ND	0.50						0	0	20	
2,2-Dichloropropane	ND	0.50						0	0	20	
2-Butanone	ND	5.0						0	0	20	
2-Chlorotoluene	ND	0.50						0	0	20	
4-Chlorotoluene	ND	0.50						0	0	20	
4-Isopropyltoluene	ND	0.50						0	0	20	
Benzene	ND	0.50						0	0	20	
Bromobenzene	ND	0.50						0	0	20	
Bromodichloromethane	ND	0.50						0	0	20	
Bromoform	ND	0.50						0	0	20	
Bromomethane	ND	1.0						0	0	20	
Carbon tetrachloride	ND	0.50						0	0	20	
Chlorobenzene	ND	0.50						0	0	20	
Chloroethane	ND	1.0						0	0	20	
Chloroform	ND	0.50						0	0	20	
Chloromethane	ND	0.50						0	0	20	
cis-1,2-Dichloroethene	ND	0.50						0	0	20	
cis-1,3-Dichloropropene	ND	0.50						0	0	20	
Di-isopropyl ether	ND	0.50						0	0	20	
Dibromochloromethane	ND	0.50						0	0	20	
Dibromomethane	ND	0.50						0	0	20	
Dichlorodifluoromethane	ND	0.50						0	0	20	
Ethyl tert-butyl ether	ND	0.50						0	0	20	
Ethylbenzene	ND	0.50						0	0	20	
Freon-113	ND	0.50						0	0	20	
Hexachlorobutadiene	ND	0.50						0	0	20	
Isopropylbenzene	ND	0.50						0	0	20	
m,p-Xylene	ND	1.0						0	0	20	
Methylene chloride	ND	2.0						0	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Geocon Consultants, Inc.
Work Order: N018322
Project: I780/LAUREL O.C., E8721-02-37

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WATERP

Sample ID: **N018322-001BDUP** SampType: **DUP** TestCode: **8260WATERP** Units: **µg/L** Prep Date: RunNo: **105174**
Client ID: **ZZZZZZ** Batch ID: **P16VW010** TestNo: **EPA 8260B** Analysis Date: **1/12/2016** SeqNo: **2196144**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
MTBE	ND	0.50						0	0	20	
n-Butylbenzene	ND	0.50						0	0	20	
n-Propylbenzene	ND	0.50						0	0	20	
Naphthalene	ND	0.50						0	0	20	
o-Xylene	ND	0.50						0	0	20	
sec-Butylbenzene	ND	0.50						0	0	20	
Styrene	ND	0.50						0	0	20	
Tert-amyl methyl ether	ND	0.50						0	0	20	
Tert-Butanol	ND	5.0						0	0	20	
tert-Butylbenzene	ND	0.50						0	0	20	
Tetrachloroethene	ND	0.50						0	0	20	
Toluene	ND	0.50						0	0	20	
trans-1,2-Dichloroethene	ND	0.50						0	0	20	
Trichloroethene	ND	0.50						0	0	20	
Trichlorofluoromethane	ND	0.50						0	0	20	
Vinyl chloride	ND	0.50						0	0	20	
Xylenes, Total	ND	1.5						0	0	20	
Surr: 1,2-Dichloroethane-d4	26.040		25.00		104	78	125		0		
Surr: 4-Bromofluorobenzene	25.490		25.00		102	80	120		0		
Surr: Dibromofluoromethane	26.480		25.00		106	80	122		0		
Surr: Toluene-d8	26.040		25.00		104	80	120		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
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California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
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www.assetlaboratories.com

Client: Geocon Consultants, Inc.	Report to: R. DAY, LUANNE BEADLE	Bill to: Same	EDD Requirement: Excel EDD ☐ Geotracker ☐ Labspec ☐ Others ☐
Address: 6671 Brisa St.	Company:	Address:	QA/QC: RTNE ☐ RWQCB ☐ CalTrans ☒ Level III ☐ LEVEL IV ☐ Regulatory ☐
Address: Livermore, CA 94550	Email: ON FILE		Specify:
Phone: 925-371-5900 Fax: 925-371-5915	Address: AS CLIENT	Email to: PO#	Specify State:
Submitted By: CHRIS MERRITT		Phone: Fax:	Global ID:
Title: P.G.	Phone: Fax:		
Signature: CHRIS MERRITT Date: 1-8-2016	Sampled By: C. MERRITT		
I hereby authorize ASSET Labs to perform the tests indicated below:	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.*		
Project Name: I780/LAUREL O.C.	Signature: C.M. Date: 1-8-2016		
Project Number: E8721-02-37			

Sampe Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace		✓
3. Container Intact	✓	
4. Seal Present		✓
5. IR number	2	
6. Method of Cooling	Ice	
Sample Temp:	2.8°C	

Courier: GSO
Tracking No. 530530157

Matrix: Ground ☒ Sediment ☐ Potable ☐ Soil ☐ NPDES ☐ Other Solid ☐ Surface ☐

Item No.	Laboratory Work Order No. (2 MRL)	Sample ID/Location	Date	Time	Water	Solid	Others	TPH/Lime	VOC's w/EAB & DBCP	CAM 17 - TOTAL	CAM 17 - DISSOLVED	Turn Around Time	No. of container	Container Type	PRESERVATION	Remarks
1	N018324-1	B1-GW	1-8-2016	1015	X			X	X	X	X	E	7	G	HCL	
2	1 -2	B2-GW	1-8-2016	1330	X			X	X	X	X	E	7	G	HCL	
3	1 -3	TRIP BLANK			X				X			E	2	V	N	
4																
5																
6																
7																
8																
9																
10																
11																
12																

Relinquished by (Signature and Printed Name)	Date / Time	Received by (Signature and Printed Name)	Date / Time
CHRIS MERRITT	1-8-2016 1600	Yoandra Rodriguez	1/8/16 9:36am

Turn Around Time (TAT)
- ☐ A < 24 Hrs or Same Day TAT
- ☐ B = Next Workday
- ☐ C = 2 Workdays
- ☐ D = 3 Workdays
- ☐ E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00 PM.

Special Instruction:
FILTER CAM 17 DISSOLVED FIRST
SAMPLES COLLECTED 8th, DISREGARD SAMPLE LABEL DAY.

Terms
1. All samples will be disposed in 45 days upon receipt and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs = 200% Next Day = 100% 2 Workdays = 50% 3 Workdays = 35% 4 Workdays = 20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. ASSET Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 Days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H = HCl	N = HNO3	S = H2SO4	C = 4°C	T = Tube	V = VOA	P = Pint
Z = Zn(AC)2	O = NaOH	T = Na2S2O3		J = Jar	B = Tedlar	G = Glass
Others/Specify:				M = Metal	P = Plastic	C = Can

White = Laboratory Copy
Yellow = Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	1/9/2016	Workorder:	N018322
Rep sample Temp (Deg C):	2.8	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	Golden State Overnight		
Last 4 digits of Tracking No.:	0157	Packing Material Used:	Bubble Wrap
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☑	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Sample for dissolved metals was lab filtered and preserved.

For:

Checklist Completed By: YR MBC 1/11/2016

Reviewed By: gog 1/13/16

ASSET Laboratories

WORK ORDER Summary

11-Jan-16

WorkOrder: N018322

Client ID: GEOCO01

Project: I780/LAUREL O.C., E8721-02-37 **QC Level:** CT **Date Received:** 1/9/2016

Comments: FILTER CAM 17 DISSOLVED FIRST SAMPLES COLLECTED 8th, DISREGARD SAMPLE LABEL DAY.

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018322-001A	B1-GW	1/8/2016 10:15:00 AM	1/18/2016	Groundwater	EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	☐	☐	☐	WW
			1/18/2016		EPA 8015B	DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID	☐	☐	☐	WW
N018322-001B			1/18/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	☐	☐	☐	VW
			1/18/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW
N018322-001C			1/18/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/18/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
			1/18/2016			MERCURY PREP	☐	☐	☐	WW
			1/18/2016		EPA 7470A	TOTAL MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
N018322-001D			1/18/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/18/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			1/18/2016			DISSOLVED MERCURY PREP	☐	☐	☐	WW
			1/18/2016		EPA 7470A	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
N018322-001E							☐	☐	☐	WW
N018322-002A	B2-GW	1/8/2016 1:30:00 PM	1/18/2016		EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	☐	☐	☐	WW
			1/18/2016		EPA 8015B	DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID	☐	☐	☐	WW
N018322-002B			1/18/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	☐	☐	☐	VW
			1/18/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW
N018322-002C			1/18/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/18/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

11-Jan-16

WorkOrder: N018322

Client ID: GEOCO01

Project: I780/LAUREL O.C., E8721-02-37 **QC Level:** CT **Date Received:** 1/9/2016

Comments: FILTER CAM 17 DISSOLVED FIRST SAMPLES COLLECTED 8th, DISREGARD SAMPLE LABEL DAY.

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018322-002C	B2-GW	1/8/2016 1:30:00 PM	1/18/2016	Groundwater		MERCURY PREP	☐	☐	☐	WW
			1/18/2016		EPA 7470A	TOTAL MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
N018322-002D			1/18/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/18/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			1/18/2016			DISSOLVED MERCURY PREP	☐	☐	☐	WW
			1/18/2016		EPA 7470A	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
N018322-002E							☐	☐	☐	WW
N018322-003A	TRIP BLANK	1/8/2016	1/18/2016		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	☐	☐	☐	VW
			1/18/2016		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW
N018322-004A	FOLDER		1/18/2016		Folder	Folder	☐	☐	☐	LAB

GSO GOLDEN STATE OVERNIGHT

800-322-5555 www.gso.com

Ship From
GEOCON, INC.
GEOCON - LIVERMORE OFFICE
6671 BRISA STREET
LIVERMORE, CA 94550

Tracking #: 530530157 ESS

Ship To
ASSET LABORATORIES / ATL
SAMPLE RECEIVING
3151 W. POST ROAD
LAS VEGAS, NV 89118

LVS A

LAS VEGAS

COD: $0.00
Weight: 0 lb(s)
Reference:
E8721-02-37
Delivery Instructions:

Signature Type: REQUIRED

N89103A

46874940

Print Date: 1/8/2016 4:19 PM

PRINT LABEL ☐ Print All FINISH 1 of 1

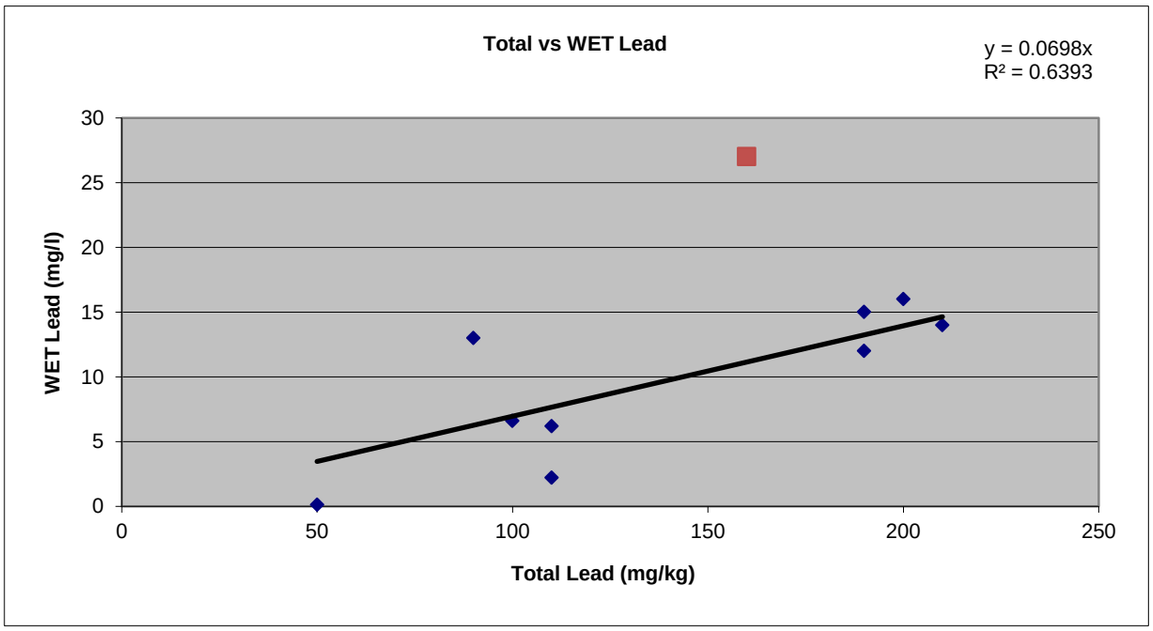
LABEL INSTRUCTIONS:

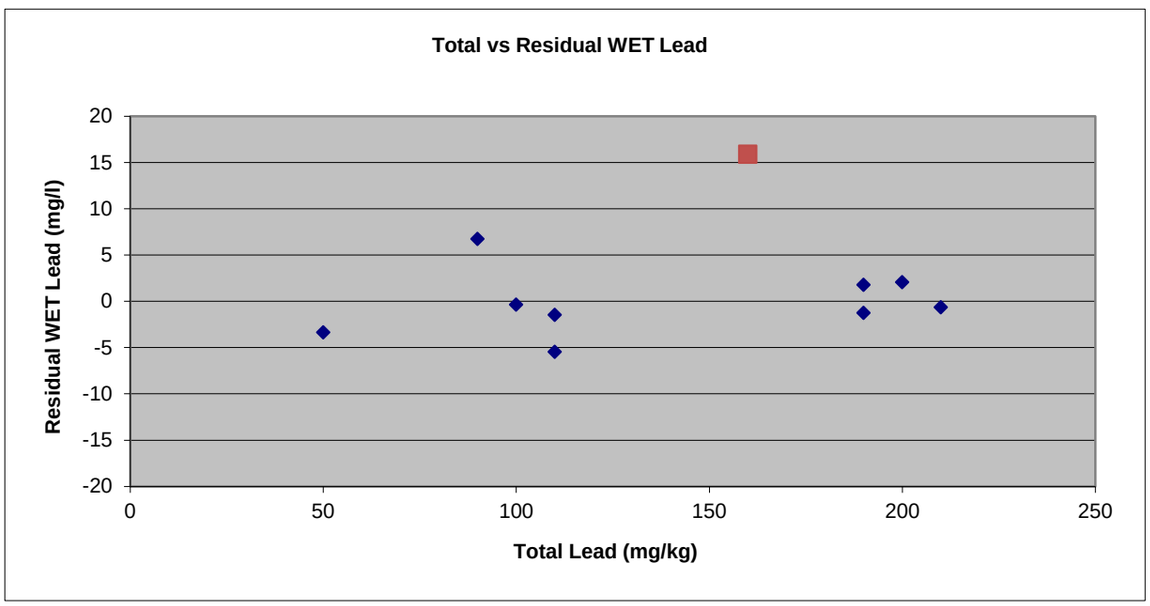
Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer. Securely attach this label to your package, do not cover the barcode.

APPENDIX D

Sample ID	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	Residual WET Lead (mg/l)	Squared Residual WET Lead (mg/l)
A6-0	0 to 0.5	200	16	2.05	4.19
B3-0	0 to 0.5	190	15	1.74	3.04
A5-0	0 to 0.5	100	6.6	-0.38	0.14
A2-0	0 to 0.5	110	6.2	-1.47	2.17
B4-0	0 to 0.5	210	14	-0.65	0.42
B2-0	0 to 0.5	190	12	-1.26	1.58
A6-1	1 to 1.5	50	0.125	-3.36	11.31
A5-1	1 to 1.5	90	13	6.72	45.17
A1-1	1 to 1.5	110	2.2	-5.47	29.97
Not Used					
A1-0	0 to 0.5	160	27	15.84	250.82





Pb- 0 to 0.5

Number of Valid Observations	12
Number of Distinct Observations	11
Minimum	18
Maximum	210
Mean	110
Median	105
SD	76.4
Coefficient of Variation	0.695
Skewness	0.107
Mean of log data	4.39
SD of log data	0.895
90% Standard Bootstrap UCL	**137**
95% Standard Bootstrap UCL	**145**

Pb- 1 to 1.5

Number of Valid Observations	12
Number of Distinct Observations	12
Minimum	2.5
Maximum	110
Mean	33.1
Median	18
SD	34.99
Coefficient of Variation	1.057
Skewness	1.4
Mean of log data	2.957
SD of log data	1.142
90% Standard Bootstrap UCL	**45.2**
95% Standard Bootstrap UCL	**49.0**

Pb- 3 to 3.5

Number of Valid Observations	6
Number of Distinct Observations	5
Minimum	2.5
Maximum	9.4
Mean	5.77
Median	5.6
SD	3.004
Coefficient of Variation	0.521
Skewness	1.33E-01
Mean of log data	1.619
SD of log data	0.589
90% Standard Bootstrap UCL	**7.21**
95% Standard Bootstrap UCL	**7.61**

Pb- 6 to 6.5

Number of Valid Observations	2
Number of Distinct Observations	2
Minimum	5.5
Maximum	11
Mean	8.25
Median	8.25
SD	N/A
Coefficient of Variation	N/A
Skewness	N/A
Mean of log data	N/A
SD of log data	N/A
90% Standard Bootstrap UCL	N/A
95% Standard Bootstrap UCL	N/A

Pb- 8.5 to 9

Number of Valid Observations	1
Number of Distinct Observations	1
Minimum	8.2
Maximum	8.2
Mean	8.2
Median	8.2
SD	N/A
Coefficient of Variation	N/A
Skewness	N/A
Mean of log data	N/A
SD of log data	N/A
90% Standard Bootstrap UCL	N/A
95% Standard Bootstrap UCL	N/A

Pb - Total (0 to 9)

Number of Valid Observations	33
Number of Distinct Observations	29
Minimum	2.5
Maximum	210
Mean	53.84
Median	21
SD	66.34
Coefficient of Variation	1.232
Skewness	1.37
Mean of log data	3.154
SD of log data	1.387
95% Standard Bootstrap UCL	**72.9**

As

Total Number of Observations	13
Number of Distinct Observations	12
Number of Missing Observations	0
Mean	6.346
Median	6.9
Std. Error of Mean	0.682
Skewness	0.582
SD of logged Data	0.436
Minimum	2
Maximum	12
SD	2.461
Coefficient of Variation	0.388
Mean of logged Data	1.769
95% Standard Bootstrap UCL	**7.40**

TPHd

Total Number of Observations	19
Number of Distinct Observations	19
Number of Missing Observations	0
Mean	59.07
Median	11
Std. Error of Mean	20.75
Skewness	1.612
SD of logged Data	1.908
Minimum	0.5
Maximum	280
SD	90.46
Coefficient of Variation	1.532
Mean of logged Data	2.664
95% Standard Bootstrap UCL	**92.6**

TPHmo

Total Number of Observations	19
Number of Distinct Observations	18
Number of Missing Observations	0
Mean	158.3
Median	22
Std. Error of Mean	55.46
Skewness	1.601
SD of logged Data	2.073
Minimum	1.1
Maximum	790
SD	241.7
Coefficient of Variation	1.527
Mean of logged Data	3.484
95% Standard Bootstrap UCL	**248**