



CITY OF PETALUMA

POST OFFICE BOX 61
PETALUMA, CA 94953-0061

Teresa Barrett
Mayor

D'Lynda Fischer
Mike Healy
Gabe Kearney
Dave King
Kevin McDonnell
Kathy Miller
Councilmembers

May 6, 2020

To: All Planholders (via email)

Petaluma Blvd South Water Main Replacement
CITY PROJECT NO. C67401918

ADDENDUM NO. 1

NOTICE INVITING BIDS

The following paragraphs of the "Notice Inviting Bids" will be modified as described.

- 1. RECEIPT OF BIDS:** Due to the COVID-19 Shelter in Place Order, the bids for this project will be submitted by email before 2:00PM on May 13, 2020. The emailed bid will include all of the completed documents found in the BID FORMS section of the Contract Documents. The bids will be emailed to: CITYCLERK@cityofpetaluma.org. The email subject line will be "Bid For Petaluma Blvd South Water Main Replacement C67401918". The response email from the City Clerk will indicate the time stamp of the bid receipt.

Original copies of the Sealed Bids will be sent by standard United States Postal Service (USPS) mail services and received by the mail clerk at 11 English Street, Petaluma CA 94952. The Sealed Bids will be postmarked at USPS not later than the date of May 13, 2020. Sealed Bids postmarked after May 13, 2020, may not be considered. The Sealed Bids sent via USPS will include all of the original signed and sealed documents included in the Bid Form section of the Contract Documents. This packet will be clearly marked on the outside of the package "Sealed Bid for Petaluma Blvd South Water Main Replacement Project C67401918".

- 2. OPENING OF BIDS:** The emailed bids will be opened by the Project Manager and the City Clerk. The bids will be documented on the Bid Result template with the name of the bidding contractor and ranked by the Base Bid dollar amount. The Bid results will be posted on the City's webpage at <https://cityofpetaluma.org/bid-opportunities-2/>

Public Works & Utilities

City Engineer
11 English Street
Petaluma, CA 94952
Phone (707) 778-4303

Environmental Services
Ellis Creek –
Water Recycling Facility
3890 Cypress Drive
Petaluma, CA 94954
Phone (707) 776-3777
Fax (707) 656-4067

Parks & Facility Maintenance
840 Hopper St. Ext.
Petaluma, CA 94952
Phone (707) 778-4303
Fax (707) 206-6065

Transit Division
555 N. McDowell Blvd.
Petaluma, CA 94954
Phone (707) 778-4421

Utilities & Field Operations
202 N. McDowell Blvd.
Petaluma, CA 94954
Phone (707) 778-4546
Fax (707) 206-6034

E-Mail:
publicworks@cityofpetaluma.org

CHANGES TO BID FORMS

1. A new bid schedule has been created and is part of this addendum. An additional alternate bid item has been created for disposal of contaminated soil if encountered.

CHANGES TO SECTION IV – TECHNICAL SPECIFICATIONS

2. Refer to Section 85 – Contaminated Soils and Groundwater

Remove – entire specification section. **Replace** – with updated Section 85 included in this addendum.

CHANGES TO SECTION V – PROJECT DRAWINGS

1. Refer to SHEET C4 (7 OF 13) of the Contract Drawings.

Remove -At eastern side of the intersection of H Street and Petaluma Blvd South, there is a proposed 8-inch pipeline connecting an existing 8-inch CI pipe to an existing 4-inch CI pipe, with construction notes to tie into existing water mains and install an 8-inch PVC PIPE. **Replace** – with a 4-inch DI elbow, 4-inch PVC piping, 4-inch gate valve, and tapping sleeve around existing 8-inch water main. A detail has been created and included with this addendum. This work shall be included in the lump sum bid item for Tie-ins to existing main.

TECHNICAL CLARIFICATION TO CONTRACTORS – QUESTION AND RESPONSE

Question #1: Is there a geotechnical report available or report showing contaminated soils extents and approved landfills for disposal?

Response #1: There is no geotechnical report made specifically for this project. A previous report for a project within the project limits has been included in Appendix A. This report should be used for informational purposes only. The extent of contaminated soils is unknown, although historically some areas within the project limits have had contaminated soils. It is the responsibility of the Contractor to test, store, and dispose of any contaminated soils encountered within the project work. A new bid schedule has been created for an additional alternate bid item for the disposal of any contaminated soil encountered during the work.

Question #2: Are the areas where the concrete paving or asphalt paving replacement is known?

Response #2: The drawing details show two methods of trench paving resurfacing, one for where concrete is encountered, one for where only asphalt is encountered. The limits of concrete paving are not known. The contractor should assume the concrete paving extends from lip of gutter on each side of the street.

Question #3: Can the contractor discharge groundwater encountered in the trench work to the City's sewer system?

Response #3: The contractor may obtain a discharge permit from the City to discharge to the sewer system, provided it meets all contaminant limit requirements.

Question #4: Does the abandonment of the 4-inch water main include filling the pipe with grout or just plugging the ends?

Response #4: The abandonment of the 4-inch water main includes filling the pipe with grout to the extent possible. The work shall also include removal of valve cans at the pavement level and backfilling those areas with the appropriate pavement restoration.

SUBMITTAL CLARIFICATION TO CONTRACTORS – QUESTION AND ANSWER

Q: Can I submit the original copies of the sealed bid by FedEx, UPS, courier, other delivery service or drop the packet off myself?

A: Due to the COVID-19 Shelter in Place Order, the City of Petaluma has closed City Hall to the general public to continue the practice of “social distancing”. We will only accept the sealed bid packet by the daily mail delivery of the United States Postal Service (USPS).

Q: What if the USPS delivers my original copies a week, or more, later?

A: As long as the USPS postmark on the exterior of the package shows May 13, 2020, or earlier we will accept your original copies.

Q: What if my email doesn't go through the internet system because the attachments have too many megabytes?

A: You may send multiple emails to CityClerk@cityofpetaluma.org. All emails and all attachments must be received and acknowledged by the City Clerk's response before 2:00PM on May 13, 2020. All emails must be titled “Bid For Petaluma Blvd South Water Main Replacement C67401918”.

Q: What attachment file will you accept?

A: .PDF is preferred. Other common file formats are JPG, TIF, DOC, XLS.

Q: Will you video the bid opening?

A: The bid opening will not be video taped.

Q: How am I assured that you are really choosing the lowest bid?

A: The bid packets are kept by the City Clerk for the duration of the project. After the low bid is posted, if you want to see Bid information please call the project manager.

Q: Why are you doing it this way?

A: Due to the COVID-19 Shelter in Place Order we are trying to minimize person to person contact as much as possible to keep everyone as healthy as possible.

Q: What if my email goes to the junk or spam folder?

A: You may send a trial email in advance of the bid submittal date. Please send your email to CityClerk@cityofpetaluma.org.

This Addendum No. 1 shall become part of the Contract and all provisions of the Contract shall apply thereto. Bidders shall acknowledge all Addendums in the Bid Schedule.

City of Petaluma

Dan Herrera, P.E.
P.E. No. C77596

BID SCHEDULE

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1	Mobilization	1	LS		
2	Traffic Control	1	LS		
3	Stormwater Management and Erosion Control	1	LS		
4	Trench Shoring and Bracing	1	LS		
5	Potholing	1	LS		
6	8-inch C900 Water Main	1500	LF		
7	8-inch Gate Valve	7	EA		
8	6-inch Gate Valve	1	EA		
9	Tie-In to Existing Water Mains	1	LS		
10	Water Main Raise/Lower	4	EA		
11	1.5-inch Water Service	51	EA		
12	2-inch Water Service	31	EA		
13	Abandon Existing Water Service	8	EA		
14	4-inch Fire Service Assembly	4	EA		
15	6-inch Fire Service Assembly	5	EA		
16	8-inch Fire Service Assembly	1	EA		
17	Remove and Replace Fire Hydrant Assembly	4	EA		
18	12-inch storm drain	100	LF		
19	Catch Basin	1	EA		
20	Abandon Existing 4" Water Main	1	LS		
21	Remove and Replace Sidewalk	500	SF		
22	Remove and Replace Curb & Gutter	100	LF		
23	Remove and Replace Driveway	2	EA		
24	Remove Existing Tree	6	EA		

Base Bid \$ _____

*Note: In case of error in extension of price into the total price column, the unit price will govern.

Total Amount of Bid (written in words) is: _____
 _____ Dollars and
 _____ Cents.
 In the event of discrepancy between words and figures, the words shall prevail.
 \$ _____
 Figures

Base Bid \$ _____

ALTERNATE BID SCHEDULE

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1.	Disposal of Contaminated Soil	100	CY		

Bid Alternate Total \$ _____

*Note: In case of error in extension of price into the total price column, the unit price will govern.

Total Amount of Alternate Bid (written in words) is: _____
 _____ Dollars and
 _____ Cents.
 In the event of discrepancy between words and figures, the words shall prevail.
 \$ _____
 Figures

Note: **The award of the contract shall be awarded to the lowest price of the total of Base Bid**

Address of Bidder

Signature of Bidder

City

Name of Bidder (Print)

Telephone Number of Bidder

Fax Number of Bidder

Contractor's License Number

License's Expiration Date

Addendum Acknowledgement

Addendum No. 1 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 2 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 3 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 4 Signature Acknowledging Receipt: _____ Date: _____

SECTION 85
CONTAMINATED SOILS AND GROUNDWATER

85A. GENERAL

The CONTRACTOR shall be aware the area has a history of contaminated soils within the project limits.

CONTRACTOR shall take all necessary precautions when working with these materials, and all waste shall be properly and legally disposed of. The CONTRACTOR is responsible for all testing, transport, and disposal fees.

Contaminants of concern are total petroleum hydrocarbons as diesel and motor oil, polychlorinated biphenyls, semi-volatile organics, volatile organic compounds, CAM17 metals, and RCI. The source of petroleum appears to be either adjacent active or former gasoline stations or surface runoff from the adjacent roadway.

All trench excavation material from trenches shall be the property of the CONTRACTOR and shall be tested, stored, and disposed of legally. The CONTRACTOR shall dispose of material in accordance with the applicable conditions.

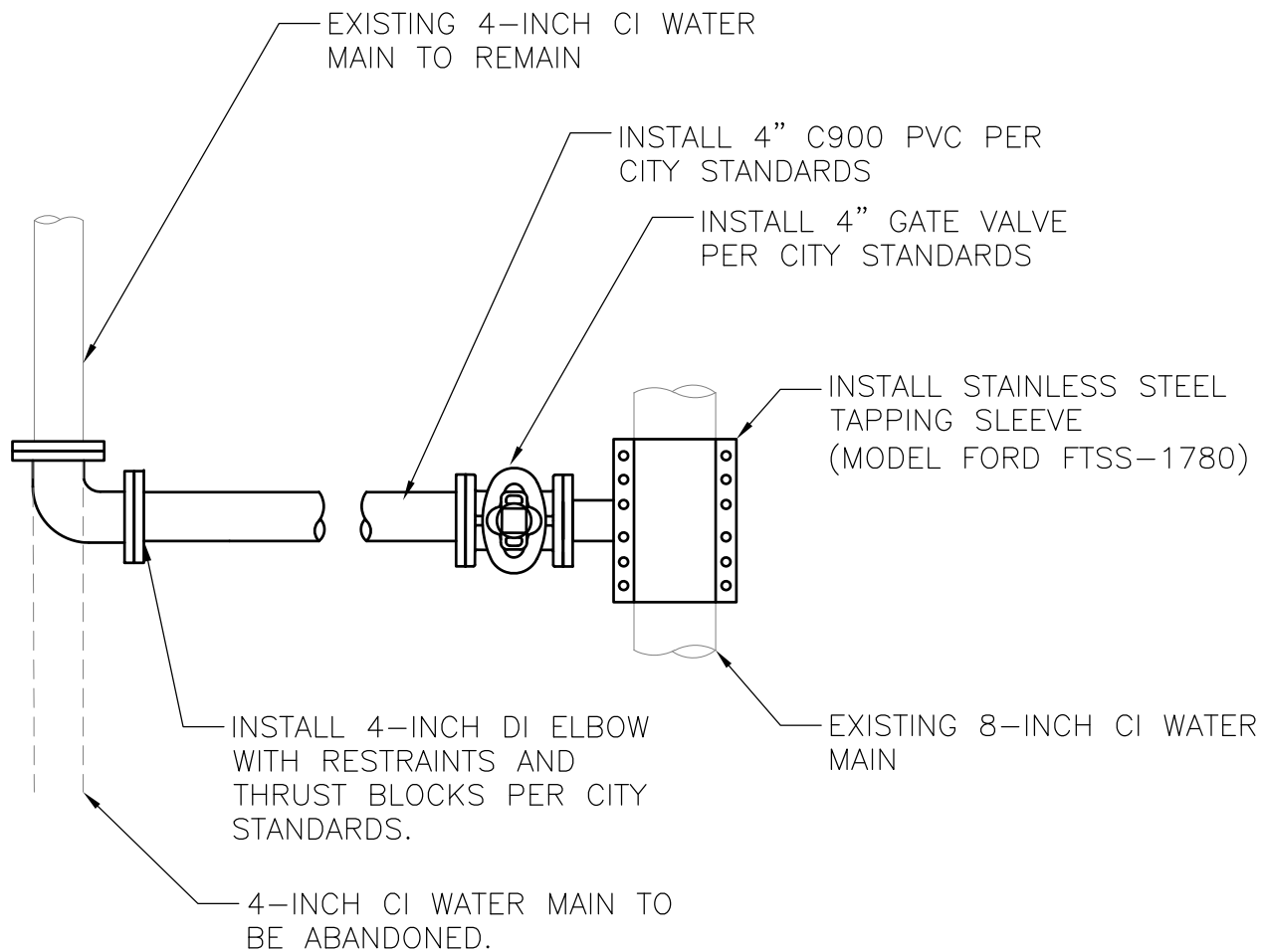
85B. MEASUREMENT AND PAYMENT

Dispose of Contaminated Soil shall be paid at the bid alternate contract unit price per **Cubic Yard (CY)**. Payment shall be full compensation for removing, testing, storing and disposing of contaminated soil, and shall include, but not limited to, excavation, hauling, storing, permit approval, and any other work and incidentals included in the disposing of contaminated soils. considered as included in prices paid under various contract items of work included, and no additional compensation will be allowed therefor.


The actual quantity for this item of work may vary from the quantity listed in the bid schedule. Provisions for increased or decreased quantity elsewhere in the specifications shall not apply and no adjustments of the contract price shall be made therefore.

Disposal of Contaminated Groundwater shall be considered as included in prices paid under various contract items of work included, and no additional compensation will be allowed therefor.

END OF SECTION



City of Petaluma
PETALUMA BLVD SOUTH WATER
MAIN REPLACEMENT PROJECT
4-INCH TIE IN AT H STREET DETAIL



MAY 6, 2020

APPENDIX A

October 1, 2015
Job No.: 0778,001.15

Sanjay Mishra
Senior Civil Engineer
City of Petaluma
202 North McDowell Boulevard
Petaluma, California 94954

**Limited Pre-Construction Soil Assessment - Sewer Trunk Corridor – 2nd Street (between G Street and H Street), H Street (between 2nd Street and Petaluma Boulevard South), and Petaluma Boulevard South (between H Street and Mountain View Avenue)
Petaluma, California**

Dear Mr. Mishra:

Edd Clark & Associates, Inc., (EC&A) is pleased to present this summary report for the limited pre-construction soil assessment investigation conducted at the above-referenced corridor (Figure 1). The City of Petaluma (City) is currently designing a sewer trunk replacement for the project alignment and requested a limited pre-construction soil assessment investigation prior to conducting a full scale pre-construction soil assessment investigation.

The purpose of the limited soil assessment is as follows:

- To more accurately assess potential disposal costs for bidding purposes before conducting the full pre-construction soil assessment investigation; and
- To identify soil types and possible contaminants that may be encountered during the City's trenching activities.

EC&A submitted the July 15, 2015 *Pre-Construction Soil Assessment Workplan* to the City and to the County of Sonoma Department of Health Services (CSDHS) as a required condition for the issuance of a drilling permit.

COMPLETED SCOPE OF WORK

Work completed for this investigation included the following activities:

- Acquiring a soil boring permit from the CSDHS and an encroachment permit from the City;
- Advancing 11 borings along the project alignment;

- Collecting soil samples for chemical analysis and evaluation of soil lithology;
- Generating a non-native stratigraphy summary; and
- Preparing this summary report of the work completed.

SUMMARY

Prior to commencement of the pre-construction soil assessment, EC&A performed a review of available environmental records on the State GeoTracker Internet Database (GeoTracker) for regulated properties in the site vicinity. Based on EC&A's past experience investigating the project vicinity and a review of information available on GeoTracker, the July 15, 2015, *Pre-Construction Soil Assessment Workplan* was prepared and submitted to the City and CSDHS.

Based on a review of available information and EC&A's specialized knowledge of the project area, EC&A's workplan proposed the advancement of 11 exploratory soil borings along the project alignment. The initial alignment as proposed in EC&A's *Pre-Construction Soil Assessment Workplan* originally ran from the intersection of 2nd and E Streets at its northwestern end, to the intersection of Rowan Lane and Petaluma Boulevard South at its southeastern end. At the request of the City, the alignment was shortened to run from 2nd and G Streets at its northwestern end to Mountain View Avenue at Petaluma Boulevard South at its southeastern end (Figure 1).

On August 11 and 12, 2015, EC&A directed the advancement of 11 exploratory borings, which were predominantly located along the south-western side of the project alignment. Exploratory soil boring B-1 was advanced to 10 feet (ft) below ground surface (bgs), B-2 to nine ft bgs, B-3 to 10 ft bgs, B-4 and B-5 to 10 ft bgs, B-6 to 12 ft bgs, B-7 to 13 ft bgs, B-8 to eight ft bgs, and B-9 through B-11 to six ft bgs. Boring depths were selected based on the anticipated depth of the proposed trench, as provided by the City. A non-native stratigraphy summary is attached as Appendix A. Soil boring logs are included in Appendix B. Groundwater was not encountered in any of the borings advanced during this investigation.

EC&A collected four discrete soil samples from each boring; the discrete samples were composited by the laboratory prior to chemical analyses. Based on a review of the laboratory analytical results, and of Bulletin 100 for Republic Services' Sonoma Central Landfill waste acceptance criteria, if soils encountered during the subsequent proposed full pre-construction soils assessment indicate similar analytical results to those reported herein, EC&A expects that the soils would be eligible for disposal at Republic Services' Sonoma Central Landfill.

REGULATORY FILE REVIEWS

Soil Boring Placement

A review of available information on GeoTracker, in addition to EC&A's knowledge of the project vicinity, revealed the following properties as having the potential to impact soil and/or groundwater along the entire project alignment:

- Open Leaking Underground Storage Tank facility (LUST) - Bar Ale Inc., 225 2nd Street;
- Open LUST - Former Unocal #6152, 201 Petaluma Boulevard South;
- Closed LUST - Hlebackos & Sons Trucking, 1473 Petaluma Boulevard South;
- Closed LUST - Lee's Truck & Auto Repair, 301 2nd Street;
- Closed LUST - Petaluma Recycling Center, 315 2nd Street;
- Closed LUST - Barber Sign Company, 321 2nd Street;
- Closed LUST - D&M Automotive, 210 F Street;
- Closed LUST - Metcalf's Auto Parts, 494 2nd Street;
- Closed LUST - Foundry Wharf Business Park, 615 2nd Street;
- Open LUST - Andy's Auto Repair, 619 Petaluma Boulevard South;
- Closed Historical-UST - Van Bebber Bros, 729 Petaluma Boulevard South; and
- Closed LUST - Mahoney Davison Property, 929 Petaluma Boulevard South.

The information obtained from a review of files for the properties listed above, in addition to the waste acceptance requirements from proposed future landfills was used to design the scope of work. Details of the limited pre-construction soils assessment investigation are presented below.

LIMITED PRE-CONSTRUCTION SOILS ASSESSMENT INVESTIGATION

Pre-field Activities

Prior to drilling activities, EC&A reviewed utility maps provided by the City. Boring locations were based on a thorough review of available information of GeoTracker for LUST sites and other regulated sites in the vicinity of the sewer main alignment. Boring depths were selected based on the anticipated depth of the proposed trench, as provided by the City.

The initial alignment as proposed in EC&A's *Pre-Construction Soil Assessment Workplan* originally ran from the intersection of 2nd and E Streets at its northwestern end, to the intersection of Rowan Lane and Petaluma Boulevard South at its southeastern end. At the request of the City, the alignment was shortened to run from 2nd and G Streets at its northwestern end to Mountain View Avenue at Petaluma Boulevard South at its southeastern end (Figure 1).

With the assistance of the City, proposed boring locations were marked at the site for Underground Service Alert (USA). EC&A contacted Underground Service Alert (USA) at least 48 hours prior to drilling activities to locate underground utilities within the proposed investigation area. EC&A notified the City and CSDHS prior to the start of field work. Boring permit #SR0013004 was obtained from the CSDHS. Encroachment permit #PWEN-15-1183 was obtained from the City. Copies of the permits are included in Appendix C.

Field Activities

On August 11 and 12, 2015, EC&A oversaw the advancement of 11 exploratory borings along the project alignment. The locations of the borings are as shown on Figure 1. Exploratory soil boring B-1 was advanced to 10 ft bgs, B-2 to nine ft bgs, B-3 to 10 ft bgs, B-4 to 10 ft bgs, B-5 to 10 ft bgs,

B-6 to 12 ft bgs, B-7 to 13 ft bgs, B-8 to eight ft bgs, and B-9, B-10 and B-11 to six ft bgs each. Boring logs describing soil lithology encountered in each well boring are included in Appendix B.

Drilling services were provided by Clear Heart Drilling, Inc., of Santa Rosa, California (C-57 license #780357). Soil borings were advanced using a truck-mounted drill rig equipped with GeoProbe™ direct-push drilling equipment. Drilling was performed under the technical direction of an EC&A field geologist who classified the soils encountered, maintained a continuous log of the lithology, and assisted in collecting soil samples. All field work was performed under the supervision of a California registered geologist. EC&A personnel field screened the breathing zone and soil samples for organic vapors with a photoionization detector (PID).

As a condition of the encroachment permit and to ensure the safety of all personnel along the project alignment, EC&A contracted with Statewide Traffic Safety & Signs (Statewide) to provide traffic safety services during the field work.

Soil

In borings B-1, B-2 and B-11, six inches (0.5 feet) of asphalt was observed; no concrete was observed beneath the asphalt layer in these three borings. In the remaining eight borings advanced during this investigation, asphalt was generally observed from the ground surface to a maximum depth of 0.25 ft bgs, underlain by concrete to a maximum depth of 0.58 feet bgs (borings B-3 and B-9). Base rock/fill was observed from approximately 0.5 feet bgs to depths ranging from approximately 0.58 feet bgs to an estimated depth of 2.5 feet bgs (boring B-5). Only a very thin fill layer was observed in boring B-6 (approximately 1 inch from 0.5 to 0.58 feet bgs). Fill was not observed in borings B-7, B-9 and B-10.

Materials observed deeper than the fill consisted of low and high plasticity clays, sandy clays, silty clays, silts, silt with sand, silt with sand and gravel, clayey silt, and silt with gravel.

Groundwater

Groundwater was not encountered in any of the borings advanced during this investigation; however, groundwater has been measured as shallow as 0.5 ft bgs in monitoring wells at regulated sites located along the project alignment.

Soil Sampling Procedures

Soil samples were collected from each boring by pushing a sampler lined with a 4-ft-long by 2.125-inch-diameter butyrate sample sleeve into the soil at the bottom of the borehole. Soil samples selected

for laboratory analysis were cut from the butyrate liner, capped, labeled, logged on a chain-of-custody form and placed on ice for transport to McCampbell Analytical, Inc. (MAI) for the required analyses. MAI is a State-certified laboratory located in Pittsburg, California.

EC&A collected four discrete soil samples from each of the eleven exploratory soil borings for laboratory analysis. The discrete samples from each boring were composited by the laboratory prior to chemical analyses.

Soil Sample Analyses

The composited soil samples were analyzed for TPH multi scan with silica gel clean-up by Method 8015B, for volatile organic compounds (VOCs) by Method 8260B, and for LUFT 5 Metals by Method 200.8. Analyses were performed on standard five-day turnaround.

Analytical results from composited samples collected from B-1 through B-11 meet Republic Services' Waste Acceptance Criteria for disposal at Sonoma Central landfill. Soil analytical results are summarized on Tables 1 and 2. Laboratory analytical reports are included in Appendix D.

Waste

On August 11 and 12, 2015, at the request of the City, EC&A transported one, 55-gallon UN/DOT drum of soil cuttings to their corporate yard and added the soil cuttings to an existing stockpile of soil, pending subsequent profiling and disposal. Disposal documentation will be forwarded upon receipt.

CONCLUSIONS

None of the constituents of concern detected in the soil samples collected during this limited pre-construction soil assessment exceeded Republic Services' Sonoma Central Landfill Refuse Bulletin No. 100 Soil Acceptance Criteria (Tables 1 and 2). Based on a review of the laboratory analytical results, and of Bulletin 100 for Republic Services' Sonoma Central Landfill waste acceptance criteria, if soils encountered during the subsequent proposed full pre-construction soils assessment indicate similar analytical results to those reported herein, EC&A expects that the soils would be eligible for disposal at Republic Services' Sonoma Central Landfill. The historical releases from LUST facilities along the project alignment investigated during the limited pre-construction soil assessment investigation do not appear to have impacted soils at the boring locations tested and the alignment of the proposed sewer line trench.

October 1, 2015
Job No.: 0778,001.15

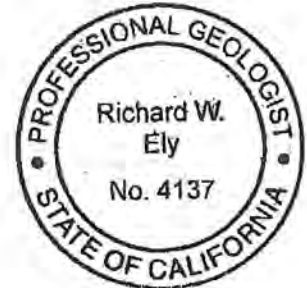


Please call us at (707) 792-9500 if you have any questions.

Sincerely,
Edd Clark & Associates, Inc.

John Calomiris
Technical Operations Manager/Associate

Richard Ely, PG #4137
Senior Geologist



ATTACHMENTS

Figures

Figure 1 – Site Map with Borings Installed for City Water Line Investigation, 11-12 August 2015

Tables

Table 1 – Exploratory Soil Boring Analytical Results

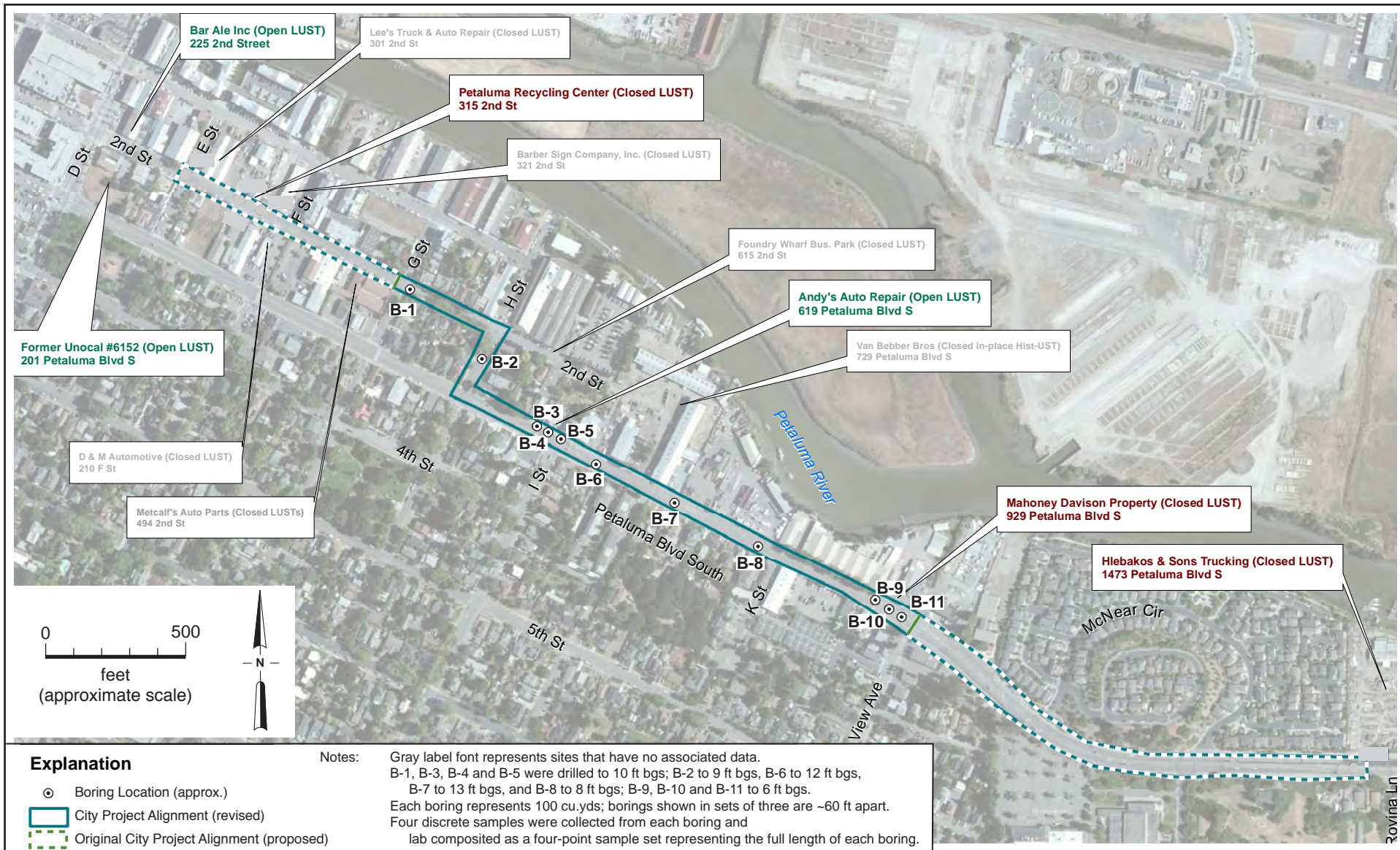
Table 2 – Exploratory Soil Boring Analytical Results – LUFT 5 Metals

Appendices

- | | |
|-------------|-------------------------------|
| Appendix A: | Non-native Stratigraphy |
| Appendix B: | Soil Boring Logs |
| Appendix C: | Permits |
| Appendix D: | Laboratory Analytical Reports |

cc: Leslye Choate, CSDHS

S:\ECA Job Files\0778 Petaluma Pre-Con - Sewer Trunk Corridor\Workplans and Reports\2015 Limited Pre-Con Soils Assmnt Rpt



Explanation

- Boring Location (approx.)
- ▬ City Project Alignment (revised)
- ▬ Original City Project Alignment (proposed)

Notes:

Gray label font represents sites that have no associated data.
 B-1, B-3, B-4 and B-5 were drilled to 10 ft bgs; B-2 to 9 ft bgs, B-6 to 12 ft bgs,
 B-7 to 13 ft bgs, and B-8 to 8 ft bgs; B-9, B-10 and B-11 to 6 ft bgs.
 Each boring represents 100 cu.yds; borings shown in sets of three are ~60 ft apart.
 Four discrete samples were collected from each boring and
 lab composited as a four-point sample set representing the full length of each boring.

**TABLE 1: Exploratory Soil Boring Analytical Results
Petroleum Hydrocarbons and VOCs
Petaluma Boulevard South Alignment
2nd Street (between G Street and H Street),
H Street (between 2nd Street and Petaluma Boulevard South),
and Petaluma Boulevard South (between H Street and Mountain View Avenue)
Petaluma, California**

Sample ID	Sample Date	TPH-g	TPH-d	TPH-mo	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Other VOCs
		milligrams per kilogram (mg/kg)								
B-1 COMP Lab qualifiers	08/12/15	ND <1.0	1.0 e2	ND <5.0 e2	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND
B-2 COMP Lab qualifiers	08/12/15	ND <1.0	1.1 e2	ND <5.0 e2	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND
B-3 COMP	08/11/15	ND <1.0	ND <1.0	ND <5.0	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND
B-4 COMP	08/11/15	ND <1.0	ND <1.0	ND <5.0	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND
B-5 COMP	08/11/15	ND <1.0	ND <1.0	ND <5.0	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND
B-6 COMP	08/11/15	ND <1.0	ND <1.0	ND <5.0	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND
B-7 COMP	08/11/15	ND <1.0	ND <1.0	ND <5.0	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND
B-8 COMP Lab qualifiers	08/11/15	ND <1.0	2.3 e7, e2	15 e7, e2	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND
B-9 COMP Lab qualifiers	08/12/15	ND <1.0	1.9 e2	ND <5.0 e2	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND
B-10 COMP	08/12/15	ND <1.0	ND <1.0	ND <5.0	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND
B-11 COMP	08/12/15	ND <1.0	ND <1.0	ND <5.0	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND <0.0050	ND
Sonoma Central		50	100	100	0.01	15	15	15	0.005	Vary

Notes:

- TPH-g: Total petroleum hydrocarbons as gasoline, analytical method SW8021B/8015Bm
- TPH-d: Total petroleum hydrocarbons as diesel, analytical method SW8015B with silica gel cleanup
- TPH-mo: Total petroleum hydrocarbons as motor oil, analytical method SW8015B with silica gel cleanup
- MTBE: Methyl tertiary butyl ether, analytical method SW8260B
- VOCs: volatile organic compounds, analytical method SW8260B
- COMP: Composite. All analyzed soil samples were composites of four separate soil samples collected from each boring.
- Sonoma Central = Republic Services' Sonoma Central Landfill Refuse Bulletin No. 100 Soil Acceptance Criteria
- mg/kg: Milligrams per kilogram
- ND: Not detected above the laboratory reporting limit

All samples analyzed by McCampbell Analytical, Inc., Pittsburg, California

Lab qualifiers:

- e2: Diesel range compounds are significant; no recognizable pattern
- e7: Oil range compounds are significant

**Table 2: Exploratory Soil Boring Analytical Results
LUFT 5 Metals
Petaluma Boulevard South Alignment
2nd Street (between G Street and H Street),
H Street (between 2nd Street and Petaluma Boulevard South),
and Petaluma Boulevard South (between H Street and
Mountain View Avenue)
Petaluma, California**

Sample ID	Sample Date	Cadmium	Chromium (total)	Lead	Nickel	Zinc
		<i>milligrams per kilogram (mg/kg)</i>				
B-1 COMP	08/12/15	ND <0.25	85	6.9	94	55
B-2 COMP	08/12/15	ND <0.25	74	5.7	90	39
B-3 COMP	08/11/15	ND <0.25	56	6.1	76	31
B-4 COMP	08/11/15	ND <0.25	69	10	69	34
B-5 COMP	08/11/15	ND <0.25	52	5.5	61	27
B-6 COMP	08/11/15	ND <0.25	68	5.6	100	36
B-7 COMP	08/11/15	ND <0.25	71	4.5	85	33
B-8 COMP	08/11/15	ND <0.25	68	6.3	51	31
B-9 COMP	08/12/15	ND <0.25	86	5.9	57	34
B-10 COMP	08/12/15	ND <0.25	83	6.4	57	34
B-11 COMP	08/12/15	ND <0.25	64	6.7	37	32
Sonoma Central		100	2,500	350	2,000	5,000

Notes:

mg/kg: milligrams per kilogram

ND: Not detected above the laboratory reporting limit

COMP: Composite. All analyzed soil samples were composites of four separate soil samples collected from each boring.

All samples analyzed by McCampbell Analytical, Inc., Pittsburg, California

Analyzed for LUFT 5 metals by Analytical Method SW6020

Sonoma Central = Republic Services' Sonoma Central Landfill Refuse Bulletin No. 100 Soil Acceptance Criteria

Appendix A

Non-native Stratigraphy



October 1, 2015

Job No.: 0778,001.15

Sanjay Mishra
Senior Civil Engineer
City of Petaluma
202 North McDowell Boulevard
Petaluma, California 94954

Non-Native Stratigraphy

Limited Pre-Construction Soil Assessment – Sewer Trunk Corridor

2nd Street (between G Street and H Street), H Street (between 2nd Street and Petaluma Boulevard South), and Petaluma Boulevard South (between H Street and Mountain View Avenue)

Petaluma, California

Dear Mr. Mishra:

Please find a detailed description of non-native stratigraphy below. This information is based on the borings that were advanced for the project alignment and transcribed from the field logs. Figure 1 shows the boring locations.

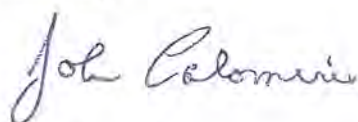
In borings B-1, B-2 and B-11, six inches (0.5 feet) of asphalt was observed; no concrete was observed beneath the asphalt layer in these three borings. In the remaining eight borings advanced during this investigation, asphalt was generally observed from the ground surface to a maximum depth of 0.25 feet below ground surface (bgs), underlain by concrete to a maximum depth of 0.58 feet bgs (borings B-3 and B-9). Base rock/fill was observed from approximately 0.5 feet bgs to depths ranging from approximately 0.58 feet bgs to an estimated depth of 2.5 feet bgs (boring B-5). Only a very thin fill layer was observed in boring B-6, approximately 1 inch from 0.5 to 0.58 feet bgs). Fill was not observed in borings B-7, B-9 and B-10.

Materials observed deeper than the fill consisted of low and high plasticity clays, sandy clays, silty clays, silts, silt with sand, silt with sand and gravel, clayey silt, and silt with gravel. Groundwater was not encountered in any of the borings.

Boring	Asphalt/Concrete Interval (ft bgs)	Base Rock/Fill Interval (ft bgs)	Native Soil Interval (ft bgs)	Relative Density / Consistency
B-1	0 - 0.5/ No concrete	0.5 - 1	1.0 - 5.0 5.0 - 7.0 7.0 - 10.0	Medium Dense Loose Dense
B-2	0 - 0.5/ No concrete	0.5 - 1	1.0 - 5.0 5.0 - 7.0 7.0 - 10.0	Medium Dense Loose Dense
B-3	0 - 0.167/ 0.167 - 0.583	0.583 - 1.0	1.0 - 2.0 2.0 - 10.0	Medium Dense Soft
B-4	0 - 0.25/ 0.25 - 0.5	0.5 - 1.33	1.33 - 5.0 5.0 - 10.0	Medium Dense Stiff
B-5	0 - 0.167/ 0.167 - 0.5	0.5 - 2.5	2.5 - 5.0 5.0 - 10.0	Medium Dense Stiff to Hard
B-6	0 - 0.25/ 0.25 - 0.5	0.5 - 0.583	0.583 - 10.0 10.0 - 12.0	Stiff to Hard Soft to Stiff
B-7	0 - 0.25/ 0.25 - 0.5	No fill observed	0.5 - 13.0	Stiff
B-8	0 - 0.25/ 0.25 - 0.5	0.5 - 1.0	1.0 - 4.0 4.0 - 6.0 6.0 - 8.0	Soft to Stiff Stiff Soft
B-9	0 - 0.5/ 0.5 - 0.583	No fill observed	0.583 - 3.0 3.0 - 6.0	No recovery Stiff
B-10	0 - 0.25/ 0.25 - 0.5	No fill observed	0.583 - 2.5 2.5 - 4.0 4.0 - 6.0	No recovery Stiff Soft to Stiff
B-11	0 - 0.5/ No concrete	0.5 - 1.25	1.25 - 4.5 4.5 - 6.0	Stiff Soft to Stiff

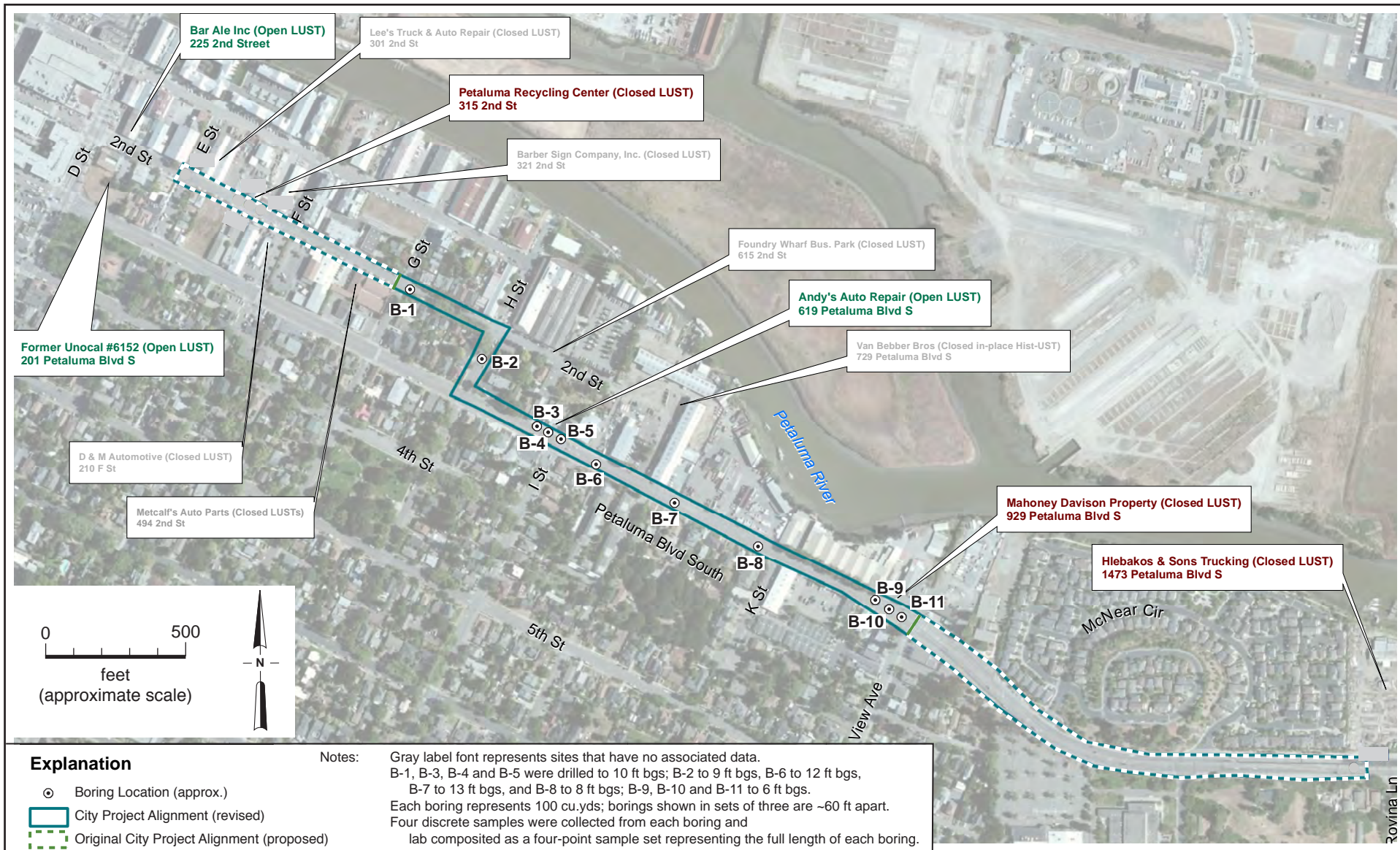
Thank you for allowing EC&A the opportunity to provide environmental consulting services for you. Please call (707) 792-9500 if you have any questions.

Sincerely,



John Calomiris
 Technical Operations Manager/Associate

Attachment: - Figure I – Site Map with Boring Locations for City Sewer Line Investigation,



Explanation

- Boring Location (approx.)
- ▬ City Project Alignment (revised)
- ▬ Original City Project Alignment (proposed)

Notes:

Gray label font represents sites that have no associated data.
 B-1, B-3, B-4 and B-5 were drilled to 10 ft bgs; B-2 to 9 ft bgs, B-6 to 12 ft bgs,
 B-7 to 13 ft bgs, and B-8 to 8 ft bgs; B-9, B-10 and B-11 to 6 ft bgs.
 Each boring represents 100 cu.yds; borings shown in sets of three are ~60 ft apart.
 Four discrete samples were collected from each boring and
 lab composited as a four-point sample set representing the full length of each boring.

Appendix B
Soil Boring Logs

Date(s) Drilled 08/12/15	Logged By CRH	Checked By RWE
Drilling Method DPT	Drill Bit Size/Core Barrel/Length 4"/1.225"/4'	Total Depth of Borehole 10 feet bgs
Drill Rig Type Geoprobe 6600	Drilling Contractor Clear Heart	No. of Samples 4 soil
Groundwater Level and Date Measured NA	Sampling Method(s) Butyrate Sleeve	Comments


Depth (ft)	Samples	Sample ID	Sample Time	Blows/0.5 ft	PID (ppm)	USCS	Material Description	Well
0							ASPHALT (6 inches - no concrete)	
0.5							SILTY GRAVEL (FILL)	
2.5-3	2.5-3	1157			0.0		CLAY (CL), very dark grayish brown (2.5Y 3/2), soft to stiff, medium plasticity, dry to slightly moist.	
4.5-5	4.5-5	1202			0.0			
6-6.5	6-6.5	1209			0.0		SANDY CLAY (CL) (70% fines, 30% sand), fine sand, dark yellowish brown (10YR 4/4), soft, medium plasticity, moist.	
7							CLAY (CH), dark yellowish brown (10YR 4/4), stiff, high plasticity, slightly moist.	
9.5-10	9.5-10	1214			0.0			
10							Bottom of Boring	



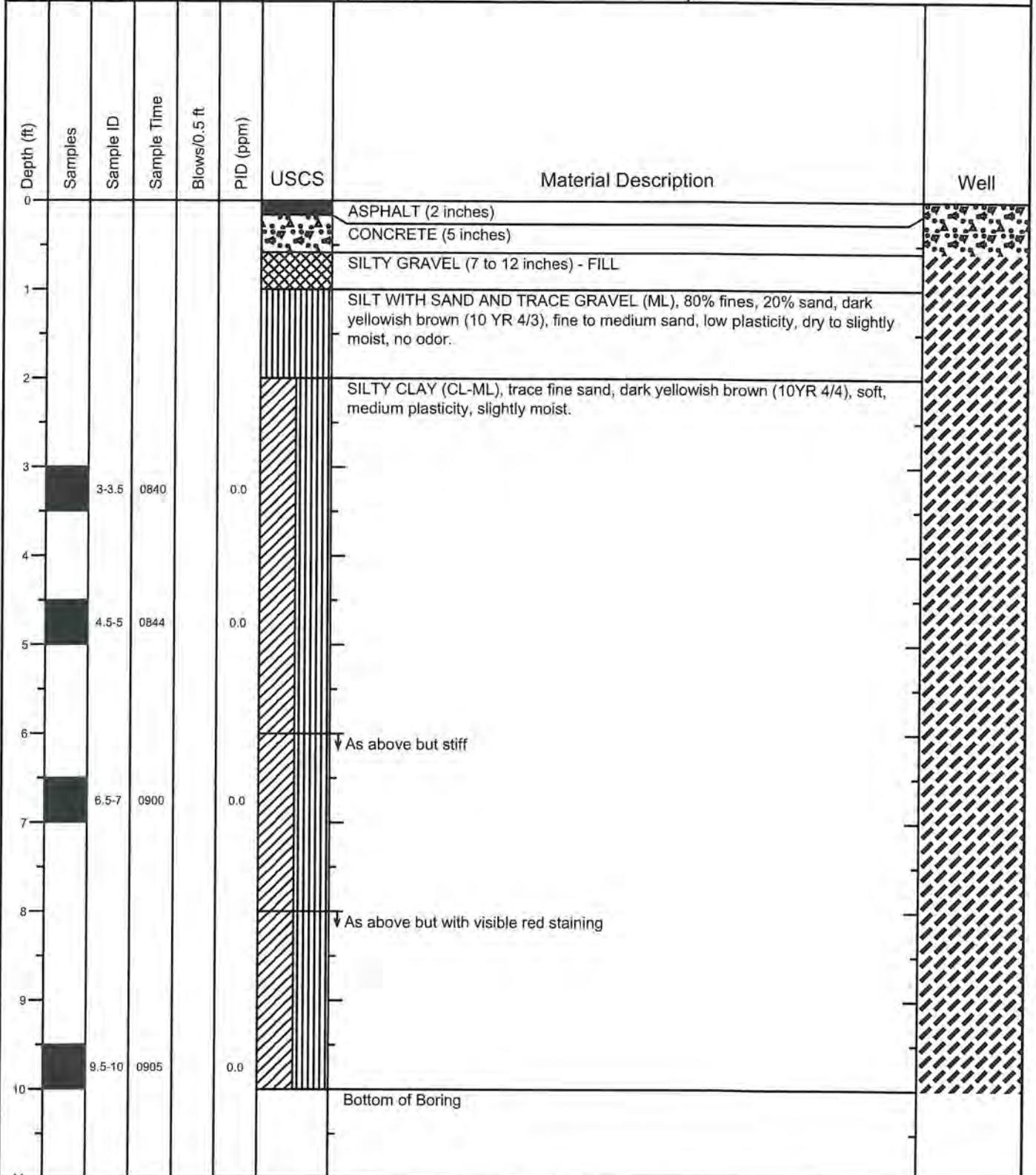
Log of Soil Boring B-1 (501 2nd Street)
 Pre-Con Sewer Trunk Corridor
 Petaluma Blvd. South (G Street to Mountain View Ave.)
 Petaluma, CA

Date(s) Drilled 08/12/15	Logged By CRH	Checked By RWE
Drilling Method DPT	Drill Bit Size/Core Barrel/Length 4"/1.225"/4'	Total Depth of Borehole 9 feet bgs
Drill Rig Type Geoprobe 6600	Drilling Contractor Clear Heart	No. of Samples 4 soil
Groundwater Level and Date Measured NA	Sampling Method(s) Butyrate Sleeve	Comments

Depth (ft)	Samples	Sample ID	Sample Time	Blows/0.5 ft	PID (ppm)	USCS	Material Description	Well
0							ASPHALT (6 inches - no concrete)	
0.5							GRAVEL WITH SILT (FILL)	
2.0	2-2.5	1104			0.0		CLAY (CL), very dark grayish brown (2.5Y 3/2), soft to stiff, medium plasticity, dry to slightly moist.	
4.5	4.5-5	1109			0.0		SANDY CLAY (CL) (70% fines, 30% sand), dark yellowish brown (10YR 4/4), soft, medium plasticity, moist.	
6.5	6.5-7	1123			0.0		CLAY (CH), dark yellowish brown (10YR 4/4), stiff, high plasticity, slightly moist.	
8.5	8.5-9	1128			0.0		Bottom of Boring	

	Log of Soil Boring B-2 (204 H Street) Pre-Con Sewer Trunk Corridor Petaluma Blvd. South (G Street to Mountain View Ave.) Petaluma, CA
	Job Number: 0778,001.15 Date: 08/25/15

Date(s) Drilled 08/11/15	Logged By CRH	Checked By RWE
Drilling Method DPT	Drill Bit Size/Core Barrel/Length 4"/1.225"/4'	Total Depth of Borehole 10 feet bgs
Drill Rig Type Geoprobe 6600	Drilling Contractor Clear Heart	No. of Samples 4 soil
Groundwater Level and Date Measured NA	Sampling Method(s) Butyrate Sleeve	Comments



Log of Soil Boring B-3 (612 Petaluma Blvd. S.)
 Pre-Con Sewer Trunk Corridor
 Petaluma Blvd. South (G Street to Mountain View Ave.)
 Petaluma, CA

Date(s) Drilled: 08/11/15	Logged By: CRH	Checked By: RWE
Drilling Method: DPT	Drill Bit Size/Core Barrel/Length: 4"/1.225"/4'	Total Depth of Borehole: 10 feet bgs
Drill Rig Type: Geoprobe 6600	Drilling Contractor: Clear Heart	No. of Samples: 4 soil
Groundwater Level and Date Measured: NA	Sampling Method(s): Butyrate Sleeve	Comments:

Depth (ft)	Samples	Sample ID	Sample Time	Blows/0.5 ft	PID (ppm)	USCS	Material Description	Well
0							ASPHALT (3 inches)	
							CONCRETE (3 inches)	
							SILTY GRAVEL (FILL)	
1							SILTY CLAY (CL-ML) with less than 5% fine sand, very dark brown (2.5Y 2/1), soft, medium plasticity, slightly moist.	
2								
3		2.5-3	0940		0.0		SILT (ML) with trace fine sand, dark yellowish brown (2.5Y 4/4), soft, medium plasticity, slightly moist.	
4								
5		4.5-5	0945		0.0		SILTY CLAY (CL-ML), light olive brown (2.5Y 5/4) with some red staining, stiff, low plasticity, slightly moist.	
6								
7		7-7.5	0953		0.0		As above, no red staining	
8								
9								
10		9.5-10	1000		0.0		Bottom of Boring	



Log of Soil Boring B-4 (615 Petaluma Blvd. S.)
 Pre-Con Sewer Trunk Corridor
 Petaluma Blvd. South (G Street to Mountain View Ave.)
 Petaluma, CA

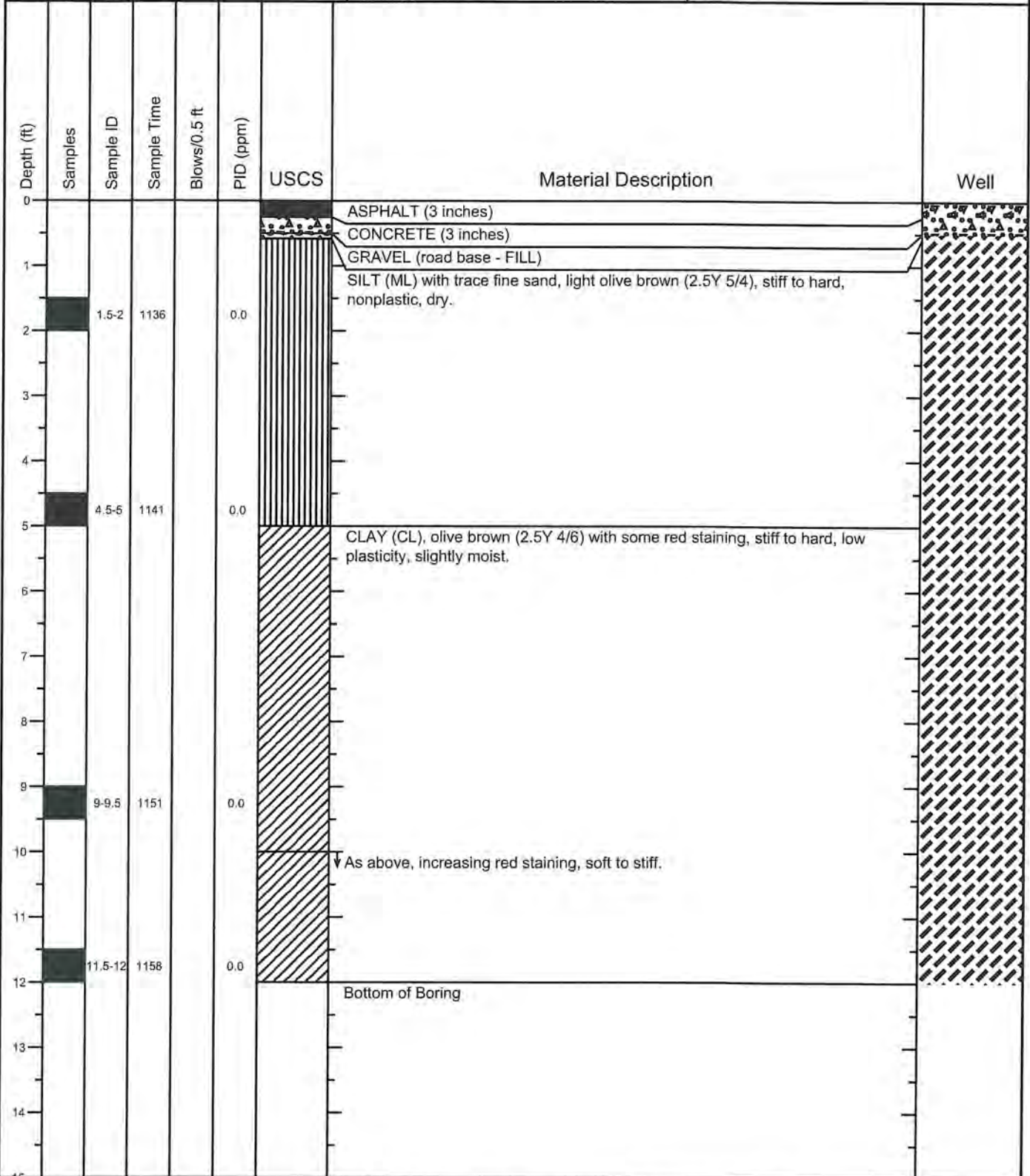
Date(s) Drilled 08/11/15	Logged By CRH	Checked By RWE
Drilling Method DPT	Drill Bit Size/Core Barrel/Length 4"/1.225"/4'	Total Depth of Borehole 10 feet bgs
Drill Rig Type Geoprobe 6600	Drilling Contractor Clear Heart	No. of Samples 4 soil
Groundwater Level and Date Measured NA	Sampling Method(s) Butyrate Sleeve	Comments

Depth (ft)	Samples	Sample ID	Sample Time	Blows/0.5 ft	PID (ppm)	USCS	Material Description	Well
0							ASPHALT (2 inches)	
							CONCRETE (4 inches)	
							SILTY GRAVEL (FILL)	
3		3-3.5	1029		0.0		CLAYEY SILT (ML), black (10YR 2/1), soft to stiff, medium plasticity, dry to slightly moist.	
4							↓ As above, no red staining	
5		4.5-5	1032		0.0			
7		7-7.5	1041		0.0		SILT WITH GRAVEL (ML) (85% fines, 15% gravel), light olive brown (2.5Y 5/6), stiff to hard, low plasticity, dry to slightly moist.	
9.5-10		9.5-10	1044		0.0			
10							Bottom of Boring	



Log of Soil Boring B-5 (619 Petaluma Blvd. S.)
 Pre-Con Sewer Trunk Corridor
 Petaluma Blvd. South (G Street to Mountain View Ave.)
 Petaluma, CA

Date(s) Drilled 08/11/15	Logged By CRH	Checked By RWE
Drilling Method DPT	Drill Bit Size/Core Barrel/Length 4"/1.225"/4'	Total Depth of Borehole 12 feet bgs
Drill Rig Type Geoprobe 6600	Drilling Contractor Clear Heart	No. of Samples 4 soil
Groundwater Level and Date Measured NA	Sampling Method(s) Butyrate Sleeve	Comments



Log of Soil Boring B-6 (715 Petaluma Blvd. S.)
 Pre-Con Sewer Trunk Corridor
 Petaluma Blvd. South (G Street to Mountain View Ave.)
 Petaluma, CA

Date(s) Drilled 08/11/15	Logged By CRH	Checked By RWE
Drilling Method DPT	Drill Bit Size/Core Barrel/Length 4"/1.225"/4'	Total Depth of Borehole 13
Drill Rig Type Geoprobe 6600	Drilling Contractor Clear Heart	No. of Samples 4 soil
Groundwater Level and Date Measured NA	Sampling Method(s) Butyrate Sleeve	Comments

Depth (ft)	Samples	Sample ID	Sample Time	Blows/0.5 ft	PID (ppm)	USCS	Material Description	Well
0							ASPHALT (3 inches)	
0							CONCRETE (3 inches)	
0							SILT (ML) with trace fine sand, olive brown (2.5Y 5/4), stiff, nonplastic, slightly moist.	
1.5-2		1315			0.0			
4.5-5		1318			0.0			
5							CLAY (CL), olive brown (2.5Y 4/6), stiff, low plasticity, slightly moist.	
9.5-10		1326			0.0		As above	
12.5-13		1335			0.0			
13							Bottom of Boring	



Log of Soil Boring B-7 (740 Petaluma Blvd. S.)
 Pre-Con Sewer Trunk Corridor
 Petaluma Blvd. South (G Street to Mountain View Ave.)
 Petaluma, CA



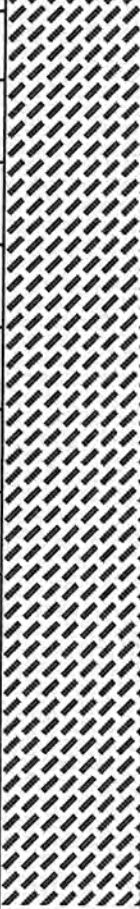

Date(s) Drilled 08/11/15	Logged By CRH	Checked By RWE
Drilling Method DPT	Drill Bit Size/Core Barrel/Length 4"/1.225"/4'	Total Depth of Borehole 8 feet bgs
Drill Rig Type Geoprobe 6600	Drilling Contractor Clear Heart	No. of Samples 4 soil
Groundwater Level and Date Measured NA	Sampling Method(s) Butyrate Sleeve	Comments

Depth (ft)	Samples	Sample ID	Sample Time	Blows/0.5 ft	PID (ppm)	USCS	Material Description	Well
0							ASPHALT (3 inches)	
							CONCRETE (3 inches)	
							GRAVEL with some red brick pieces (FILL)	
1							CLAY (CH), black (10YR 2/1), soft to stiff, high plasticity, slightly moist, no odor.	
2								
3			1355		0.0			
4								
5		4.5-5	1352		0.0		Clayey silt with gravel (CL-ML), very dark grayish brown (10YR 3/2) gravel clasts up to 1/4 inch, stiff, low plasticity, slightly moist.	
6		5.5-6	1406		0.0			
7							SILT (ML), brown (10YR 4/3), soft, medium plasticity, slightly moist to moist.	
8		7.5-8	1401		0.0			
							Bottom of Boring	
9								
10								



Log of Soil Boring B-8 (Petaluma Blvd. S. at K Street)
 Pre-Con Sewer Trunk Corridor
 Petaluma Blvd. South (G Street to Mountain View Ave.)
 Petaluma, CA

Date(s) Drilled 08/12/15	Logged By CRH	Checked By RWE
Drilling Method DPT	Drill Bit Size/Core Barrel/Length 4"/1.225"/4'	Total Depth of Borehole 6 feet bgs
Drill Rig Type Geoprobe 6600	Drilling Contractor Clear Heart	No. of Samples 4 soil
Groundwater Level and Date Measured NA	Sampling Method(s) Butyrate Sleeve	Comments

Depth (ft)	Samples	Sample ID	Sample Time	Blows/0.5 ft	PID (ppm)	USCS	Material Description	Well
0							ASPHALT (3 inches)	
							CONCRETE (4 inches)	
1							No recovery - No fill per driller observation	
2								
3								
4	3,5-4	0830			0.0		CLAY (CH), black (10YR 2/1), stiff, high plasticity, slightly moist to moist.	
5	4,5-5	0835			0.0			
	5,5-5	0840			0.0			
	5,5-6	0845			0.0			
6							Bottom of Boring	
7								
8								





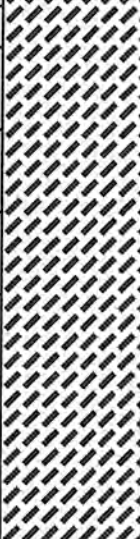
Log of Soil Boring B-9 (838 Petaluma Blvd. S.)
 Pre-Con Sewer Trunk Corridor
 Petaluma Blvd. South (G Street to Mountain View Ave.)
 Petaluma, CA

Date(s) Drilled 08/12/15	Logged By CRH	Checked By RWE
Drilling Method DPT	Drill Bit Size/Core Barrel/Length 4"/1.225"/4'	Total Depth of Borehole 6 feet bgs
Drill Rig Type Geoprobe 6600	Drilling Contractor Clear Heart	No. of Samples 4 soil
Groundwater Level and Date Measured NA	Sampling Method(s) Butyrate Sleeve	Comments

Depth (ft)	Samples	Sample ID	Sample Time	Blows/0.5 ft	PID (ppm)	USCS	Material Description	Well
0							ASPHALT (3 inches)	
							CONCRETE (3 inches)	
							No recovery - no fill per driller observation	
1								
2								
3	2.5-3	0931			0.0		CLAY (CH), black (10YR 2/1), stiff, high plasticity, slightly moist to moist.	
4	4-4.5	0934			0.0		CLAY (CL) with trace gravel, very dark grayish-brown (2.5Y 3/2), soft to stiff, low plasticity, moist.	
5	5-5.5	0940			0.0			
6	5.5-6	0945			0.0			
6							Bottom of Boring	
7								
8								

	Log of Soil Boring B-10 (884 Petaluma Blvd. S.) Pre-Con Sewer Trunk Corridor Petaluma Blvd. South (G Street to Mountain View Ave.) Petaluma, CA
	Job Number: 0778,001,15 Date: 08/25/15

Date(s) Drilled 08/12/15	Logged By CRH	Checked By RWE
Drilling Method DPT	Drill Bit Size/Core Barrel/Length 4"/1.225"/4'	Total Depth of Borehole 6
Drill Rig Type Geoprobe 6600	Drilling Contractor Clear Heart	No. of Samples 4 soil
Groundwater Level and Date Measured NA	Sampling Method(s) Butyrate Sleeve	Comments

Depth (ft)	Samples	Sample ID	Sample Time	Blows/0.5 ft	PID (ppm)	USCS	Material Description	Well
0							ASPHALT (6 inches - no concrete)	
1							SANDY SILT WITH GRAVEL (FILL), olive brown (2.5Y 4/6), nonplastic, dry to slightly moist.	
2							CLAY with gravel (CL), very dark grayish brown (2.5Y 3/2), stiff, low plasticity, slightly moist.	
3								
4		3.5-4	1008		0.0			
5		4.5-5	1013		0.0		CLAY (CH), black (10YR 2/1), soft to stiff, high plasticity, moist.	
5		5-5.5	1018		0.0			
6		5.5-6	1022		0.0			
6							Bottom of Boring	
7								
8								













Log of Soil Boring B-11 (888 Petaluma Blvd. S.)
 Pre-Con Sewer Trunk Corridor
 Petaluma Blvd. South (G Street to Mountain View Ave.)
 Petaluma, CA

Depth (ft)	Samples	Sample ID	Sample Time	Blows/0.5 ft	PID (ppm)	USCS	Material Description	Well
1	2	3	4	5	6	7	8	9

COLUMN DESCRIPTIONS

- 1** Depth (ft): Depth in feet below the ground surface.
- 2** Samples: Type of sample interval retained from soil boring.
- 3** Sample ID: Sample identification number.
- 4** Sample Time: Time sample was collected.
- 5** Blows/0.5 ft: Number of blows to advance driven sampler one foot (or distance shown) beyond seating interval using the hammer identified on the boring log.
- 6** PID (ppm): Photoionization Detector reading that measures organic vapors.
- 7** USCS: Graphic depiction of the subsurface material encountered.
- 8** Material Description: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
- 9** Well: Graphical representation of well installed upon completion of drilling and sampling.






MATERIAL GRAPHIC SYMBOLS

- | | |
|---|--|
|  Asphaltic Concrete (AC) |  Portland Cement Concrete |
|  Bentonite chips |  AF |
|  Fat CLAY, CLAY w/SAND, SANDY CLAY (CH) |  Gravel |
|  Lean CLAY, CLAY w/SAND, SANDY CLAY (CL) |  SILT, SILT w/SAND, SANDY SILT (ML) |
|  SILTY CLAY (CL-ML) |  Silt |

TYPICAL SAMPLER GRAPHIC SYMBOLS

-  Sample

OTHER GRAPHIC SYMBOLS

-  Water level (at time of drilling, ATD)
-  Water level (after waiting)
-  Minor change in material properties within a stratum
-  Inferred/gradational contact between strata
-  Queried contact between strata

GENERAL NOTES

- 1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
- 2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

Appendix C

Permits

DEPT. OF HEALTH SVCS

COUNTY OF SONOMA — DEPARTMENT OF HEALTH SERVICES

ENVIRONMENTAL HEALTH & SAFETY

625 5th Street, Santa Rosa, CA 95404

Phone (707) 565-6565 Fax (707) 565-6525 www.sonoma-county.org

JUL 20 2015

ENVIRONMENTAL HEALTH & SAFETY

APPLICATION FOR DRILLING PERMIT

for Regional Board Lead/Environmental Assessment / LOP Lead

For Office Use Only		(LL)
Amount paid	\$ 552.00	
Receipt number	132B	
Payment date	7-23-15	Rev. code 115023
Site ID#	FA0015085	1406
Permit #	SP0013004	

Well type: Monitoring well Recovery extraction well Boring Injection well Destruct Environmental assessment
 Soil gas survey Direct push Air sparging/venting Remediation well Other

Well depth _____ Boring depth 13 FT - 16 FT

On-site well/boring 11 ID# B1-B11 # Off-site well/boring _____ ID# _____

Submit legal right-of-entry/off-site well address/encroachment permit

On-site Address 2nd St, H St. + Petaluma Blvd. South 94952 AP# _____

Facility Name ADDRESS IN EH - 0000 Petaluma Blvd South

On-site Owner City of Petaluma Phone 707-778-4303

Street 11 English St. City Petaluma State CA Zip _____

Responsible Party City of Petaluma Phone 707-778-4303

Street 11 English St. City Petaluma State CA Zip _____

Consultant Edd Clark Assoc., Inc. Phone 707-792-9500

Street P.O. Box 3039 City Rohnert Park State CA Zip 94927

License #/Type 661915 - A

Drilling Contractor Clear Heart Drilling, Inc. Phone 707-568-6095

Street 555 West College Ave. Suite B city Santa Rosa State CA Zip 95401

C-57 License # 780357

Type of work: Initial investigation _____ # Wells Subsequent investigation _____ # Wells Destruct _____ # Wells

Groundwater investigation due to: Underground tank Surface impoundment Environmental assessment
 Surface disposal practice—specify involved industry _____
 Other pre-construction soil Assessment investigation

Perforated intervals N/A Chemical constituents TPH, VOC, Lufts metals

Disposal method for soil cuttings drum Disposal method for development water drum

Drilling method direct push Geo Probe Method of drill equip. rinsate containment drum

If destroying a well, abandonment method N/A

Submit plot plan of wells in relation to all sewer or septic lines.

Is well to be constructed within: 100 feet of a septic tank or leachfield? Yes No

50 feet of any sanitary sewer line? Yes No

25 feet of any private sanitary sewer line? Yes No

In addition, all monitoring wells must include identification system affixed to interior surface:

- 1) Well identification
- 2) Well type
- 3) Well depth
- 4) Well casing diameter
- 5) Perforated intervals 7/23/15

Well identification number and well type shall be affixed to the exterior surface security structure.

B986*#
 115023D
 DRILLING 552.00
 TTLAMT 552.00
 CHECKS 552.00
 CHANGE 0.00
 132B #2 8:07



LL

For Office Use Only

Address 0000 Petaluma Blvd S.

Site ID# FA0015085

Permit # SR0613004

I hereby agree to comply with all laws and regulations of the County of Sonoma and State of California pertaining to water well construction. I will telephone (707) 565-6565, 48 hours in advance, to notify the Environmental Health Specialist when completing or destroying a well. I will furnish the Director of Health Services and the owner a legible copy of the State Water Well Driller's Report within 15 days; and a copy of the Summary Report, including sample results, should be received by this Department within 90 days in order to obtain final approval on this well permit. I acknowledge that the application will become a permit *only* after site approval and payment of fee. I understand that this permit is not transferable and expires one year from date of issuance.

Pat Olson Date 6-19-15
 Signature of Well Driller—no proxies

Insurance Carrier State Fund Expiration Date 1/1/16

Once all wells/borings are installed, submit a Well Driller's Log and/or Summary Report to complete permit process.

Indicate on attached plot plan the exact location of well(s) with respect to the following items: property lines, water bodies or water courses drainage pattern, roads, existing wells, sewer main and laterals and private sewage disposal systems or other sources of contamination or pollution. INCLUDE DIMENSIONS. The validity of this permit depends upon the accuracy of the information provided by the applicant.

Conditions of permit:



FOR OFFICE USE ONLY – ENVIRONMENTAL HEALTH & SAFETY

Permit approved by Hesley Hester Date 7/23/15

Constr. approved by _____ Observed? Yes No Well # _____ Date _____

RW/QCB / LOP approval _____ Date _____

COUNTY OF SONOMA DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION

475 Aviation Blvd., Suite 220 ❖ Santa Rosa, CA 95403
(707) 565-6565 ❖ FAX (707) 565-6525 ❖ www.sonoma-county.org

ATTACHMENT 3

Exemption for Proposed Monitoring Well

The proposed location(s) for installation of monitoring wells at the subject site are not in conformance with setback requirements in the water well ordinance for Sonoma County. These setback requirements were implemented to protect groundwater from possible known sources of contamination.

An exemption will be granted for well(s) B1 - B11
at this subject site: 2ND St, H St. + Petaluma Blvd. South

if the following conditions are met:

1. Monitoring wells will be constructed to standards that prevent the contamination of groundwater from a sewage disposal system.
2. Monitoring wells not in conformance with minimum setback requirements shall be sampled every six (6) months for nitrate. The samples will be used as indicators of possible sewage contamination from nearby sewage lines.

I agree to comply with the above requirements for the proposed well(s):

[Signature]
Signature of Responsible Party or Agent

Edd Clark + Associates Inc
Company

Associate
Title

JUNE 19, 2015
Date

For office use only

Exemption approved _____ Date _____

ENCROACHMENT PERMIT

Public Works & Utilities Department

11 English Street

Email: EncroachmentPermits@ci.petaluma.ca.us

Inspection Services

To reach the Inspector: 707.778.4303, option 7

Questions on the permitting process: 707.778.4303, option 6

Office Hours: Monday-Thursday 9am-noon & 1pm-4pm



ORIGINAL

EP Number PWEN-15-1183

or batch # _____

Initials _____

Utility ID #: 001000

Utility Project #: _____

- Annual Permit
- Sewer Lateral Grant Program
- Cash Bond Return

Please Note: Unless otherwise indicated, this permit is valid for a period of 30 days from the date of approval. Driveway approach and sidewalk construction in a developed area must be completed within 14 days after the start of removal or construction operations.

Payments can be made by check to the City of Petaluma, cash for the exact amount or by credit card. (There is a 2.5% credit card fee).

PROJECT LOCATION: 2nd St. (between E+H St.); H St. (between 2nd St. & Pet. Blvd. S); Pet. Blvd. S (between 11th & 12th St.)

EXCAVATION: (check as many as applicable to the proposed project)

<input type="checkbox"/> Aboveground Utility:	<input type="checkbox"/> Underground Utility:	<input type="checkbox"/> Installation/Repair/Replacement:	ENCROACHMENT:
<input type="checkbox"/> Electrical	<input type="checkbox"/> Water	<input type="checkbox"/> Sidewalk	<input type="checkbox"/> Parking Permit
<input type="checkbox"/> Telephone	<input type="checkbox"/> Gas	<input type="checkbox"/> Driveway	<input type="checkbox"/> Dumpster/Storage Container
<input type="checkbox"/> Cable TV	<input type="checkbox"/> Electrical	<input type="checkbox"/> Street Paving	<input type="checkbox"/> Scaffolding/Barricades
	<input type="checkbox"/> Sewer	<input type="checkbox"/> Curb & Gutter	<input type="checkbox"/> Tree Trimming/Removal
	<input type="checkbox"/> Storm Drain	<input checked="" type="checkbox"/> vertical borings	<input type="checkbox"/> Awnings
	<input type="checkbox"/> Telephone		<input type="checkbox"/> Outdoor Seating Area
	<input type="checkbox"/> Cable TV		<input type="checkbox"/> Bike Racks
			<input type="checkbox"/> Street Furniture

Describe work to be completed: conduct a pre-construction soil assessment invest. along Petaluma Blvd. S (see figure) by drilling/sampling 11 borings

START DATE: Aug 11, 2015 **COMPLETION DATE:** Aug 12, 2015

Project Plans Required: Minimum of 8 1/2 x 11 schematic drawing or full set(s) of plans

Contractor: Edd Clark & Associates, Inc.

Owner: City of Petaluma

Contact Name: John Calomicis

Address: 11 English St.

Address: P.O. Box 3039
Rohnert Park, CA 94927

Petaluma, CA 94952

Phone: 707-792-9500

Phone: 707-778-4421

E-Mail: _____

State License No.: 661915 - A

E-Mail: info@eddiarckandassociates.com

Bond Information:

A security bond shall be submitted with this application. See Below:

- Sidewalk/Driveway - Residential \$5,000
- Sidewalk/Driveway - Commercial/Industrial \$5,000
- Sewer/Water Lateral \$10,000

***NOTE: MINIMUM OF 24-HOUR NOTICE REQUIRED PRIOR TO WORK AND FOR ALL INSPECTION REQUESTS**

CALL 707.778.4303, Option 7

**Permit will not be issued until applicant provides USA ticket number. USA Phone #: 1-800-227-2600

Excavation in Public Right-of-Way Required? Yes No If "yes", U.S.A. Ticket No. ** _____

*Permit will not be issued until applicant provides current insurance certificates and City business license. The undersigned does hereby agree to indemnify and hold the City of Petaluma free and harmless from any liability in accordance with Section 13.04 and 13.12, Petaluma Municipal Code.

City Business License No.: L-0802888 * Current Certificates of Insurance

Signature: [Signature] Owner Owner's Agent **Date:** 7-20-15

Processed By: [Signature] **Date:** 7-20-15 **Date to Inspector:** 7-20-15

Approved for Construction: [Signature] **Date:** 7/22/15

Issued By: [Signature] **Date:** 8/3/15

Final Inspection By: _____ **Date:** _____

Issue Fee #: 146 N/C
Permit Fee: \$ CB

See Next Page for All Conditions Applicable to this Permit

PUBLIC WORKS DEPARTMENT • City of Petaluma, California

ALL CHECKED CONDITIONS SHALL APPLY TO THIS ENCROACHMENT PERMIT:

General:

1. Dumpsters and debris box locations shall be approved by the City of Petaluma.
2. Dumpster/Debris Box must have reflectors. Please call when box is picked up. (707) 778-4592.
3. All work shall be constructed as per the City of Petaluma construction standards and specifications.
4. Contractor shall provide a plan for safe pedestrian passage around the construction site. The plan shall be submitted to the City for review and approval prior to implementation. The plan shall be amended in the field as required by the City to accommodate field conditions.
5. A construction traffic plan shall be approved by the City. Parking may be prohibited. Public parking shall be made available in the evenings (after 5:00 p.m.) and weekends.
6. Contractor shall maintain barricades at all times.
7. Subcontractors must obtain a separate encroachment permit.
8. All disturbed traffic markings shall be replaced.
9. No construction equipment shall be parked on City streets overnight unless specifically approved by the City.
10. Businesses and residents in the immediate area shall receive written notice the proposed work, days of road and sidewalk closure, hours of operation and a contact person for applicable questions. The written notice shall be reviewed and approved by the City prior to distribution, and must be distributed at least 24 hours prior to the start of work.
11. Working hours are 8:00 a.m. to 5:00 p.m. Monday through Friday.
12. Any damaged curb, gutter or sidewalk is to be replaced by property owner.

Excavation:

13. All trenches shall be closed at the end of the work day with steel plates or temporary cut back.
14. Trench backfill shall be per City standards. Contractor shall install permanent paving as required.
15. Contractor shall excavate and expose all existing utilities. Utility elevations shall be verified by the design engineer (or if applicable, by the contractor and observed by a City representative). When crossing a City utility, no pipe bursting or pulling of line work shall be performed until the elevation of City utilities have been verified by a City Representative.
16. All construction and related work shall be coordinated between the contractor, utility representatives, and City representatives.
17. Saw cut along lip of gutter. Do not damage existing pavement. If pavement is damaged, the pavement shall be saw cut and replaced a minimum width of 2 feet or as directed by a Public Works Inspector.
18. Existing roadway has pavement fabric. Saw cut a minimum of 4 inches deep to cut through the fabric. Do not tear fabric during excavation.
19. Contractor shall obtain a grading permit from the City of Petaluma (Community Development Department, Building Division) for any proposed disposal of excess excavated material within the City as required per chapter 17.31, Petaluma Municipal Code.

Sidewalk/Driveway:

20. Saw cut along score lines of the sidewalk.
21. Install driveway approach as per Americans with Disabilities Act (ADA) requirements.
22. Driveway approach and sidewalk shall be replaced as per City standards within two weeks of the start of work. The limits of removal and replacement shall be marked in the field by a Public Works Inspector
23. Pave a minimum of 20 ft. behind driveway approach.
24. Bore under sidewalk or remove and replace sidewalk to install the underground pipe. Tunneling is not permitted unless approved by a Public Works Inspector.
25. Wheel chair ramps shall be in accordance with City standards.
26. Concrete forms and reinforcement must be approved by a City Public Works Inspector prior to concrete pour.
27. Proper construction signage and traffic control during working hours.

The following additional Conditions shall also apply:

Appendix D

Laboratory Analytical Reports



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1508393

Report Created for: Edd Clark & Associates, Inc.

320 Professional Center Ste. 215
Rohnert Park, CA 94928

Project Contact: Christopher Houlihan

Project P.O.:

Project Name: 0778,001.15; Limited Pre-Con Soil Assessment

Project Received: 08/12/2015

Analytical Report reviewed & approved for release on 08/19/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Edd Clark & Associates, Inc.
Project: 0778,001.15; Limited Pre-Con Soil Assessment
WorkOrder: 1508393

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/12/15 18:00
Date Prepared: 8/13/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508393
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3 COMP	1508393-001A	Soil	08/11/2015 09:05	GC10	108899

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	08/15/2015 00:26
tert-Amyl methyl ether (TAME)	ND	0.0050	1	08/15/2015 00:26
Benzene	ND	0.0050	1	08/15/2015 00:26
Bromobenzene	ND	0.0050	1	08/15/2015 00:26
Bromochloromethane	ND	0.0050	1	08/15/2015 00:26
Bromodichloromethane	ND	0.0050	1	08/15/2015 00:26
Bromoform	ND	0.0050	1	08/15/2015 00:26
Bromomethane	ND	0.0050	1	08/15/2015 00:26
2-Butanone (MEK)	ND	0.020	1	08/15/2015 00:26
t-Butyl alcohol (TBA)	ND	0.050	1	08/15/2015 00:26
n-Butyl benzene	ND	0.0050	1	08/15/2015 00:26
sec-Butyl benzene	ND	0.0050	1	08/15/2015 00:26
tert-Butyl benzene	ND	0.0050	1	08/15/2015 00:26
Carbon Disulfide	ND	0.0050	1	08/15/2015 00:26
Carbon Tetrachloride	ND	0.0050	1	08/15/2015 00:26
Chlorobenzene	ND	0.0050	1	08/15/2015 00:26
Chloroethane	ND	0.0050	1	08/15/2015 00:26
Chloroform	ND	0.0050	1	08/15/2015 00:26
Chloromethane	ND	0.0050	1	08/15/2015 00:26
2-Chlorotoluene	ND	0.0050	1	08/15/2015 00:26
4-Chlorotoluene	ND	0.0050	1	08/15/2015 00:26
Dibromochloromethane	ND	0.0050	1	08/15/2015 00:26
1,2-Dibromo-3-chloropropane	ND	0.0040	1	08/15/2015 00:26
1,2-Dibromoethane (EDB)	ND	0.0040	1	08/15/2015 00:26
Dibromomethane	ND	0.0050	1	08/15/2015 00:26
1,2-Dichlorobenzene	ND	0.0050	1	08/15/2015 00:26
1,3-Dichlorobenzene	ND	0.0050	1	08/15/2015 00:26
1,4-Dichlorobenzene	ND	0.0050	1	08/15/2015 00:26
Dichlorodifluoromethane	ND	0.0050	1	08/15/2015 00:26
1,1-Dichloroethane	ND	0.0050	1	08/15/2015 00:26
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	08/15/2015 00:26
1,1-Dichloroethene	ND	0.0050	1	08/15/2015 00:26
cis-1,2-Dichloroethene	ND	0.0050	1	08/15/2015 00:26
trans-1,2-Dichloroethene	ND	0.0050	1	08/15/2015 00:26
1,2-Dichloropropane	ND	0.0050	1	08/15/2015 00:26
1,3-Dichloropropane	ND	0.0050	1	08/15/2015 00:26
2,2-Dichloropropane	ND	0.0050	1	08/15/2015 00:26

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508393
Date Received: 8/12/15 18:00 **Extraction Method:** SW5030B
Date Prepared: 8/13/15 **Analytical Method:** SW8260B
Project: 0778,001.15; Limited Pre-Con Soil Assessment **Unit:** mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3 COMP	1508393-001A	Soil	08/11/2015 09:05	GC10	108899
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	08/15/2015 00:26	
cis-1,3-Dichloropropene	ND	0.0050	1	08/15/2015 00:26	
trans-1,3-Dichloropropene	ND	0.0050	1	08/15/2015 00:26	
Diisopropyl ether (DIPE)	ND	0.0050	1	08/15/2015 00:26	
Ethylbenzene	ND	0.0050	1	08/15/2015 00:26	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	08/15/2015 00:26	
Freon 113	ND	0.0050	1	08/15/2015 00:26	
Hexachlorobutadiene	ND	0.0050	1	08/15/2015 00:26	
Hexachloroethane	ND	0.0050	1	08/15/2015 00:26	
2-Hexanone	ND	0.0050	1	08/15/2015 00:26	
Isopropylbenzene	ND	0.0050	1	08/15/2015 00:26	
4-Isopropyl toluene	ND	0.0050	1	08/15/2015 00:26	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	08/15/2015 00:26	
Methylene chloride	ND	0.0050	1	08/15/2015 00:26	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	08/15/2015 00:26	
Naphthalene	ND	0.0050	1	08/15/2015 00:26	
n-Propyl benzene	ND	0.0050	1	08/15/2015 00:26	
Styrene	ND	0.0050	1	08/15/2015 00:26	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	08/15/2015 00:26	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	08/15/2015 00:26	
Tetrachloroethene	ND	0.0050	1	08/15/2015 00:26	
Toluene	ND	0.0050	1	08/15/2015 00:26	
1,2,3-Trichlorobenzene	ND	0.0050	1	08/15/2015 00:26	
1,2,4-Trichlorobenzene	ND	0.0050	1	08/15/2015 00:26	
1,1,1-Trichloroethane	ND	0.0050	1	08/15/2015 00:26	
1,1,2-Trichloroethane	ND	0.0050	1	08/15/2015 00:26	
Trichloroethene	ND	0.0050	1	08/15/2015 00:26	
Trichlorofluoromethane	ND	0.0050	1	08/15/2015 00:26	
1,2,3-Trichloropropane	ND	0.0050	1	08/15/2015 00:26	
1,2,4-Trimethylbenzene	ND	0.0050	1	08/15/2015 00:26	
1,3,5-Trimethylbenzene	ND	0.0050	1	08/15/2015 00:26	
Vinyl Chloride	ND	0.0050	1	08/15/2015 00:26	
Xylenes, Total	ND	0.0050	1	08/15/2015 00:26	

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508393
Date Received: 8/12/15 18:00 **Extraction Method:** SW5030B
Date Prepared: 8/13/15 **Analytical Method:** SW8260B
Project: 0778,001.15; Limited Pre-Con Soil Assessment **Unit:** mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3 COMP	1508393-001A	Soil	08/11/2015 09:05	GC10	108899

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	113	70-130		08/15/2015 00:26
Toluene-d8	104	70-130		08/15/2015 00:26
4-BFB	118	70-130		08/15/2015 00:26
Benzene-d6	92	60-140		08/15/2015 00:26
Ethylbenzene-d10	106	60-140		08/15/2015 00:26
1,2-DCB-d4	87	60-140		08/15/2015 00:26

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508393
Date Received: 8/12/15 18:00 **Extraction Method:** SW5030B
Date Prepared: 8/13/15 **Analytical Method:** SW8260B
Project: 0778,001.15; Limited Pre-Con Soil Assessment **Unit:** mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4 COMP	1508393-002A	Soil	08/11/2015 10:00	GC10	108899
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	08/15/2015 01:08	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	08/15/2015 01:08	
Benzene	ND	0.0050	1	08/15/2015 01:08	
Bromobenzene	ND	0.0050	1	08/15/2015 01:08	
Bromochloromethane	ND	0.0050	1	08/15/2015 01:08	
Bromodichloromethane	ND	0.0050	1	08/15/2015 01:08	
Bromoform	ND	0.0050	1	08/15/2015 01:08	
Bromomethane	ND	0.0050	1	08/15/2015 01:08	
2-Butanone (MEK)	ND	0.020	1	08/15/2015 01:08	
t-Butyl alcohol (TBA)	ND	0.050	1	08/15/2015 01:08	
n-Butyl benzene	ND	0.0050	1	08/15/2015 01:08	
sec-Butyl benzene	ND	0.0050	1	08/15/2015 01:08	
tert-Butyl benzene	ND	0.0050	1	08/15/2015 01:08	
Carbon Disulfide	ND	0.0050	1	08/15/2015 01:08	
Carbon Tetrachloride	ND	0.0050	1	08/15/2015 01:08	
Chlorobenzene	ND	0.0050	1	08/15/2015 01:08	
Chloroethane	ND	0.0050	1	08/15/2015 01:08	
Chloroform	ND	0.0050	1	08/15/2015 01:08	
Chloromethane	ND	0.0050	1	08/15/2015 01:08	
2-Chlorotoluene	ND	0.0050	1	08/15/2015 01:08	
4-Chlorotoluene	ND	0.0050	1	08/15/2015 01:08	
Dibromochloromethane	ND	0.0050	1	08/15/2015 01:08	
1,2-Dibromo-3-chloropropane	ND	0.0040	1	08/15/2015 01:08	
1,2-Dibromoethane (EDB)	ND	0.0040	1	08/15/2015 01:08	
Dibromomethane	ND	0.0050	1	08/15/2015 01:08	
1,2-Dichlorobenzene	ND	0.0050	1	08/15/2015 01:08	
1,3-Dichlorobenzene	ND	0.0050	1	08/15/2015 01:08	
1,4-Dichlorobenzene	ND	0.0050	1	08/15/2015 01:08	
Dichlorodifluoromethane	ND	0.0050	1	08/15/2015 01:08	
1,1-Dichloroethane	ND	0.0050	1	08/15/2015 01:08	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	08/15/2015 01:08	
1,1-Dichloroethene	ND	0.0050	1	08/15/2015 01:08	
cis-1,2-Dichloroethene	ND	0.0050	1	08/15/2015 01:08	
trans-1,2-Dichloroethene	ND	0.0050	1	08/15/2015 01:08	
1,2-Dichloropropane	ND	0.0050	1	08/15/2015 01:08	
1,3-Dichloropropane	ND	0.0050	1	08/15/2015 01:08	
2,2-Dichloropropane	ND	0.0050	1	08/15/2015 01:08	

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508393
Date Received: 8/12/15 18:00 **Extraction Method:** SW5030B
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Analytes	Result	RL	DF	Date Analyzed	
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cis-1,3-Dichloropropene	ND	0.0050	1	08/15/2015 01:08	
trans-1,3-Dichloropropene	ND	0.0050	1	08/15/2015 01:08	
Diisopropyl ether (DIPE)	ND	0.0050	1	08/15/2015 01:08	
Ethylbenzene	ND	0.0050	1	08/15/2015 01:08	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	08/15/2015 01:08	
Freon 113	ND	0.0050	1	08/15/2015 01:08	
Hexachlorobutadiene	ND	0.0050	1	08/15/2015 01:08	
Hexachloroethane	ND	0.0050	1	08/15/2015 01:08	
2-Hexanone	ND	0.0050	1	08/15/2015 01:08	
Isopropylbenzene	ND	0.0050	1	08/15/2015 01:08	
4-Isopropyl toluene	ND	0.0050	1	08/15/2015 01:08	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	08/15/2015 01:08	
Methylene chloride	ND	0.0050	1	08/15/2015 01:08	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	08/15/2015 01:08	
Naphthalene	ND	0.0050	1	08/15/2015 01:08	
n-Propyl benzene	ND	0.0050	1	08/15/2015 01:08	
Styrene	ND	0.0050	1	08/15/2015 01:08	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	08/15/2015 01:08	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	08/15/2015 01:08	
Tetrachloroethene	ND	0.0050	1	08/15/2015 01:08	
Toluene	ND	0.0050	1	08/15/2015 01:08	
1,2,3-Trichlorobenzene	ND	0.0050	1	08/15/2015 01:08	
1,2,4-Trichlorobenzene	ND	0.0050	1	08/15/2015 01:08	
1,1,1-Trichloroethane	ND	0.0050	1	08/15/2015 01:08	
1,1,2-Trichloroethane	ND	0.0050	1	08/15/2015 01:08	
Trichloroethene	ND	0.0050	1	08/15/2015 01:08	
Trichlorofluoromethane	ND	0.0050	1	08/15/2015 01:08	
1,2,3-Trichloropropane	ND	0.0050	1	08/15/2015 01:08	
1,2,4-Trimethylbenzene	ND	0.0050	1	08/15/2015 01:08	
1,3,5-Trimethylbenzene	ND	0.0050	1	08/15/2015 01:08	
Vinyl Chloride	ND	0.0050	1	08/15/2015 01:08	
Xylenes, Total	ND	0.0050	1	08/15/2015 01:08	

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508393
Date Received: 8/12/15 18:00 **Extraction Method:** SW5030B
Date Prepared: 8/13/15 **Analytical Method:** SW8260B
Project: 0778,001.15; Limited Pre-Con Soil Assessment **Unit:** mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4 COMP	1508393-002A	Soil	08/11/2015 10:00	GC10	108899

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	113	70-130		08/15/2015 01:08
Toluene-d8	103	70-130		08/15/2015 01:08
4-BFB	118	70-130		08/15/2015 01:08
Benzene-d6	92	60-140		08/15/2015 01:08
Ethylbenzene-d10	106	60-140		08/15/2015 01:08
1,2-DCB-d4	88	60-140		08/15/2015 01:08

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/12/15 18:00
Date Prepared: 8/13/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508393
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5 COMP	1508393-003A	Soil	08/11/2015 10:44	GC10	108899

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	08/15/2015 01:49
tert-Amyl methyl ether (TAME)	ND	0.0050	1	08/15/2015 01:49
Benzene	ND	0.0050	1	08/15/2015 01:49
Bromobenzene	ND	0.0050	1	08/15/2015 01:49
Bromochloromethane	ND	0.0050	1	08/15/2015 01:49
Bromodichloromethane	ND	0.0050	1	08/15/2015 01:49
Bromoform	ND	0.0050	1	08/15/2015 01:49
Bromomethane	ND	0.0050	1	08/15/2015 01:49
2-Butanone (MEK)	ND	0.020	1	08/15/2015 01:49
t-Butyl alcohol (TBA)	ND	0.050	1	08/15/2015 01:49
n-Butyl benzene	ND	0.0050	1	08/15/2015 01:49
sec-Butyl benzene	ND	0.0050	1	08/15/2015 01:49
tert-Butyl benzene	ND	0.0050	1	08/15/2015 01:49
Carbon Disulfide	ND	0.0050	1	08/15/2015 01:49
Carbon Tetrachloride	ND	0.0050	1	08/15/2015 01:49
Chlorobenzene	ND	0.0050	1	08/15/2015 01:49
Chloroethane	ND	0.0050	1	08/15/2015 01:49
Chloroform	ND	0.0050	1	08/15/2015 01:49
Chloromethane	ND	0.0050	1	08/15/2015 01:49
2-Chlorotoluene	ND	0.0050	1	08/15/2015 01:49
4-Chlorotoluene	ND	0.0050	1	08/15/2015 01:49
Dibromochloromethane	ND	0.0050	1	08/15/2015 01:49
1,2-Dibromo-3-chloropropane	ND	0.0040	1	08/15/2015 01:49
1,2-Dibromoethane (EDB)	ND	0.0040	1	08/15/2015 01:49
Dibromomethane	ND	0.0050	1	08/15/2015 01:49
1,2-Dichlorobenzene	ND	0.0050	1	08/15/2015 01:49
1,3-Dichlorobenzene	ND	0.0050	1	08/15/2015 01:49
1,4-Dichlorobenzene	ND	0.0050	1	08/15/2015 01:49
Dichlorodifluoromethane	ND	0.0050	1	08/15/2015 01:49
1,1-Dichloroethane	ND	0.0050	1	08/15/2015 01:49
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	08/15/2015 01:49
1,1-Dichloroethene	ND	0.0050	1	08/15/2015 01:49
cis-1,2-Dichloroethene	ND	0.0050	1	08/15/2015 01:49
trans-1,2-Dichloroethene	ND	0.0050	1	08/15/2015 01:49
1,2-Dichloropropane	ND	0.0050	1	08/15/2015 01:49
1,3-Dichloropropane	ND	0.0050	1	08/15/2015 01:49
2,2-Dichloropropane	ND	0.0050	1	08/15/2015 01:49

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Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/12/15 18:00
Date Prepared: 8/13/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508393
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5 COMP	1508393-003A	Soil	08/11/2015 10:44	GC10	108899

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	08/15/2015 01:49
cis-1,3-Dichloropropene	ND	0.0050	1	08/15/2015 01:49
trans-1,3-Dichloropropene	ND	0.0050	1	08/15/2015 01:49
Diisopropyl ether (DIPE)	ND	0.0050	1	08/15/2015 01:49
Ethylbenzene	ND	0.0050	1	08/15/2015 01:49
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	08/15/2015 01:49
Freon 113	ND	0.0050	1	08/15/2015 01:49
Hexachlorobutadiene	ND	0.0050	1	08/15/2015 01:49
Hexachloroethane	ND	0.0050	1	08/15/2015 01:49
2-Hexanone	ND	0.0050	1	08/15/2015 01:49
Isopropylbenzene	ND	0.0050	1	08/15/2015 01:49
4-Isopropyl toluene	ND	0.0050	1	08/15/2015 01:49
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	08/15/2015 01:49
Methylene chloride	ND	0.0050	1	08/15/2015 01:49
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	08/15/2015 01:49
Naphthalene	ND	0.0050	1	08/15/2015 01:49
n-Propyl benzene	ND	0.0050	1	08/15/2015 01:49
Styrene	ND	0.0050	1	08/15/2015 01:49
1,1,1,2-Tetrachloroethane	ND	0.0050	1	08/15/2015 01:49
1,1,2,2-Tetrachloroethane	ND	0.0050	1	08/15/2015 01:49
Tetrachloroethene	ND	0.0050	1	08/15/2015 01:49
Toluene	ND	0.0050	1	08/15/2015 01:49
1,2,3-Trichlorobenzene	ND	0.0050	1	08/15/2015 01:49
1,2,4-Trichlorobenzene	ND	0.0050	1	08/15/2015 01:49
1,1,1-Trichloroethane	ND	0.0050	1	08/15/2015 01:49
1,1,2-Trichloroethane	ND	0.0050	1	08/15/2015 01:49
Trichloroethene	ND	0.0050	1	08/15/2015 01:49
Trichlorofluoromethane	ND	0.0050	1	08/15/2015 01:49
1,2,3-Trichloropropane	ND	0.0050	1	08/15/2015 01:49
1,2,4-Trimethylbenzene	ND	0.0050	1	08/15/2015 01:49
1,3,5-Trimethylbenzene	ND	0.0050	1	08/15/2015 01:49
Vinyl Chloride	ND	0.0050	1	08/15/2015 01:49
Xylenes, Total	ND	0.0050	1	08/15/2015 01:49

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Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/12/15 18:00
Date Prepared: 8/13/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508393
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5 COMP	1508393-003A	Soil	08/11/2015 10:44	GC10	108899

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	113	70-130		08/15/2015 01:49
Toluene-d8	101	70-130		08/15/2015 01:49
4-BFB	109	70-130		08/15/2015 01:49
Benzene-d6	90	60-140		08/15/2015 01:49
Ethylbenzene-d10	105	60-140		08/15/2015 01:49
1,2-DCB-d4	86	60-140		08/15/2015 01:49

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/12/15 18:00
Date Prepared: 8/13/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508393
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6 COMP	1508393-004A	Soil	08/11/2015 11:58	GC16	108899

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	08/15/2015 05:23
tert-Amyl methyl ether (TAME)	ND	0.0050	1	08/15/2015 05:23
Benzene	ND	0.0050	1	08/15/2015 05:23
Bromobenzene	ND	0.0050	1	08/15/2015 05:23
Bromochloromethane	ND	0.0050	1	08/15/2015 05:23
Bromodichloromethane	ND	0.0050	1	08/15/2015 05:23
Bromoform	ND	0.0050	1	08/15/2015 05:23
Bromomethane	ND	0.0050	1	08/15/2015 05:23
2-Butanone (MEK)	ND	0.020	1	08/15/2015 05:23
t-Butyl alcohol (TBA)	ND	0.050	1	08/15/2015 05:23
n-Butyl benzene	ND	0.0050	1	08/15/2015 05:23
sec-Butyl benzene	ND	0.0050	1	08/15/2015 05:23
tert-Butyl benzene	ND	0.0050	1	08/15/2015 05:23
Carbon Disulfide	ND	0.0050	1	08/15/2015 05:23
Carbon Tetrachloride	ND	0.0050	1	08/15/2015 05:23
Chlorobenzene	ND	0.0050	1	08/15/2015 05:23
Chloroethane	ND	0.0050	1	08/15/2015 05:23
Chloroform	ND	0.0050	1	08/15/2015 05:23
Chloromethane	ND	0.0050	1	08/15/2015 05:23
2-Chlorotoluene	ND	0.0050	1	08/15/2015 05:23
4-Chlorotoluene	ND	0.0050	1	08/15/2015 05:23
Dibromochloromethane	ND	0.0050	1	08/15/2015 05:23
1,2-Dibromo-3-chloropropane	ND	0.0040	1	08/15/2015 05:23
1,2-Dibromoethane (EDB)	ND	0.0040	1	08/15/2015 05:23
Dibromomethane	ND	0.0050	1	08/15/2015 05:23
1,2-Dichlorobenzene	ND	0.0050	1	08/15/2015 05:23
1,3-Dichlorobenzene	ND	0.0050	1	08/15/2015 05:23
1,4-Dichlorobenzene	ND	0.0050	1	08/15/2015 05:23
Dichlorodifluoromethane	ND	0.0050	1	08/15/2015 05:23
1,1-Dichloroethane	ND	0.0050	1	08/15/2015 05:23
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	08/15/2015 05:23
1,1-Dichloroethene	ND	0.0050	1	08/15/2015 05:23
cis-1,2-Dichloroethene	ND	0.0050	1	08/15/2015 05:23
trans-1,2-Dichloroethene	ND	0.0050	1	08/15/2015 05:23
1,2-Dichloropropane	ND	0.0050	1	08/15/2015 05:23
1,3-Dichloropropane	ND	0.0050	1	08/15/2015 05:23
2,2-Dichloropropane	ND	0.0050	1	08/15/2015 05:23

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Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/12/15 18:00
Date Prepared: 8/13/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508393
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6 COMP	1508393-004A	Soil	08/11/2015 11:58	GC16	108899
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	08/15/2015 05:23	
cis-1,3-Dichloropropene	ND	0.0050	1	08/15/2015 05:23	
trans-1,3-Dichloropropene	ND	0.0050	1	08/15/2015 05:23	
Diisopropyl ether (DIPE)	ND	0.0050	1	08/15/2015 05:23	
Ethylbenzene	ND	0.0050	1	08/15/2015 05:23	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	08/15/2015 05:23	
Freon 113	ND	0.0050	1	08/15/2015 05:23	
Hexachlorobutadiene	ND	0.0050	1	08/15/2015 05:23	
Hexachloroethane	ND	0.0050	1	08/15/2015 05:23	
2-Hexanone	ND	0.0050	1	08/15/2015 05:23	
Isopropylbenzene	ND	0.0050	1	08/15/2015 05:23	
4-Isopropyl toluene	ND	0.0050	1	08/15/2015 05:23	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	08/15/2015 05:23	
Methylene chloride	ND	0.0050	1	08/15/2015 05:23	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	08/15/2015 05:23	
Naphthalene	ND	0.0050	1	08/15/2015 05:23	
n-Propyl benzene	ND	0.0050	1	08/15/2015 05:23	
Styrene	ND	0.0050	1	08/15/2015 05:23	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	08/15/2015 05:23	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	08/15/2015 05:23	
Tetrachloroethene	ND	0.0050	1	08/15/2015 05:23	
Toluene	ND	0.0050	1	08/15/2015 05:23	
1,2,3-Trichlorobenzene	ND	0.0050	1	08/15/2015 05:23	
1,2,4-Trichlorobenzene	ND	0.0050	1	08/15/2015 05:23	
1,1,1-Trichloroethane	ND	0.0050	1	08/15/2015 05:23	
1,1,2-Trichloroethane	ND	0.0050	1	08/15/2015 05:23	
Trichloroethene	ND	0.0050	1	08/15/2015 05:23	
Trichlorofluoromethane	ND	0.0050	1	08/15/2015 05:23	
1,2,3-Trichloropropane	ND	0.0050	1	08/15/2015 05:23	
1,2,4-Trimethylbenzene	ND	0.0050	1	08/15/2015 05:23	
1,3,5-Trimethylbenzene	ND	0.0050	1	08/15/2015 05:23	
Vinyl Chloride	ND	0.0050	1	08/15/2015 05:23	
Xylenes, Total	ND	0.0050	1	08/15/2015 05:23	

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Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508393
Date Received: 8/12/15 18:00 **Extraction Method:** SW5030B
Date Prepared: 8/13/15 **Analytical Method:** SW8260B
Project: 0778,001.15; Limited Pre-Con Soil Assessment **Unit:** mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6 COMP	1508393-004A	Soil	08/11/2015 11:58	GC16	108899

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	101	70-130		08/15/2015 05:23
Toluene-d8	108	70-130		08/15/2015 05:23
4-BFB	88	70-130		08/15/2015 05:23
Benzene-d6	87	60-140		08/15/2015 05:23
Ethylbenzene-d10	93	60-140		08/15/2015 05:23
1,2-DCB-d4	71	60-140		08/15/2015 05:23

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/12/15 18:00
Date Prepared: 8/13/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508393
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-7 COMP	1508393-005A	Soil	08/11/2015 13:35	GC18	108899

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	08/18/2015 13:25
tert-Amyl methyl ether (TAME)	ND	0.0050	1	08/18/2015 13:25
Benzene	ND	0.0050	1	08/18/2015 13:25
Bromobenzene	ND	0.0050	1	08/18/2015 13:25
Bromochloromethane	ND	0.0050	1	08/18/2015 13:25
Bromodichloromethane	ND	0.0050	1	08/18/2015 13:25
Bromoform	ND	0.0050	1	08/18/2015 13:25
Bromomethane	ND	0.0050	1	08/18/2015 13:25
2-Butanone (MEK)	ND	0.020	1	08/18/2015 13:25
t-Butyl alcohol (TBA)	ND	0.050	1	08/18/2015 13:25
n-Butyl benzene	ND	0.0050	1	08/18/2015 13:25
sec-Butyl benzene	ND	0.0050	1	08/18/2015 13:25
tert-Butyl benzene	ND	0.0050	1	08/18/2015 13:25
Carbon Disulfide	ND	0.0050	1	08/18/2015 13:25
Carbon Tetrachloride	ND	0.0050	1	08/18/2015 13:25
Chlorobenzene	ND	0.0050	1	08/18/2015 13:25
Chloroethane	ND	0.0050	1	08/18/2015 13:25
Chloroform	ND	0.0050	1	08/18/2015 13:25
Chloromethane	ND	0.0050	1	08/18/2015 13:25
2-Chlorotoluene	ND	0.0050	1	08/18/2015 13:25
4-Chlorotoluene	ND	0.0050	1	08/18/2015 13:25
Dibromochloromethane	ND	0.0050	1	08/18/2015 13:25
1,2-Dibromo-3-chloropropane	ND	0.0040	1	08/18/2015 13:25
1,2-Dibromoethane (EDB)	ND	0.0040	1	08/18/2015 13:25
Dibromomethane	ND	0.0050	1	08/18/2015 13:25
1,2-Dichlorobenzene	ND	0.0050	1	08/18/2015 13:25
1,3-Dichlorobenzene	ND	0.0050	1	08/18/2015 13:25
1,4-Dichlorobenzene	ND	0.0050	1	08/18/2015 13:25
Dichlorodifluoromethane	ND	0.0050	1	08/18/2015 13:25
1,1-Dichloroethane	ND	0.0050	1	08/18/2015 13:25
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	08/18/2015 13:25
1,1-Dichloroethene	ND	0.0050	1	08/18/2015 13:25
cis-1,2-Dichloroethene	ND	0.0050	1	08/18/2015 13:25
trans-1,2-Dichloroethene	ND	0.0050	1	08/18/2015 13:25
1,2-Dichloropropane	ND	0.0050	1	08/18/2015 13:25
1,3-Dichloropropane	ND	0.0050	1	08/18/2015 13:25
2,2-Dichloropropane	ND	0.0050	1	08/18/2015 13:25

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Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508393
Date Received: 8/12/15 18:00 **Extraction Method:** SW5030B
Date Prepared: 8/13/15 **Analytical Method:** SW8260B
Project: 0778,001.15; Limited Pre-Con Soil Assessment **Unit:** mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-7 COMP	1508393-005A	Soil	08/11/2015 13:35	GC18	108899
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	08/18/2015 13:25	
cis-1,3-Dichloropropene	ND	0.0050	1	08/18/2015 13:25	
trans-1,3-Dichloropropene	ND	0.0050	1	08/18/2015 13:25	
Diisopropyl ether (DIPE)	ND	0.0050	1	08/18/2015 13:25	
Ethylbenzene	ND	0.0050	1	08/18/2015 13:25	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	08/18/2015 13:25	
Freon 113	ND	0.0050	1	08/18/2015 13:25	
Hexachlorobutadiene	ND	0.0050	1	08/18/2015 13:25	
Hexachloroethane	ND	0.0050	1	08/18/2015 13:25	
2-Hexanone	ND	0.0050	1	08/18/2015 13:25	
Isopropylbenzene	ND	0.0050	1	08/18/2015 13:25	
4-Isopropyl toluene	ND	0.0050	1	08/18/2015 13:25	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	08/18/2015 13:25	
Methylene chloride	ND	0.0050	1	08/18/2015 13:25	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	08/18/2015 13:25	
Naphthalene	ND	0.0050	1	08/18/2015 13:25	
n-Propyl benzene	ND	0.0050	1	08/18/2015 13:25	
Styrene	ND	0.0050	1	08/18/2015 13:25	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	08/18/2015 13:25	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	08/18/2015 13:25	
Tetrachloroethene	ND	0.0050	1	08/18/2015 13:25	
Toluene	ND	0.0050	1	08/18/2015 13:25	
1,2,3-Trichlorobenzene	ND	0.0050	1	08/18/2015 13:25	
1,2,4-Trichlorobenzene	ND	0.0050	1	08/18/2015 13:25	
1,1,1-Trichloroethane	ND	0.0050	1	08/18/2015 13:25	
1,1,2-Trichloroethane	ND	0.0050	1	08/18/2015 13:25	
Trichloroethene	ND	0.0050	1	08/18/2015 13:25	
Trichlorofluoromethane	ND	0.0050	1	08/18/2015 13:25	
1,2,3-Trichloropropane	ND	0.0050	1	08/18/2015 13:25	
1,2,4-Trimethylbenzene	ND	0.0050	1	08/18/2015 13:25	
1,3,5-Trimethylbenzene	ND	0.0050	1	08/18/2015 13:25	
Vinyl Chloride	ND	0.0050	1	08/18/2015 13:25	
Xylenes, Total	ND	0.0050	1	08/18/2015 13:25	

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Analytical Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 1508393
Date Received: 8/12/15 18:00	Extraction Method: SW5030B
Date Prepared: 8/13/15	Analytical Method: SW8260B
Project: 0778,001.15; Limited Pre-Con Soil Assessment	Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-7 COMP	1508393-005A	Soil	08/11/2015 13:35	GC18	108899

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	119	70-130		08/18/2015 13:25
Toluene-d8	115	70-130		08/18/2015 13:25
4-BFB	120	70-130		08/18/2015 13:25
Benzene-d6	110	60-140		08/18/2015 13:25
Ethylbenzene-d10	115	60-140		08/18/2015 13:25
1,2-DCB-d4	90	60-140		08/18/2015 13:25

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/12/15 18:00
Date Prepared: 8/13/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508393
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-8 COMP	1508393-006A	Soil	08/11/2015 14:06	GC10	108899

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	08/14/2015 12:50
tert-Amyl methyl ether (TAME)	ND	0.0050	1	08/14/2015 12:50
Benzene	ND	0.0050	1	08/14/2015 12:50
Bromobenzene	ND	0.0050	1	08/14/2015 12:50
Bromochloromethane	ND	0.0050	1	08/14/2015 12:50
Bromodichloromethane	ND	0.0050	1	08/14/2015 12:50
Bromoform	ND	0.0050	1	08/14/2015 12:50
Bromomethane	ND	0.0050	1	08/14/2015 12:50
2-Butanone (MEK)	ND	0.020	1	08/14/2015 12:50
t-Butyl alcohol (TBA)	ND	0.050	1	08/14/2015 12:50
n-Butyl benzene	ND	0.0050	1	08/14/2015 12:50
sec-Butyl benzene	ND	0.0050	1	08/14/2015 12:50
tert-Butyl benzene	ND	0.0050	1	08/14/2015 12:50
Carbon Disulfide	ND	0.0050	1	08/14/2015 12:50
Carbon Tetrachloride	ND	0.0050	1	08/14/2015 12:50
Chlorobenzene	ND	0.0050	1	08/14/2015 12:50
Chloroethane	ND	0.0050	1	08/14/2015 12:50
Chloroform	ND	0.0050	1	08/14/2015 12:50
Chloromethane	ND	0.0050	1	08/14/2015 12:50
2-Chlorotoluene	ND	0.0050	1	08/14/2015 12:50
4-Chlorotoluene	ND	0.0050	1	08/14/2015 12:50
Dibromochloromethane	ND	0.0050	1	08/14/2015 12:50
1,2-Dibromo-3-chloropropane	ND	0.0040	1	08/14/2015 12:50
1,2-Dibromoethane (EDB)	ND	0.0040	1	08/14/2015 12:50
Dibromomethane	ND	0.0050	1	08/14/2015 12:50
1,2-Dichlorobenzene	ND	0.0050	1	08/14/2015 12:50
1,3-Dichlorobenzene	ND	0.0050	1	08/14/2015 12:50
1,4-Dichlorobenzene	ND	0.0050	1	08/14/2015 12:50
Dichlorodifluoromethane	ND	0.0050	1	08/14/2015 12:50
1,1-Dichloroethane	ND	0.0050	1	08/14/2015 12:50
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	08/14/2015 12:50
1,1-Dichloroethene	ND	0.0050	1	08/14/2015 12:50
cis-1,2-Dichloroethene	ND	0.0050	1	08/14/2015 12:50
trans-1,2-Dichloroethene	ND	0.0050	1	08/14/2015 12:50
1,2-Dichloropropane	ND	0.0050	1	08/14/2015 12:50
1,3-Dichloropropane	ND	0.0050	1	08/14/2015 12:50
2,2-Dichloropropane	ND	0.0050	1	08/14/2015 12:50

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Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/12/15 18:00
Date Prepared: 8/13/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508393
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-8 COMP	1508393-006A	Soil	08/11/2015 14:06	GC10	108899
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	08/14/2015 12:50	
cis-1,3-Dichloropropene	ND	0.0050	1	08/14/2015 12:50	
trans-1,3-Dichloropropene	ND	0.0050	1	08/14/2015 12:50	
Diisopropyl ether (DIPE)	ND	0.0050	1	08/14/2015 12:50	
Ethylbenzene	ND	0.0050	1	08/14/2015 12:50	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	08/14/2015 12:50	
Freon 113	ND	0.0050	1	08/14/2015 12:50	
Hexachlorobutadiene	ND	0.0050	1	08/14/2015 12:50	
Hexachloroethane	ND	0.0050	1	08/14/2015 12:50	
2-Hexanone	ND	0.0050	1	08/14/2015 12:50	
Isopropylbenzene	ND	0.0050	1	08/14/2015 12:50	
4-Isopropyl toluene	ND	0.0050	1	08/14/2015 12:50	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	08/14/2015 12:50	
Methylene chloride	ND	0.0050	1	08/14/2015 12:50	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	08/14/2015 12:50	
Naphthalene	ND	0.0050	1	08/14/2015 12:50	
n-Propyl benzene	ND	0.0050	1	08/14/2015 12:50	
Styrene	ND	0.0050	1	08/14/2015 12:50	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	08/14/2015 12:50	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	08/14/2015 12:50	
Tetrachloroethene	ND	0.0050	1	08/14/2015 12:50	
Toluene	ND	0.0050	1	08/14/2015 12:50	
1,2,3-Trichlorobenzene	ND	0.0050	1	08/14/2015 12:50	
1,2,4-Trichlorobenzene	ND	0.0050	1	08/14/2015 12:50	
1,1,1-Trichloroethane	ND	0.0050	1	08/14/2015 12:50	
1,1,2-Trichloroethane	ND	0.0050	1	08/14/2015 12:50	
Trichloroethene	ND	0.0050	1	08/14/2015 12:50	
Trichlorofluoromethane	ND	0.0050	1	08/14/2015 12:50	
1,2,3-Trichloropropane	ND	0.0050	1	08/14/2015 12:50	
1,2,4-Trimethylbenzene	ND	0.0050	1	08/14/2015 12:50	
1,3,5-Trimethylbenzene	ND	0.0050	1	08/14/2015 12:50	
Vinyl Chloride	ND	0.0050	1	08/14/2015 12:50	
Xylenes, Total	ND	0.0050	1	08/14/2015 12:50	

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Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508393
Date Received: 8/12/15 18:00 **Extraction Method:** SW5030B
Date Prepared: 8/13/15 **Analytical Method:** SW8260B
Project: 0778,001.15; Limited Pre-Con Soil Assessment **Unit:** mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-8 COMP	1508393-006A	Soil	08/11/2015 14:06	GC10	108899

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	114	70-130		08/14/2015 12:50
Toluene-d8	99	70-130		08/14/2015 12:50
4-BFB	115	70-130		08/14/2015 12:50
Benzene-d6	90	60-140		08/14/2015 12:50
Ethylbenzene-d10	100	60-140		08/14/2015 12:50
1,2-DCB-d4	79	60-140		08/14/2015 12:50

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508393
Date Received: 8/12/15 18:00 **Extraction Method:** SW5030B
Date Prepared: 8/13/15 **Analytical Method:** SW8021B/8015Bm
Project: 0778,001.15; Limited Pre-Con Soil Assessment **Unit:** mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3 COMP	1508393-001A	Soil	08/11/2015 09:05	GC7	108898

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	08/15/2015 00:41
MTBE	---	0.050	1	08/15/2015 00:41
Benzene	---	0.0050	1	08/15/2015 00:41
Toluene	---	0.0050	1	08/15/2015 00:41
Ethylbenzene	---	0.0050	1	08/15/2015 00:41
Xylenes	---	0.0050	1	08/15/2015 00:41
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	107	70-130		08/15/2015 00:41

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4 COMP	1508393-002A	Soil	08/11/2015 10:00	GC7	108898

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	08/15/2015 02:11
MTBE	---	0.050	1	08/15/2015 02:11
Benzene	---	0.0050	1	08/15/2015 02:11
Toluene	---	0.0050	1	08/15/2015 02:11
Ethylbenzene	---	0.0050	1	08/15/2015 02:11
Xylenes	---	0.0050	1	08/15/2015 02:11
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	101	70-130		08/15/2015 02:11

Analyst(s): IA

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508393
Date Received: 8/12/15 18:00 **Extraction Method:** SW5030B
Date Prepared: 8/13/15 **Analytical Method:** SW8021B/8015Bm
Project: 0778,001.15; Limited Pre-Con Soil Assessment **Unit:** mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5 COMP	1508393-003A	Soil	08/11/2015 10:44	GC7	108898

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	08/15/2015 06:09
MTBE	---	0.050	1	08/15/2015 06:09
Benzene	---	0.0050	1	08/15/2015 06:09
Toluene	---	0.0050	1	08/15/2015 06:09
Ethylbenzene	---	0.0050	1	08/15/2015 06:09
Xylenes	---	0.0050	1	08/15/2015 06:09
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	107	70-130		08/15/2015 06:09

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6 COMP	1508393-004A	Soil	08/11/2015 11:58	GC7	108898

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	08/15/2015 05:40
MTBE	---	0.050	1	08/15/2015 05:40
Benzene	---	0.0050	1	08/15/2015 05:40
Toluene	---	0.0050	1	08/15/2015 05:40
Ethylbenzene	---	0.0050	1	08/15/2015 05:40
Xylenes	---	0.0050	1	08/15/2015 05:40
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	105	70-130		08/15/2015 05:40

Analyst(s): IA

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508393
Date Received: 8/12/15 18:00 **Extraction Method:** SW5030B
Date Prepared: 8/13/15 **Analytical Method:** SW8021B/8015Bm
Project: 0778,001.15; Limited Pre-Con Soil Assessment **Unit:** mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-7 COMP	1508393-005A	Soil	08/11/2015 13:35	GC7	108898

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	08/15/2015 04:10
MTBE	---	0.050	1	08/15/2015 04:10
Benzene	---	0.0050	1	08/15/2015 04:10
Toluene	---	0.0050	1	08/15/2015 04:10
Ethylbenzene	---	0.0050	1	08/15/2015 04:10
Xylenes	---	0.0050	1	08/15/2015 04:10
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	105	70-130		08/15/2015 04:10

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-8 COMP	1508393-006A	Soil	08/11/2015 14:06	GC7	108898

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	08/15/2015 04:40
MTBE	---	0.050	1	08/15/2015 04:40
Benzene	---	0.0050	1	08/15/2015 04:40
Toluene	---	0.0050	1	08/15/2015 04:40
Ethylbenzene	---	0.0050	1	08/15/2015 04:40
Xylenes	---	0.0050	1	08/15/2015 04:40
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	104	70-130		08/15/2015 04:40

Analyst(s): IA



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/12/15 18:00
Date Prepared: 8/13/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508393
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3 COMP	1508393-001A	Soil	08/11/2015 09:05	ICP-MS1	108846

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	08/15/2015 02:19
Chromium	56	0.50	1	08/15/2015 02:19
Lead	6.1	0.50	1	08/15/2015 02:19
Nickel	76	0.50	1	08/15/2015 02:19
Zinc	31	5.0	1	08/15/2015 02:19

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	105	70-130	08/15/2015 02:19

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4 COMP	1508393-002A	Soil	08/11/2015 10:00	ICP-MS1	108846

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	08/15/2015 02:25
Chromium	69	0.50	1	08/15/2015 02:25
Lead	10	0.50	1	08/15/2015 02:25
Nickel	69	0.50	1	08/15/2015 02:25
Zinc	34	5.0	1	08/15/2015 02:25

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	104	70-130	08/15/2015 02:25

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5 COMP	1508393-003A	Soil	08/11/2015 10:44	ICP-MS1	108846

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	08/15/2015 02:31
Chromium	52	0.50	1	08/15/2015 02:31
Lead	5.5	0.50	1	08/15/2015 02:31
Nickel	61	0.50	1	08/15/2015 02:31
Zinc	27	5.0	1	08/15/2015 02:31

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	101	70-130	08/15/2015 02:31

Analyst(s): DB

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508393
Date Received: 8/12/15 18:00 **Extraction Method:** SW3050B
Date Prepared: 8/13/15 **Analytical Method:** SW6020
Project: 0778,001.15; Limited Pre-Con Soil Assessment **Unit:** mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6 COMP	1508393-004A	Soil	08/11/2015 11:58	ICP-MS1	108846

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	08/15/2015 02:50
Chromium	68	0.50	1	08/15/2015 02:50
Lead	5.6	0.50	1	08/15/2015 02:50
Nickel	100	0.50	1	08/15/2015 02:50
Zinc	36	5.0	1	08/15/2015 02:50

Surrogates	REC (%)	Limits
Terbium	103	70-130

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-7 COMP	1508393-005A	Soil	08/11/2015 13:35	ICP-MS1	108846

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	08/15/2015 02:56
Chromium	71	0.50	1	08/15/2015 02:56
Lead	4.5	0.50	1	08/15/2015 02:56
Nickel	85	0.50	1	08/15/2015 02:56
Zinc	33	5.0	1	08/15/2015 02:56

Surrogates	REC (%)	Limits
Terbium	104	70-130

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-8 COMP	1508393-006A	Soil	08/11/2015 14:06	ICP-MS1	108846

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	08/15/2015 03:02
Chromium	68	0.50	1	08/15/2015 03:02
Lead	6.3	0.50	1	08/15/2015 03:02
Nickel	51	0.50	1	08/15/2015 03:02
Zinc	31	5.0	1	08/15/2015 03:02

Surrogates	REC (%)	Limits
Terbium	104	70-130

Analyst(s): DB



Analytical Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 1508393
Date Received: 8/12/15 18:00	Extraction Method: SW3550B/3630C
Date Prepared: 8/13/15-8/14/15	Analytical Method: SW8015B
Project: 0778,001.15; Limited Pre-Con Soil Assessment	Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3 COMP	1508393-001A	Soil	08/11/2015 09:05	GC9a	108896

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	08/14/2015 16:11
TPH-Motor Oil (C18-C36)	ND	5.0	1	08/14/2015 16:11
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
C9	93	70-130		08/14/2015 16:11

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4 COMP	1508393-002A	Soil	08/11/2015 10:00	GC9a	108896

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	08/14/2015 17:23
TPH-Motor Oil (C18-C36)	ND	5.0	1	08/14/2015 17:23
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
C9	102	70-130		08/14/2015 17:23

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5 COMP	1508393-003A	Soil	08/11/2015 10:44	GC9a	108896

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	08/14/2015 18:34
TPH-Motor Oil (C18-C36)	ND	5.0	1	08/14/2015 18:34
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
C9	103	70-130		08/14/2015 18:34

Analyst(s): TK

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/12/15 18:00
Date Prepared: 8/13/15-8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508393
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6 COMP	1508393-004A	Soil	08/11/2015 11:58	GC9b	108896

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	08/14/2015 19:46
TPH-Motor Oil (C18-C36)	ND	5.0	1	08/14/2015 19:46

Surrogates	REC (%)	Limits	
C9	104	70-130	08/14/2015 19:46

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-7 COMP	1508393-005A	Soil	08/11/2015 13:35	GC11A	108896

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	08/18/2015 20:54
TPH-Motor Oil (C18-C36)	ND	5.0	1	08/18/2015 20:54

Surrogates	REC (%)	Limits	
C9	102	70-130	08/18/2015 20:54

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-8 COMP	1508393-006A	Soil	08/11/2015 14:06	GC2A	108934

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	2.3	1.0	1	08/17/2015 12:06
TPH-Motor Oil (C18-C36)	15	5.0	1	08/17/2015 12:06

Surrogates	REC (%)	Limits	
C9	94	70-130	08/17/2015 12:06

Analyst(s): TK

Analytical Comments: e7,e2



Quality Control Report

Client:	Edd Clark & Associates, Inc.	WorkOrder:	1508393
Date Prepared:	8/13/15	BatchID:	108899
Date Analyzed:	8/13/15	Extraction Method:	SW5030B
Instrument:	GC10	Analytical Method:	SW8260B
Matrix:	Soil	Unit:	mg/Kg
Project:	0778,001.15; Limited Pre-Con Soil Assessment	Sample ID:	MB/LCS-108899 1508393-006AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0390	0.0050	0.050	-	78	53-116
Benzene	ND	0.0453	0.0050	0.050	-	91	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.177	0.050	0.20	-	89	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0463	0.0050	0.050	-	93	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0432	0.0040	0.050	-	86	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0433	0.0040	0.050	-	87	58-135
1,1-Dichloroethene	ND	0.0434	0.0050	0.050	-	87	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-

(Cont.)



Quality Control Report

Client:	Edd Clark & Associates, Inc.	WorkOrder:	1508393
Date Prepared:	8/13/15	BatchID:	108899
Date Analyzed:	8/13/15	Extraction Method:	SW5030B
Instrument:	GC10	Analytical Method:	SW8260B
Matrix:	Soil	Unit:	mg/Kg
Project:	0778,001.15; Limited Pre-Con Soil Assessment	Sample ID:	MB/LCS-108899 1508393-006AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
Diisopropyl ether (DIPE)	ND	0.0435	0.0050	0.050	-	87	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0422	0.0050	0.050	-	84	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0425	0.0050	0.050	-	85	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0464	0.0050	0.050	-	93	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0435	0.0050	0.050	-	87	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

(Cont.)



Quality Control Report

Client:	Edd Clark & Associates, Inc.	WorkOrder:	1508393
Date Prepared:	8/13/15	BatchID:	108899
Date Analyzed:	8/13/15	Extraction Method:	SW5030B
Instrument:	GC10	Analytical Method:	SW8260B
Matrix:	Soil	Unit:	mg/Kg
Project:	0778,001.15; Limited Pre-Con Soil Assessment	Sample ID:	MB/LCS-108899 1508393-006AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	0.139	0.141		0.12	111	113	70-130
Toluene-d8	0.128	0.129		0.12	102	103	70-130
4-BFB	0.0144	0.0144		0.012	116	116	70-130
Benzene-d6	0.0917	0.0933		0.10	92	93	60-140
Ethylbenzene-d10	0.110	0.116		0.10	110	116	60-140
1,2-DCB-d4	0.0826	0.0842		0.10	83	84	60-140

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0349	0.0360	0.050	ND	70	72	70-130	3.14	20
Benzene	0.0446	0.0456	0.050	ND	89	91	70-130	2.26	20
t-Butyl alcohol (TBA)	0.149	0.157	0.20	ND	75	79	70-130	5.27	20
Chlorobenzene	0.0431	0.0444	0.050	ND	86	89	70-130	3.06	20
1,2-Dibromoethane (EDB)	0.0384	0.0402	0.050	ND	77	80	70-130	4.53	20
1,2-Dichloroethane (1,2-DCA)	0.0418	0.0425	0.050	ND	84	85	70-130	1.65	20
1,1-Dichloroethene	0.0427	0.0434	0.050	ND	85	87	70-130	1.80	20
Diisopropyl ether (DIPE)	0.0412	0.0420	0.050	ND	83	84	70-130	1.83	20
Ethyl tert-butyl ether (ETBE)	0.0388	0.0399	0.050	ND	78	80	70-130	2.72	20
Methyl-t-butyl ether (MTBE)	0.0384	0.0396	0.050	ND	77	79	70-130	3.12	20
Toluene	0.0427	0.0441	0.050	ND	85	88	70-130	3.32	20
Trichloroethene	0.0477	0.0458	0.050	ND	95	92	70-130	4.02	20

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Surrogate Recovery									
Dibromofluoromethane	0.145	0.145	0.12		116	116	70-130	0	20
Toluene-d8	0.125	0.126	0.12		100	101	70-130	0.730	20
4-BFB	0.0147	0.0143	0.012		118	114	70-130	3.03	20
Benzene-d6	0.0937	0.0962	0.10		94	96	60-140	2.65	20
Ethylbenzene-d10	0.106	0.112	0.10		107	112	60-140	4.77	20
1,2-DCB-d4	0.0825	0.0827	0.10		83	83	60-140	0	20



Quality Control Report

Client:	Edd Clark & Associates, Inc.	WorkOrder:	1508393
Date Prepared:	8/13/15	BatchID:	108898
Date Analyzed:	8/14/15	Extraction Method:	SW5030B
Instrument:	GC19	Analytical Method:	SW8021B/8015Bm
Matrix:	Soil	Unit:	mg/Kg
Project:	0778,001.15; Limited Pre-Con Soil Assessment	Sample ID:	MB/LCS-108898 1508392-006AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.481	0.40	0.60	-	80	70-130
MTBE	ND	0.0869	0.050	0.10	-	87	70-130
Benzene	ND	0.108	0.0050	0.10	-	108	70-130
Toluene	ND	0.110	0.0050	0.10	-	110	70-130
Ethylbenzene	ND	0.113	0.0050	0.10	-	113	70-130
Xylenes	ND	0.369	0.0050	0.30	-	123	70-130

Surrogate Recovery

2-Fluorotoluene	0.118	0.115		0.10	119	115	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.513	0.501	0.60	ND	85	83	70-130	2.35	20
MTBE	0.0918	0.0935	0.10	ND	92	94	70-130	1.87	20
Benzene	0.101	0.101	0.10	ND	101	101	70-130	0	20
Toluene	0.103	0.104	0.10	ND	103	104	70-130	0.596	20
Ethylbenzene	0.106	0.107	0.10	ND	106	107	70-130	0.385	20
Xylenes	0.341	0.346	0.30	ND	114	115	70-130	1.39	20

Surrogate Recovery

2-Fluorotoluene	0.108	0.109	0.10		108	109	70-130	0.569	20
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Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 1508393
Date Prepared: 8/12/15	BatchID: 108846
Date Analyzed: 8/13/15	Extraction Method: SW3050B
Instrument: ICP-MS2	Analytical Method: SW6020
Matrix: Soil	Unit: mg/Kg
Project: 0778,001.15; Limited Pre-Con Soil Assessment	Sample ID: MB/LCS-108846 1508336-012AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Cadmium	ND	48.4	0.25	50	-	97	75-125
Chromium	ND	47.6	0.50	50	-	95	75-125
Lead	ND	49.9	0.50	50	-	100	75-125
Nickel	ND	48.2	0.50	50	-	96	75-125
Zinc	ND	497	5.0	500	-	99	75-125

Surrogate Recovery

Terbium	539	520		500	108	104	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Cadmium	50.7	50.7	50	0.8656	100	100	75-125	0	20
Chromium	NR	NR	50	68.53	NR	NR	75-125	NR	20
Lead	NR	NR	50	278.1	NR	NR	75-125	NR	20
Nickel	NR	NR	50	60.05	NR	NR	75-125	NR	20
Zinc	NR	NR	500	1638	NR	NR	75-125	NR	20

Surrogate Recovery

Terbium	552	541	500		110	108	70-130	1.88	20
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Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 1508393
Date Prepared: 8/13/15	BatchID: 108896
Date Analyzed: 8/14/15	Extraction Method: SW3550B/3630C
Instrument: GC11A	Analytical Method: SW8015B
Matrix: Soil	Unit: mg/Kg
Project: 0778,001.15; Limited Pre-Con Soil Assessment	Sample ID: MB/LCS-108896 1508391-008AMS/MSD

QC Report for SW8015B with Silica Gel Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	40.0	1.0	40	-	100	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
Surrogate Recovery							
C9	23.3	23.7		25	93	95	62-139

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	40.0	39.7	40	ND	98	97	70-130	0.941	30
Surrogate Recovery									
C9	23.9	23.7	25		96	95	70-130	0.908	30

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 1508393
Date Prepared: 8/13/15	BatchID: 108934
Date Analyzed: 8/14/15	Extraction Method: SW3550B/3630C
Instrument: GC11B	Analytical Method: SW8015B
Matrix: Soil	Unit: mg/Kg
Project: 0778,001.15; Limited Pre-Con Soil Assessment	Sample ID: MB/LCS-108934 1508432-013AMS/MSD

QC Report for SW8015B with Silica Gel Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	40.4	1.0	40	-	101	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
Surrogate Recovery							
C9	25.8	26.5		25	103	106	62-139

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	39.8	40.4	40	ND	99	101	70-130	1.64	30
Surrogate Recovery									
C9	26.5	26.5	25		106	106	70-130	0	30

1534 Willow Pass Rd
 Pittsburg, CA 94565-1701
 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1508393

ClientCode: ECAR

WaterTrax
 WriteOn
 EDF
 Excel
 EQulS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
 Christopher Houlihan
 Edd Clark & Associates, Inc.
 320 Professional Center Ste. 215
 Rohnert Park, CA 94928
 (707) 792-9500 FAX: (707) 792-9504

Email: chrish@eddcclarkandassociates.com
 cc/3rd Party:
 PO:
 ProjectNo: 0778,001.15; Limited Pre-Con Soil
 Assessment

Bill to:
 Accounts Payable
 Edd Clark & Associates, Inc.
 320 Professional Center Ste.215
 Rohnert Park, CA 94928
 JoannO@eddcclarkandassociates.com

Requested TAT: 5 days;
 Date Received: 08/12/2015
 Date Printed: 08/19/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1508393-001	B-3 COMP	Soil	8/11/2015 9:05	<input type="checkbox"/>	A	A	A	A									
1508393-002	B-4 COMP	Soil	8/11/2015 10:00	<input type="checkbox"/>	A	A	A	A									
1508393-003	B-5 COMP	Soil	8/11/2015 10:44	<input type="checkbox"/>	A	A	A	A									
1508393-004	B-6 COMP	Soil	8/11/2015 11:58	<input type="checkbox"/>	A	A	A	A									
1508393-005	B-7 COMP	Soil	8/11/2015 13:35	<input type="checkbox"/>	A	A	A	A									
1508393-006	B-8 COMP	Soil	8/11/2015 14:06	<input type="checkbox"/>	A	A	A	A									

Test Legend:

1	8260B_S	2	G-MBTX_S	3	LUFTMS_6020_S	4	TPH(DMO)WSG_S	5	
6		7		8		9		10	
11		12							

The following SamplIDs: 001A, 002A, 003A, 004A, 005A, 006A contain testgroup.

Prepared by: Maria Venegas

Comments: For Soil Vapor Samples ALWAYS report in ug/L AND nL/L per Brian

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
 Hazardous samples will be returned to client or disposed of at client expense.



WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

QC Level: LEVEL 2

Work Order: 1508393

Project: 0778,001.15; Limited Pre-Con Soil Assessment

Client Contact: Christopher Houlihan

Date Received: 8/12/2015

Comments: For Soil Vapor Samples ALWAYS report in ug/L AND nL/L per Brian

Contact's Email: chrish@eddcclarkandassociates.com

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1508393-001A	B-3 COMP	Soil	SW6020 (LUFT)	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	8/11/2015 9:05	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up			<input type="checkbox"/>		5 days			
			SW8260B (VOCs)			<input type="checkbox"/>		5 days			
1508393-002A	B-4 COMP	Soil	SW6020 (LUFT)	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	8/11/2015 10:00	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up			<input type="checkbox"/>		5 days			
			SW8260B (VOCs)			<input type="checkbox"/>		5 days			
1508393-003A	B-5 COMP	Soil	SW6020 (LUFT)	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	8/11/2015 10:44	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up			<input type="checkbox"/>		5 days			
			SW8260B (VOCs)			<input type="checkbox"/>		5 days			
1508393-004A	B-6 COMP	Soil	SW6020 (LUFT)	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	8/11/2015 11:58	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up			<input type="checkbox"/>		5 days			
			SW8260B (VOCs)			<input type="checkbox"/>		5 days			
1508393-005A	B-7 COMP	Soil	SW6020 (LUFT)	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	8/11/2015 13:35	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up			<input type="checkbox"/>		5 days			
			SW8260B (VOCs)			<input type="checkbox"/>		5 days			

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

QC Level: LEVEL 2

Work Order: 1508393

Project: 0778,001.15; Limited Pre-Con Soil Assessment

Client Contact: Christopher Houlihan

Date Received: 8/12/2015

Comments: For Soil Vapor Samples ALWAYS report in ug/L AND nL/L per Brian

Contact's Email: chrish@eddclarkandassociates.com

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1508393-006A	B-8 COMP	Soil	SW6020 (LUFT)	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	8/11/2015 14:06	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



McC Campbell Analytical, Inc.

1534 Willow Pass Rd. / Pittsburg, CA 94565-1701
www.mcccampbell.com / main@mcccampbell.com
Telephone: (877) 252-9262 / Fax: (925) 252-9269

PAGE 2 of 2

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH 1 DAY 2 DAY 3 DAY 5 DAY

GeoTracker EDF PDF EDD Write On (DW) EQuIS 10 DAY

Effluent Sample Requiring "J" flag UST Clean Up Fund Project ; Claim # _____

Report To: Christopher Houlihan Bill To: JoannO@eddcclarkandassociates.com

Company: Edd Clark & Associates

320 Professional Center Dr Ste 215, Rohnert Park CA 94928

Tele: (707) 792-9500

E-Mail: chrish@eddcclarkandassociates.com

Project #: 0778,001.15

Project Name: Limited Pre-Con Soil Assessment

Project Location: Petaluma, CA

Sampler Signature: *[Signature]*

Analysis Request

SAMPLE ID	Location/ Field Point Name	SAMPLING		# Containers	MATRIX							METHOD PRESERVED		
		Date	Time		Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	HCL	HNO ₃

BTEX & TPH as Gas (8021/8015) MTBE	TPH Multi-Range (g, d, mo) w/silica gel	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 505 / 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's : Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs incl. Oxygenates)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAS)	CAM 17 Metals (200.8 / 6020)***	LUFT 5 Metals (200.8 / 6020)***	Metals (200.8 / 6020)***	Lab to Filter sample for Dissolved metals analysis
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

4:1 Composite
4:1 Composite
4:1 Composite

**MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate \$250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

*** If metals are requested for water samples and the water type is not specified on the chain of custody, then MAI will default to metals by E200.8.

Relinquished By: <i>[Signature]</i>	Date: 8-12-15	Time: 0800	Received By: <i>[Signature]</i>
Relinquished By: <i>[Signature]</i>	Date: 8-12-15	Time: 1800	Received By: <i>[Signature]</i>
Relinquished By:	Date:	Time:	Received By:

ICE/IT: _____

GOOD CONDITION _____

HEAD SPACE ABSENT _____

DECHLORINATED IN LAB _____

APPROPRIATE CONTAINERS _____

PRESERVED IN LAB _____

VOAS O&G METALS OTHER HAZARDOUS: _____

PRESERVATION pH < 2 _____

COMMENTS: _____



Sample Receipt Checklist

Client Name: **Edd Clark & Associates, Inc.** Date and Time Received: **8/12/2015 6:00:00 PM**
 Project Name: **0778,001.15; Limited Pre-Con Soil Assessment** LogIn Reviewed by: **Maria Venegas**
 WorkOrder No: **1508393** Matrix: Soil Carrier: Bernie Cummins (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present? Yes No
 Chain of custody signed when relinquished and received? Yes No
 Chain of custody agrees with sample labels? Yes No
 Sample IDs noted by Client on COC? Yes No
 Date and Time of collection noted by Client on COC? Yes No
 Sampler's name noted on COC? Yes No

Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes No NA
 Shipping container/cooler in good condition? Yes No
 Samples in proper containers/bottles? Yes No
 Sample containers intact? Yes No
 Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
 Sample/Temp Blank temperature Temp: 4.5°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No

(Ice Type: WET ICE)

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes No NA
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes No NA

* NOTE: If the "No" box is checked, see comments below.

 Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1508465

Report Created for: Edd Clark & Associates, Inc.

320 Professional Center Ste. 215
Rohnert Park, CA 94928

Project Contact: Christopher Houlihan

Project P.O.:

Project Name: 0778,001.15; Limited Pre-Con Soil Assessment

Project Received: 08/13/2015

Analytical Report reviewed & approved for release on 08/20/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Edd Clark & Associates, Inc.
Project: 0778,001.15; Limited Pre-Con Soil Assessment
WorkOrder: 1508465

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

e2 diesel range compounds are significant; no recognizable pattern

Quality Control Qualifiers

F1 MS/MSD recovery and/or RPD was out of acceptance criteria; LCS validated the prep batch.



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-9 COMP	1508465-001A	Soil	08/12/2015 08:45	GC10	108968

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	08/17/2015 15:14
tert-Amyl methyl ether (TAME)	ND	0.0050	1	08/17/2015 15:14
Benzene	ND	0.0050	1	08/17/2015 15:14
Bromobenzene	ND	0.0050	1	08/17/2015 15:14
Bromochloromethane	ND	0.0050	1	08/17/2015 15:14
Bromodichloromethane	ND	0.0050	1	08/17/2015 15:14
Bromoform	ND	0.0050	1	08/17/2015 15:14
Bromomethane	ND	0.0050	1	08/17/2015 15:14
2-Butanone (MEK)	ND	0.020	1	08/17/2015 15:14
t-Butyl alcohol (TBA)	ND	0.050	1	08/17/2015 15:14
n-Butyl benzene	ND	0.0050	1	08/17/2015 15:14
sec-Butyl benzene	ND	0.0050	1	08/17/2015 15:14
tert-Butyl benzene	ND	0.0050	1	08/17/2015 15:14
Carbon Disulfide	ND	0.0050	1	08/17/2015 15:14
Carbon Tetrachloride	ND	0.0050	1	08/17/2015 15:14
Chlorobenzene	ND	0.0050	1	08/17/2015 15:14
Chloroethane	ND	0.0050	1	08/17/2015 15:14
Chloroform	ND	0.0050	1	08/17/2015 15:14
Chloromethane	ND	0.0050	1	08/17/2015 15:14
2-Chlorotoluene	ND	0.0050	1	08/17/2015 15:14
4-Chlorotoluene	ND	0.0050	1	08/17/2015 15:14
Dibromochloromethane	ND	0.0050	1	08/17/2015 15:14
1,2-Dibromo-3-chloropropane	ND	0.0040	1	08/17/2015 15:14
1,2-Dibromoethane (EDB)	ND	0.0040	1	08/17/2015 15:14
Dibromomethane	ND	0.0050	1	08/17/2015 15:14
1,2-Dichlorobenzene	ND	0.0050	1	08/17/2015 15:14
1,3-Dichlorobenzene	ND	0.0050	1	08/17/2015 15:14
1,4-Dichlorobenzene	ND	0.0050	1	08/17/2015 15:14
Dichlorodifluoromethane	ND	0.0050	1	08/17/2015 15:14
1,1-Dichloroethane	ND	0.0050	1	08/17/2015 15:14
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	08/17/2015 15:14
1,1-Dichloroethene	ND	0.0050	1	08/17/2015 15:14
cis-1,2-Dichloroethene	ND	0.0050	1	08/17/2015 15:14
trans-1,2-Dichloroethene	ND	0.0050	1	08/17/2015 15:14
1,2-Dichloropropane	ND	0.0050	1	08/17/2015 15:14
1,3-Dichloropropane	ND	0.0050	1	08/17/2015 15:14
2,2-Dichloropropane	ND	0.0050	1	08/17/2015 15:14

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-9 COMP	1508465-001A	Soil	08/12/2015 08:45	GC10	108968

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	08/17/2015 15:14
cis-1,3-Dichloropropene	ND	0.0050	1	08/17/2015 15:14
trans-1,3-Dichloropropene	ND	0.0050	1	08/17/2015 15:14
Diisopropyl ether (DIPE)	ND	0.0050	1	08/17/2015 15:14
Ethylbenzene	ND	0.0050	1	08/17/2015 15:14
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	08/17/2015 15:14
Freon 113	ND	0.0050	1	08/17/2015 15:14
Hexachlorobutadiene	ND	0.0050	1	08/17/2015 15:14
Hexachloroethane	ND	0.0050	1	08/17/2015 15:14
2-Hexanone	ND	0.0050	1	08/17/2015 15:14
Isopropylbenzene	ND	0.0050	1	08/17/2015 15:14
4-Isopropyl toluene	ND	0.0050	1	08/17/2015 15:14
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	08/17/2015 15:14
Methylene chloride	ND	0.0050	1	08/17/2015 15:14
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	08/17/2015 15:14
Naphthalene	ND	0.0050	1	08/17/2015 15:14
n-Propyl benzene	ND	0.0050	1	08/17/2015 15:14
Styrene	ND	0.0050	1	08/17/2015 15:14
1,1,1,2-Tetrachloroethane	ND	0.0050	1	08/17/2015 15:14
1,1,2,2-Tetrachloroethane	ND	0.0050	1	08/17/2015 15:14
Tetrachloroethene	ND	0.0050	1	08/17/2015 15:14
Toluene	ND	0.0050	1	08/17/2015 15:14
1,2,3-Trichlorobenzene	ND	0.0050	1	08/17/2015 15:14
1,2,4-Trichlorobenzene	ND	0.0050	1	08/17/2015 15:14
1,1,1-Trichloroethane	ND	0.0050	1	08/17/2015 15:14
1,1,2-Trichloroethane	ND	0.0050	1	08/17/2015 15:14
Trichloroethene	ND	0.0050	1	08/17/2015 15:14
Trichlorofluoromethane	ND	0.0050	1	08/17/2015 15:14
1,2,3-Trichloropropane	ND	0.0050	1	08/17/2015 15:14
1,2,4-Trimethylbenzene	ND	0.0050	1	08/17/2015 15:14
1,3,5-Trimethylbenzene	ND	0.0050	1	08/17/2015 15:14
Vinyl Chloride	ND	0.0050	1	08/17/2015 15:14
Xylenes, Total	ND	0.0050	1	08/17/2015 15:14

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-9 COMP	1508465-001A	Soil	08/12/2015 08:45	GC10	108968

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	115	70-130		08/17/2015 15:14
Toluene-d8	99	70-130		08/17/2015 15:14
4-BFB	107	70-130		08/17/2015 15:14
Benzene-d6	89	60-140		08/17/2015 15:14
Ethylbenzene-d10	99	60-140		08/17/2015 15:14
1,2-DCB-d4	82	60-140		08/17/2015 15:14

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-10 COMP	1508465-002A	Soil	08/12/2015 09:45	GC18	108968

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	08/18/2015 14:43
tert-Amyl methyl ether (TAME)	ND	0.0050	1	08/18/2015 14:43
Benzene	ND	0.0050	1	08/18/2015 14:43
Bromobenzene	ND	0.0050	1	08/18/2015 14:43
Bromochloromethane	ND	0.0050	1	08/18/2015 14:43
Bromodichloromethane	ND	0.0050	1	08/18/2015 14:43
Bromoform	ND	0.0050	1	08/18/2015 14:43
Bromomethane	ND	0.0050	1	08/18/2015 14:43
2-Butanone (MEK)	ND	0.020	1	08/18/2015 14:43
t-Butyl alcohol (TBA)	ND	0.050	1	08/18/2015 14:43
n-Butyl benzene	ND	0.0050	1	08/18/2015 14:43
sec-Butyl benzene	ND	0.0050	1	08/18/2015 14:43
tert-Butyl benzene	ND	0.0050	1	08/18/2015 14:43
Carbon Disulfide	ND	0.0050	1	08/18/2015 14:43
Carbon Tetrachloride	ND	0.0050	1	08/18/2015 14:43
Chlorobenzene	ND	0.0050	1	08/18/2015 14:43
Chloroethane	ND	0.0050	1	08/18/2015 14:43
Chloroform	ND	0.0050	1	08/18/2015 14:43
Chloromethane	ND	0.0050	1	08/18/2015 14:43
2-Chlorotoluene	ND	0.0050	1	08/18/2015 14:43
4-Chlorotoluene	ND	0.0050	1	08/18/2015 14:43
Dibromochloromethane	ND	0.0050	1	08/18/2015 14:43
1,2-Dibromo-3-chloropropane	ND	0.0040	1	08/18/2015 14:43
1,2-Dibromoethane (EDB)	ND	0.0040	1	08/18/2015 14:43
Dibromomethane	ND	0.0050	1	08/18/2015 14:43
1,2-Dichlorobenzene	ND	0.0050	1	08/18/2015 14:43
1,3-Dichlorobenzene	ND	0.0050	1	08/18/2015 14:43
1,4-Dichlorobenzene	ND	0.0050	1	08/18/2015 14:43
Dichlorodifluoromethane	ND	0.0050	1	08/18/2015 14:43
1,1-Dichloroethane	ND	0.0050	1	08/18/2015 14:43
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	08/18/2015 14:43
1,1-Dichloroethene	ND	0.0050	1	08/18/2015 14:43
cis-1,2-Dichloroethene	ND	0.0050	1	08/18/2015 14:43
trans-1,2-Dichloroethene	ND	0.0050	1	08/18/2015 14:43
1,2-Dichloropropane	ND	0.0050	1	08/18/2015 14:43
1,3-Dichloropropane	ND	0.0050	1	08/18/2015 14:43
2,2-Dichloropropane	ND	0.0050	1	08/18/2015 14:43

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-10 COMP	1508465-002A	Soil	08/12/2015 09:45	GC18	108968
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	08/18/2015 14:43	
cis-1,3-Dichloropropene	ND	0.0050	1	08/18/2015 14:43	
trans-1,3-Dichloropropene	ND	0.0050	1	08/18/2015 14:43	
Diisopropyl ether (DIPE)	ND	0.0050	1	08/18/2015 14:43	
Ethylbenzene	ND	0.0050	1	08/18/2015 14:43	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	08/18/2015 14:43	
Freon 113	ND	0.0050	1	08/18/2015 14:43	
Hexachlorobutadiene	ND	0.0050	1	08/18/2015 14:43	
Hexachloroethane	ND	0.0050	1	08/18/2015 14:43	
2-Hexanone	ND	0.0050	1	08/18/2015 14:43	
Isopropylbenzene	ND	0.0050	1	08/18/2015 14:43	
4-Isopropyl toluene	ND	0.0050	1	08/18/2015 14:43	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	08/18/2015 14:43	
Methylene chloride	ND	0.0050	1	08/18/2015 14:43	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	08/18/2015 14:43	
Naphthalene	ND	0.0050	1	08/18/2015 14:43	
n-Propyl benzene	ND	0.0050	1	08/18/2015 14:43	
Styrene	ND	0.0050	1	08/18/2015 14:43	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	08/18/2015 14:43	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	08/18/2015 14:43	
Tetrachloroethene	ND	0.0050	1	08/18/2015 14:43	
Toluene	ND	0.0050	1	08/18/2015 14:43	
1,2,3-Trichlorobenzene	ND	0.0050	1	08/18/2015 14:43	
1,2,4-Trichlorobenzene	ND	0.0050	1	08/18/2015 14:43	
1,1,1-Trichloroethane	ND	0.0050	1	08/18/2015 14:43	
1,1,2-Trichloroethane	ND	0.0050	1	08/18/2015 14:43	
Trichloroethene	ND	0.0050	1	08/18/2015 14:43	
Trichlorofluoromethane	ND	0.0050	1	08/18/2015 14:43	
1,2,3-Trichloropropane	ND	0.0050	1	08/18/2015 14:43	
1,2,4-Trimethylbenzene	ND	0.0050	1	08/18/2015 14:43	
1,3,5-Trimethylbenzene	ND	0.0050	1	08/18/2015 14:43	
Vinyl Chloride	ND	0.0050	1	08/18/2015 14:43	
Xylenes, Total	ND	0.0050	1	08/18/2015 14:43	

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-10 COMP	1508465-002A	Soil	08/12/2015 09:45	GC18	108968

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	119	70-130		08/18/2015 14:43
Toluene-d8	114	70-130		08/18/2015 14:43
4-BFB	117	70-130		08/18/2015 14:43
Benzene-d6	110	60-140		08/18/2015 14:43
Ethylbenzene-d10	115	60-140		08/18/2015 14:43
1,2-DCB-d4	87	60-140		08/18/2015 14:43

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-11 COMP	1508465-003A	Soil	08/12/2015 10:22	GC16	108968

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	08/18/2015 00:28
tert-Amyl methyl ether (TAME)	ND	0.0050	1	08/18/2015 00:28
Benzene	ND	0.0050	1	08/18/2015 00:28
Bromobenzene	ND	0.0050	1	08/18/2015 00:28
Bromochloromethane	ND	0.0050	1	08/18/2015 00:28
Bromodichloromethane	ND	0.0050	1	08/18/2015 00:28
Bromoform	ND	0.0050	1	08/18/2015 00:28
Bromomethane	ND	0.0050	1	08/18/2015 00:28
2-Butanone (MEK)	ND	0.020	1	08/18/2015 00:28
t-Butyl alcohol (TBA)	ND	0.050	1	08/18/2015 00:28
n-Butyl benzene	ND	0.0050	1	08/18/2015 00:28
sec-Butyl benzene	ND	0.0050	1	08/18/2015 00:28
tert-Butyl benzene	ND	0.0050	1	08/18/2015 00:28
Carbon Disulfide	ND	0.0050	1	08/18/2015 00:28
Carbon Tetrachloride	ND	0.0050	1	08/18/2015 00:28
Chlorobenzene	ND	0.0050	1	08/18/2015 00:28
Chloroethane	ND	0.0050	1	08/18/2015 00:28
Chloroform	ND	0.0050	1	08/18/2015 00:28
Chloromethane	ND	0.0050	1	08/18/2015 00:28
2-Chlorotoluene	ND	0.0050	1	08/18/2015 00:28
4-Chlorotoluene	ND	0.0050	1	08/18/2015 00:28
Dibromochloromethane	ND	0.0050	1	08/18/2015 00:28
1,2-Dibromo-3-chloropropane	ND	0.0040	1	08/18/2015 00:28
1,2-Dibromoethane (EDB)	ND	0.0040	1	08/18/2015 00:28
Dibromomethane	ND	0.0050	1	08/18/2015 00:28
1,2-Dichlorobenzene	ND	0.0050	1	08/18/2015 00:28
1,3-Dichlorobenzene	ND	0.0050	1	08/18/2015 00:28
1,4-Dichlorobenzene	ND	0.0050	1	08/18/2015 00:28
Dichlorodifluoromethane	ND	0.0050	1	08/18/2015 00:28
1,1-Dichloroethane	ND	0.0050	1	08/18/2015 00:28
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	08/18/2015 00:28
1,1-Dichloroethene	ND	0.0050	1	08/18/2015 00:28
cis-1,2-Dichloroethene	ND	0.0050	1	08/18/2015 00:28
trans-1,2-Dichloroethene	ND	0.0050	1	08/18/2015 00:28
1,2-Dichloropropane	ND	0.0050	1	08/18/2015 00:28
1,3-Dichloropropane	ND	0.0050	1	08/18/2015 00:28
2,2-Dichloropropane	ND	0.0050	1	08/18/2015 00:28

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-11 COMP	1508465-003A	Soil	08/12/2015 10:22	GC16	108968

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	08/18/2015 00:28
cis-1,3-Dichloropropene	ND	0.0050	1	08/18/2015 00:28
trans-1,3-Dichloropropene	ND	0.0050	1	08/18/2015 00:28
Diisopropyl ether (DIPE)	ND	0.0050	1	08/18/2015 00:28
Ethylbenzene	ND	0.0050	1	08/18/2015 00:28
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	08/18/2015 00:28
Freon 113	ND	0.0050	1	08/18/2015 00:28
Hexachlorobutadiene	ND	0.0050	1	08/18/2015 00:28
Hexachloroethane	ND	0.0050	1	08/18/2015 00:28
2-Hexanone	ND	0.0050	1	08/18/2015 00:28
Isopropylbenzene	ND	0.0050	1	08/18/2015 00:28
4-Isopropyl toluene	ND	0.0050	1	08/18/2015 00:28
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	08/18/2015 00:28
Methylene chloride	ND	0.0050	1	08/18/2015 00:28
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	08/18/2015 00:28
Naphthalene	ND	0.0050	1	08/18/2015 00:28
n-Propyl benzene	ND	0.0050	1	08/18/2015 00:28
Styrene	ND	0.0050	1	08/18/2015 00:28
1,1,1,2-Tetrachloroethane	ND	0.0050	1	08/18/2015 00:28
1,1,2,2-Tetrachloroethane	ND	0.0050	1	08/18/2015 00:28
Tetrachloroethene	ND	0.0050	1	08/18/2015 00:28
Toluene	ND	0.0050	1	08/18/2015 00:28
1,2,3-Trichlorobenzene	ND	0.0050	1	08/18/2015 00:28
1,2,4-Trichlorobenzene	ND	0.0050	1	08/18/2015 00:28
1,1,1-Trichloroethane	ND	0.0050	1	08/18/2015 00:28
1,1,2-Trichloroethane	ND	0.0050	1	08/18/2015 00:28
Trichloroethene	ND	0.0050	1	08/18/2015 00:28
Trichlorofluoromethane	ND	0.0050	1	08/18/2015 00:28
1,2,3-Trichloropropane	ND	0.0050	1	08/18/2015 00:28
1,2,4-Trimethylbenzene	ND	0.0050	1	08/18/2015 00:28
1,3,5-Trimethylbenzene	ND	0.0050	1	08/18/2015 00:28
Vinyl Chloride	ND	0.0050	1	08/18/2015 00:28
Xylenes, Total	ND	0.0050	1	08/18/2015 00:28

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-11 COMP	1508465-003A	Soil	08/12/2015 10:22	GC16	108968

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	100	70-130		08/18/2015 00:28
Toluene-d8	106	70-130		08/18/2015 00:28
4-BFB	88	70-130		08/18/2015 00:28
Benzene-d6	89	60-140		08/18/2015 00:28
Ethylbenzene-d10	92	60-140		08/18/2015 00:28
1,2-DCB-d4	69	60-140		08/18/2015 00:28

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2 COMP	1508465-004A	Soil	08/12/2015 11:28	GC16	108968

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	08/18/2015 01:10
tert-Amyl methyl ether (TAME)	ND	0.0050	1	08/18/2015 01:10
Benzene	ND	0.0050	1	08/18/2015 01:10
Bromobenzene	ND	0.0050	1	08/18/2015 01:10
Bromochloromethane	ND	0.0050	1	08/18/2015 01:10
Bromodichloromethane	ND	0.0050	1	08/18/2015 01:10
Bromoform	ND	0.0050	1	08/18/2015 01:10
Bromomethane	ND	0.0050	1	08/18/2015 01:10
2-Butanone (MEK)	ND	0.020	1	08/18/2015 01:10
t-Butyl alcohol (TBA)	ND	0.050	1	08/18/2015 01:10
n-Butyl benzene	ND	0.0050	1	08/18/2015 01:10
sec-Butyl benzene	ND	0.0050	1	08/18/2015 01:10
tert-Butyl benzene	ND	0.0050	1	08/18/2015 01:10
Carbon Disulfide	ND	0.0050	1	08/18/2015 01:10
Carbon Tetrachloride	ND	0.0050	1	08/18/2015 01:10
Chlorobenzene	ND	0.0050	1	08/18/2015 01:10
Chloroethane	ND	0.0050	1	08/18/2015 01:10
Chloroform	ND	0.0050	1	08/18/2015 01:10
Chloromethane	ND	0.0050	1	08/18/2015 01:10
2-Chlorotoluene	ND	0.0050	1	08/18/2015 01:10
4-Chlorotoluene	ND	0.0050	1	08/18/2015 01:10
Dibromochloromethane	ND	0.0050	1	08/18/2015 01:10
1,2-Dibromo-3-chloropropane	ND	0.0040	1	08/18/2015 01:10
1,2-Dibromoethane (EDB)	ND	0.0040	1	08/18/2015 01:10
Dibromomethane	ND	0.0050	1	08/18/2015 01:10
1,2-Dichlorobenzene	ND	0.0050	1	08/18/2015 01:10
1,3-Dichlorobenzene	ND	0.0050	1	08/18/2015 01:10
1,4-Dichlorobenzene	ND	0.0050	1	08/18/2015 01:10
Dichlorodifluoromethane	ND	0.0050	1	08/18/2015 01:10
1,1-Dichloroethane	ND	0.0050	1	08/18/2015 01:10
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	08/18/2015 01:10
1,1-Dichloroethene	ND	0.0050	1	08/18/2015 01:10
cis-1,2-Dichloroethene	ND	0.0050	1	08/18/2015 01:10
trans-1,2-Dichloroethene	ND	0.0050	1	08/18/2015 01:10
1,2-Dichloropropane	ND	0.0050	1	08/18/2015 01:10
1,3-Dichloropropane	ND	0.0050	1	08/18/2015 01:10
2,2-Dichloropropane	ND	0.0050	1	08/18/2015 01:10

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Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2 COMP	1508465-004A	Soil	08/12/2015 11:28	GC16	108968

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	08/18/2015 01:10
cis-1,3-Dichloropropene	ND	0.0050	1	08/18/2015 01:10
trans-1,3-Dichloropropene	ND	0.0050	1	08/18/2015 01:10
Diisopropyl ether (DIPE)	ND	0.0050	1	08/18/2015 01:10
Ethylbenzene	ND	0.0050	1	08/18/2015 01:10
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	08/18/2015 01:10
Freon 113	ND	0.0050	1	08/18/2015 01:10
Hexachlorobutadiene	ND	0.0050	1	08/18/2015 01:10
Hexachloroethane	ND	0.0050	1	08/18/2015 01:10
2-Hexanone	ND	0.0050	1	08/18/2015 01:10
Isopropylbenzene	ND	0.0050	1	08/18/2015 01:10
4-Isopropyl toluene	ND	0.0050	1	08/18/2015 01:10
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	08/18/2015 01:10
Methylene chloride	ND	0.0050	1	08/18/2015 01:10
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	08/18/2015 01:10
Naphthalene	ND	0.0050	1	08/18/2015 01:10
n-Propyl benzene	ND	0.0050	1	08/18/2015 01:10
Styrene	ND	0.0050	1	08/18/2015 01:10
1,1,1,2-Tetrachloroethane	ND	0.0050	1	08/18/2015 01:10
1,1,2,2-Tetrachloroethane	ND	0.0050	1	08/18/2015 01:10
Tetrachloroethene	ND	0.0050	1	08/18/2015 01:10
Toluene	ND	0.0050	1	08/18/2015 01:10
1,2,3-Trichlorobenzene	ND	0.0050	1	08/18/2015 01:10
1,2,4-Trichlorobenzene	ND	0.0050	1	08/18/2015 01:10
1,1,1-Trichloroethane	ND	0.0050	1	08/18/2015 01:10
1,1,2-Trichloroethane	ND	0.0050	1	08/18/2015 01:10
Trichloroethene	ND	0.0050	1	08/18/2015 01:10
Trichlorofluoromethane	ND	0.0050	1	08/18/2015 01:10
1,2,3-Trichloropropane	ND	0.0050	1	08/18/2015 01:10
1,2,4-Trimethylbenzene	ND	0.0050	1	08/18/2015 01:10
1,3,5-Trimethylbenzene	ND	0.0050	1	08/18/2015 01:10
Vinyl Chloride	ND	0.0050	1	08/18/2015 01:10
Xylenes, Total	ND	0.0050	1	08/18/2015 01:10

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Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2 COMP	1508465-004A	Soil	08/12/2015 11:28	GC16	108968

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	101	70-130		08/18/2015 01:10
Toluene-d8	106	70-130		08/18/2015 01:10
4-BFB	91	70-130		08/18/2015 01:10
Benzene-d6	90	60-140		08/18/2015 01:10
Ethylbenzene-d10	93	60-140		08/18/2015 01:10
1,2-DCB-d4	72	60-140		08/18/2015 01:10

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1 COMP	1508465-005A	Soil	08/12/2015 12:14	GC16	108968

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	08/18/2015 01:53
tert-Amyl methyl ether (TAME)	ND	0.0050	1	08/18/2015 01:53
Benzene	ND	0.0050	1	08/18/2015 01:53
Bromobenzene	ND	0.0050	1	08/18/2015 01:53
Bromochloromethane	ND	0.0050	1	08/18/2015 01:53
Bromodichloromethane	ND	0.0050	1	08/18/2015 01:53
Bromoform	ND	0.0050	1	08/18/2015 01:53
Bromomethane	ND	0.0050	1	08/18/2015 01:53
2-Butanone (MEK)	ND	0.020	1	08/18/2015 01:53
t-Butyl alcohol (TBA)	ND	0.050	1	08/18/2015 01:53
n-Butyl benzene	ND	0.0050	1	08/18/2015 01:53
sec-Butyl benzene	ND	0.0050	1	08/18/2015 01:53
tert-Butyl benzene	ND	0.0050	1	08/18/2015 01:53
Carbon Disulfide	ND	0.0050	1	08/18/2015 01:53
Carbon Tetrachloride	ND	0.0050	1	08/18/2015 01:53
Chlorobenzene	ND	0.0050	1	08/18/2015 01:53
Chloroethane	ND	0.0050	1	08/18/2015 01:53
Chloroform	ND	0.0050	1	08/18/2015 01:53
Chloromethane	ND	0.0050	1	08/18/2015 01:53
2-Chlorotoluene	ND	0.0050	1	08/18/2015 01:53
4-Chlorotoluene	ND	0.0050	1	08/18/2015 01:53
Dibromochloromethane	ND	0.0050	1	08/18/2015 01:53
1,2-Dibromo-3-chloropropane	ND	0.0040	1	08/18/2015 01:53
1,2-Dibromoethane (EDB)	ND	0.0040	1	08/18/2015 01:53
Dibromomethane	ND	0.0050	1	08/18/2015 01:53
1,2-Dichlorobenzene	ND	0.0050	1	08/18/2015 01:53
1,3-Dichlorobenzene	ND	0.0050	1	08/18/2015 01:53
1,4-Dichlorobenzene	ND	0.0050	1	08/18/2015 01:53
Dichlorodifluoromethane	ND	0.0050	1	08/18/2015 01:53
1,1-Dichloroethane	ND	0.0050	1	08/18/2015 01:53
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	08/18/2015 01:53
1,1-Dichloroethene	ND	0.0050	1	08/18/2015 01:53
cis-1,2-Dichloroethene	ND	0.0050	1	08/18/2015 01:53
trans-1,2-Dichloroethene	ND	0.0050	1	08/18/2015 01:53
1,2-Dichloropropane	ND	0.0050	1	08/18/2015 01:53
1,3-Dichloropropane	ND	0.0050	1	08/18/2015 01:53
2,2-Dichloropropane	ND	0.0050	1	08/18/2015 01:53

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Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1 COMP	1508465-005A	Soil	08/12/2015 12:14	GC16	108968

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	08/18/2015 01:53
cis-1,3-Dichloropropene	ND	0.0050	1	08/18/2015 01:53
trans-1,3-Dichloropropene	ND	0.0050	1	08/18/2015 01:53
Diisopropyl ether (DIPE)	ND	0.0050	1	08/18/2015 01:53
Ethylbenzene	ND	0.0050	1	08/18/2015 01:53
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	08/18/2015 01:53
Freon 113	ND	0.0050	1	08/18/2015 01:53
Hexachlorobutadiene	ND	0.0050	1	08/18/2015 01:53
Hexachloroethane	ND	0.0050	1	08/18/2015 01:53
2-Hexanone	ND	0.0050	1	08/18/2015 01:53
Isopropylbenzene	ND	0.0050	1	08/18/2015 01:53
4-Isopropyl toluene	ND	0.0050	1	08/18/2015 01:53
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	08/18/2015 01:53
Methylene chloride	ND	0.0050	1	08/18/2015 01:53
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	08/18/2015 01:53
Naphthalene	ND	0.0050	1	08/18/2015 01:53
n-Propyl benzene	ND	0.0050	1	08/18/2015 01:53
Styrene	ND	0.0050	1	08/18/2015 01:53
1,1,1,2-Tetrachloroethane	ND	0.0050	1	08/18/2015 01:53
1,1,2,2-Tetrachloroethane	ND	0.0050	1	08/18/2015 01:53
Tetrachloroethene	ND	0.0050	1	08/18/2015 01:53
Toluene	ND	0.0050	1	08/18/2015 01:53
1,2,3-Trichlorobenzene	ND	0.0050	1	08/18/2015 01:53
1,2,4-Trichlorobenzene	ND	0.0050	1	08/18/2015 01:53
1,1,1-Trichloroethane	ND	0.0050	1	08/18/2015 01:53
1,1,2-Trichloroethane	ND	0.0050	1	08/18/2015 01:53
Trichloroethene	ND	0.0050	1	08/18/2015 01:53
Trichlorofluoromethane	ND	0.0050	1	08/18/2015 01:53
1,2,3-Trichloropropane	ND	0.0050	1	08/18/2015 01:53
1,2,4-Trimethylbenzene	ND	0.0050	1	08/18/2015 01:53
1,3,5-Trimethylbenzene	ND	0.0050	1	08/18/2015 01:53
Vinyl Chloride	ND	0.0050	1	08/18/2015 01:53
Xylenes, Total	ND	0.0050	1	08/18/2015 01:53

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508465
Date Received: 8/13/15 15:50 **Extraction Method:** SW5030B
Date Prepared: 8/14/15 **Analytical Method:** SW8260B
Project: 0778,001.15; Limited Pre-Con Soil Assessment **Unit:** mg/kg

Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1 COMP	1508465-005A	Soil	08/12/2015 12:14	GC16	108968

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	100	70-130		08/18/2015 01:53
Toluene-d8	106	70-130		08/18/2015 01:53
4-BFB	90	70-130		08/18/2015 01:53
Benzene-d6	93	60-140		08/18/2015 01:53
Ethylbenzene-d10	98	60-140		08/18/2015 01:53
1,2-DCB-d4	73	60-140		08/18/2015 01:53

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 1508465
Date Received: 8/13/15 15:50	Extraction Method: SW5030B
Date Prepared: 8/17/15-8/18/15	Analytical Method: SW8021B/8015Bm
Project: 0778,001.15; Limited Pre-Con Soil Assessment	Unit: mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-9 COMP	1508465-001A	Soil	08/12/2015 08:45	GC19	109095

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	08/19/2015 12:04
MTBE	---	0.050	1	08/19/2015 12:04
Benzene	---	0.0050	1	08/19/2015 12:04
Toluene	---	0.0050	1	08/19/2015 12:04
Ethylbenzene	---	0.0050	1	08/19/2015 12:04
Xylenes	---	0.0050	1	08/19/2015 12:04
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	102	70-130		08/19/2015 12:04

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-10 COMP	1508465-002A	Soil	08/12/2015 09:45	GC7	109023

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	08/18/2015 16:28
MTBE	---	0.050	1	08/18/2015 16:28
Benzene	---	0.0050	1	08/18/2015 16:28
Toluene	---	0.0050	1	08/18/2015 16:28
Ethylbenzene	---	0.0050	1	08/18/2015 16:28
Xylenes	---	0.0050	1	08/18/2015 16:28
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	98	70-130		08/18/2015 16:28

Analyst(s): IA

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Analytical Report

Client:	Edd Clark & Associates, Inc.	WorkOrder:	1508465
Date Received:	8/13/15 15:50	Extraction Method:	SW5030B
Date Prepared:	8/17/15-8/18/15	Analytical Method:	SW8021B/8015Bm
Project:	0778,001.15; Limited Pre-Con Soil Assessment	Unit:	mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-11 COMP	1508465-003A	Soil	08/12/2015 10:22	GC7	109023

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	08/18/2015 17:00
MTBE	---	0.050	1	08/18/2015 17:00
Benzene	---	0.0050	1	08/18/2015 17:00
Toluene	---	0.0050	1	08/18/2015 17:00
Ethylbenzene	---	0.0050	1	08/18/2015 17:00
Xylenes	---	0.0050	1	08/18/2015 17:00
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	102	70-130		08/18/2015 17:00

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2 COMP	1508465-004A	Soil	08/12/2015 11:28	GC7	109023

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	08/18/2015 18:02
MTBE	---	0.050	1	08/18/2015 18:02
Benzene	---	0.0050	1	08/18/2015 18:02
Toluene	---	0.0050	1	08/18/2015 18:02
Ethylbenzene	---	0.0050	1	08/18/2015 18:02
Xylenes	---	0.0050	1	08/18/2015 18:02
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	90	70-130		08/18/2015 18:02

Analyst(s): IA



Analytical Report

Client: Edd Clark & Associates, Inc. **WorkOrder:** 1508465
Date Received: 8/13/15 15:50 **Extraction Method:** SW5030B
Date Prepared: 8/17/15-8/18/15 **Analytical Method:** SW8021B/8015Bm
Project: 0778,001.15; Limited Pre-Con Soil Assessment **Unit:** mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1 COMP	1508465-005A	Soil	08/12/2015 12:14	GC19	109023

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	08/17/2015 22:53
MTBE	---	0.050	1	08/17/2015 22:53
Benzene	---	0.0050	1	08/17/2015 22:53
Toluene	---	0.0050	1	08/17/2015 22:53
Ethylbenzene	---	0.0050	1	08/17/2015 22:53
Xylenes	---	0.0050	1	08/17/2015 22:53
Surrogates	REC (%)	Limits		
2-Fluorotoluene	112	70-130		08/17/2015 22:53

Analyst(s): IA



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-9 COMP	1508465-001A	Soil	08/12/2015 08:45	ICP-MS1	108956

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	08/17/2015 19:30
Chromium	86	0.50	1	08/17/2015 19:30
Lead	5.9	0.50	1	08/17/2015 19:30
Nickel	57	0.50	1	08/17/2015 19:30
Zinc	34	5.0	1	08/17/2015 19:30

Surrogates	REC (%)	Limits
Terbium	109	70-130

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-10 COMP	1508465-002A	Soil	08/12/2015 09:45	ICP-MS1	108956

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	08/17/2015 19:36
Chromium	83	0.50	1	08/17/2015 19:36
Lead	6.4	0.50	1	08/17/2015 19:36
Nickel	57	0.50	1	08/17/2015 19:36
Zinc	34	5.0	1	08/17/2015 19:36

Surrogates	REC (%)	Limits
Terbium	108	70-130

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-11 COMP	1508465-003A	Soil	08/12/2015 10:22	ICP-MS1	108956

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	08/17/2015 19:42
Chromium	64	0.50	1	08/17/2015 19:42
Lead	6.7	0.50	1	08/17/2015 19:42
Nickel	37	0.50	1	08/17/2015 19:42
Zinc	32	5.0	1	08/17/2015 19:42

Surrogates	REC (%)	Limits
Terbium	109	70-130

Analyst(s): DB

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 1508465
Date Received: 8/13/15 15:50	Extraction Method: SW3050B
Date Prepared: 8/14/15	Analytical Method: SW6020
Project: 0778,001.15; Limited Pre-Con Soil Assessment	Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2 COMP	1508465-004A	Soil	08/12/2015 11:28	ICP-MS1	108956
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Cadmium	ND		0.25	1	08/17/2015 19:49
Chromium	74		0.50	1	08/17/2015 19:49
Lead	5.7		0.50	1	08/17/2015 19:49
Nickel	90		0.50	1	08/17/2015 19:49
Zinc	39		5.0	1	08/17/2015 19:49
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	110		70-130		08/17/2015 19:49
<u>Analyst(s):</u> DB					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1 COMP	1508465-005A	Soil	08/12/2015 12:14	ICP-MS1	108956
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Cadmium	ND		0.25	1	08/17/2015 19:55
Chromium	85		0.50	1	08/17/2015 19:55
Lead	6.9		0.50	1	08/17/2015 19:55
Nickel	94		0.50	1	08/17/2015 19:55
Zinc	55		5.0	1	08/17/2015 19:55
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	111		70-130		08/17/2015 19:55
<u>Analyst(s):</u> DB					



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-9 COMP	1508465-001A	Soil	08/12/2015 08:45	GC2A	108934

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1.9	1.0	1	08/15/2015 23:23
TPH-Motor Oil (C18-C36)	ND	5.0	1	08/15/2015 23:23
Surrogates	REC (%)	Limits		
C9	91	70-130		08/15/2015 23:23

Analyst(s): TK Analytical Comments: e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-10 COMP	1508465-002A	Soil	08/12/2015 09:45	GC2A	108934

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	08/15/2015 20:51
TPH-Motor Oil (C18-C36)	ND	5.0	1	08/15/2015 20:51
Surrogates	REC (%)	Limits		
C9	91	70-130		08/15/2015 20:51

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-11 COMP	1508465-003A	Soil	08/12/2015 10:22	GC2A	108934

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	08/15/2015 19:34
TPH-Motor Oil (C18-C36)	ND	5.0	1	08/15/2015 19:34
Surrogates	REC (%)	Limits		
C9	91	70-130		08/15/2015 19:34

Analyst(s): TK

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 8/13/15 15:50
Date Prepared: 8/14/15
Project: 0778,001.15; Limited Pre-Con Soil Assessment

WorkOrder: 1508465
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2 COMP	1508465-004A	Soil	08/12/2015 11:28	GC2A	108934

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1.1	1.0	1	08/15/2015 18:16
TPH-Motor Oil (C18-C36)	ND	5.0	1	08/15/2015 18:16
Surrogates	REC (%)	Limits		
C9	92	70-130		08/15/2015 18:16

Analyst(s): TK Analytical Comments: e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1 COMP	1508465-005A	Soil	08/12/2015 12:14	GC2A	108934

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1.0	1.0	1	08/15/2015 15:41
TPH-Motor Oil (C18-C36)	ND	5.0	1	08/15/2015 15:41
Surrogates	REC (%)	Limits		
C9	92	70-130		08/15/2015 15:41

Analyst(s): TK Analytical Comments: e2



Quality Control Report

Client:	Edd Clark & Associates, Inc.	WorkOrder:	1508465
Date Prepared:	8/14/15	BatchID:	108968
Date Analyzed:	8/15/15	Extraction Method:	SW5030B
Instrument:	GC10	Analytical Method:	SW8260B
Matrix:	Soil	Unit:	mg/Kg
Project:	0778,001.15; Limited Pre-Con Soil Assessment	Sample ID:	MB/LCS-108968 1508433-017AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0361	0.0050	0.050	-	72	53-116
Benzene	ND	0.0463	0.0050	0.050	-	93	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.168	0.050	0.20	-	84	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0460	0.0050	0.050	-	92	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0420	0.0040	0.050	-	84	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0438	0.0040	0.050	-	88	58-135
1,1-Dichloroethene	ND	0.0449	0.0050	0.050	-	90	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-

(Cont.)



Quality Control Report

Client:	Edd Clark & Associates, Inc.	WorkOrder:	1508465
Date Prepared:	8/14/15	BatchID:	108968
Date Analyzed:	8/15/15	Extraction Method:	SW5030B
Instrument:	GC10	Analytical Method:	SW8260B
Matrix:	Soil	Unit:	mg/Kg
Project:	0778,001.15; Limited Pre-Con Soil Assessment	Sample ID:	MB/LCS-108968 1508433-017AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
Diisopropyl ether (DIPE)	ND	0.0426	0.0050	0.050	-	85	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0404	0.0050	0.050	-	81	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0404	0.0050	0.050	-	81	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0458	0.0050	0.050	-	92	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0449	0.0050	0.050	-	90	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 1508465
Date Prepared: 8/14/15	BatchID: 108968
Date Analyzed: 8/15/15	Extraction Method: SW5030B
Instrument: GC10	Analytical Method: SW8260B
Matrix: Soil	Unit: mg/Kg
Project: 0778,001.15; Limited Pre-Con Soil Assessment	Sample ID: MB/LCS-108968 1508433-017AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	0.138	0.141		0.12	110	113	70-130
Toluene-d8	0.133	0.127		0.12	106	101	70-130
4-BFB	0.0150	0.0138		0.012	120	110	70-130
Benzene-d6	0.0979	0.0936		0.10	98	94	60-140
Ethylbenzene-d10	0.120	0.114		0.10	120	114	60-140
1,2-DCB-d4	0.0886	0.0835		0.10	89	84	60-140

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0309	0.0317	0.050	ND	62,F1	63,F1	70-130	2.39	20
Benzene	0.0382	0.0394	0.050	ND	76	79	70-130	3.14	20
t-Butyl alcohol (TBA)	0.134	0.138	0.20	ND	67,F1	69,F1	70-130	2.94	20
Chlorobenzene	0.0381	0.0392	0.050	ND	76	78	70-130	2.84	20
1,2-Dibromoethane (EDB)	0.0342	0.0354	0.050	ND	69,F1	71	70-130	3.36	20
1,2-Dichloroethane (1,2-DCA)	0.0366	0.0376	0.050	ND	73	75	70-130	2.57	20
1,1-Dichloroethene	0.0360	0.0382	0.050	ND	72	76	70-130	6.08	20
Diisopropyl ether (DIPE)	0.0359	0.0371	0.050	ND	72	74	70-130	3.10	20
Ethyl tert-butyl ether (ETBE)	0.0342	0.0350	0.050	ND	68,F1	70	70-130	2.15	20
Methyl-t-butyl ether (MTBE)	0.0337	0.0348	0.050	ND	67,F1	70	70-130	3.40	20
Toluene	0.0377	0.0387	0.050	ND	75	77	70-130	2.77	20
Trichloroethene	0.0392	0.0406	0.050	ND	79	81	70-130	3.24	20

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Surrogate Recovery									
Dibromofluoromethane	0.145	0.144	0.12		116	115	70-130	0.510	20
Toluene-d8	0.125	0.125	0.12		100	100	70-130	0	20
4-BFB	0.0144	0.0135	0.012		115	108	70-130	6.07	20
Benzene-d6	0.0798	0.0813	0.10		80	81	60-140	1.79	20
Ethylbenzene-d10	0.0903	0.0919	0.10		90	92	60-140	1.74	20
1,2-DCB-d4	0.0658	0.0670	0.10		66	67	60-140	1.74	20



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 1508465
Date Prepared: 8/17/15	BatchID: 109023
Date Analyzed: 8/17/15	Extraction Method: SW5030B
Instrument: GC7	Analytical Method: SW8021B/8015Bm
Matrix: Soil	Unit: mg/Kg
Project: 0778,001.15; Limited Pre-Con Soil Assessment	Sample ID: MB/LCS-109023 1508469-056AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.502	0.40	0.60	-	84	70-130
MTBE	ND	0.111	0.050	0.10	-	111	70-130
Benzene	ND	0.107	0.0050	0.10	-	107	70-130
Toluene	ND	0.106	0.0050	0.10	-	106	70-130
Ethylbenzene	ND	0.112	0.0050	0.10	-	112	70-130
Xylenes	ND	0.348	0.0050	0.30	-	116	70-130

Surrogate Recovery

2-Fluorotoluene	0.112	0.115		0.10	112	115	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		0.75	NR	NR	-	NR	
MTBE	NR	NR		ND	NR	NR	-	NR	
Benzene	NR	NR		0.0061	NR	NR	-	NR	
Toluene	NR	NR		0.034	NR	NR	-	NR	
Ethylbenzene	NR	NR		0.0081	NR	NR	-	NR	
Xylenes	NR	NR		0.12	NR	NR	-	NR	

Surrogate Recovery

2-Fluorotoluene	NR	NR			NR	NR	-	NR	
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Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 1508465
Date Prepared: 8/18/15	BatchID: 109095
Date Analyzed: 8/19/15	Extraction Method: SW5030B
Instrument: GC3	Analytical Method: SW8021B/8015Bm
Matrix: Soil	Unit: mg/Kg
Project: 0778,001.15; Limited Pre-Con Soil Assessment	Sample ID: MB/LCS-109095 1508583-029AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.662	0.40	0.60	-	110	70-130
MTBE	ND	0.107	0.050	0.10	-	107	70-130
Benzene	ND	0.118	0.0050	0.10	-	118	70-130
Toluene	ND	0.123	0.0050	0.10	-	123	70-130
Ethylbenzene	ND	0.117	0.0050	0.10	-	117	70-130
Xylenes	ND	0.358	0.0050	0.30	-	119	70-130

Surrogate Recovery

2-Fluorotoluene	0.103	0.106		0.10	103	106	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		8.2	NR	NR	-	NR	
MTBE	NR	NR		ND	NR	NR	-	NR	
Benzene	NR	NR		0.49	NR	NR	-	NR	
Toluene	NR	NR		0.11	NR	NR	-	NR	
Ethylbenzene	NR	NR		0.76	NR	NR	-	NR	
Xylenes	NR	NR		1.7	NR	NR	-	NR	

Surrogate Recovery

2-Fluorotoluene	NR	NR			NR	NR	-	NR	
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Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 1508465
Date Prepared: 8/14/15	BatchID: 108956
Date Analyzed: 8/14/15	Extraction Method: SW3050B
Instrument: ICP-MS1	Analytical Method: SW6020
Matrix: Soil	Unit: mg/Kg
Project: 0778,001.15; Limited Pre-Con Soil Assessment	Sample ID: MB/LCS-108956 1508458-001AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Cadmium	ND	49.6	0.25	50	-	99	75-125
Chromium	ND	51.8	0.50	50	-	104	75-125
Lead	ND	49.8	0.50	50	-	100	75-125
Nickel	ND	51.0	0.50	50	-	102	75-125
Zinc	ND	523	5.0	500	-	105	75-125

Surrogate Recovery

Terbium	496	500	500	99	100	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Cadmium	48.5	48.3	50	0.2916	96	96	75-125	0	20
Chromium	NR	NR	50	58.24	NR	NR	75-125	NR	20
Lead	71.9	80.1	50	28.40	87	103	75-125	10.8	20
Nickel	99.2	90.5	50	44.99	108	91	75-125	9.20	20
Zinc	563	567	500	84.26	96	97	75-125	0.761	20

Surrogate Recovery

Terbium	503	495	500	101	99	70-130	1.60	20
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Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 1508465
Date Prepared: 8/13/15	BatchID: 108934
Date Analyzed: 8/14/15	Extraction Method: SW3550B/3630C
Instrument: GC11B	Analytical Method: SW8015B
Matrix: Soil	Unit: mg/Kg
Project: 0778,001.15; Limited Pre-Con Soil Assessment	Sample ID: MB/LCS-108934 1508432-013AMS/MSD

QC Report for SW8015B with Silica Gel Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	40.4	1.0	40	-	101	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
Surrogate Recovery							
C9	25.8	26.5		25	103	106	62-139

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	39.8	40.4	40	ND	99	101	70-130	1.64	30
Surrogate Recovery									
C9	26.5	26.5	25		106	106	70-130	0	30



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1508465

ClientCode: ECAR

WaterTrax
 WriteOn
 EDF
 Excel
 EQUIS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:

Christopher Houlihan
Edd Clark & Associates, Inc.
320 Professional Center Ste. 215
Rohnert Park, CA 94928
(707) 792-9500 FAX: (707) 792-9504

Email: chrish@eddclarkandassociates.com
cc/3rd Party:
PO:
ProjectNo: 0778,001.15; Limited Pre-Con Soil Assessment

Bill to:

Accounts Payable
Edd Clark & Associates, Inc.
320 Professional Center Ste.215
Rohnert Park, CA 94928
JoannO@eddclarkandassociates.com

Requested TAT: 5 days;

Date Received: 08/13/2015

Date Printed: 08/20/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1508465-001	B-9 COMP	Soil	8/12/2015 8:45	<input type="checkbox"/>	A	A	A	A									
1508465-002	B-10 COMP	Soil	8/12/2015 9:45	<input type="checkbox"/>	A	A	A	A									
1508465-003	B-11 COMP	Soil	8/12/2015 10:22	<input type="checkbox"/>	A	A	A	A									
1508465-004	B-2 COMP	Soil	8/12/2015 11:28	<input type="checkbox"/>	A	A	A	A									
1508465-005	B-1 COMP	Soil	8/12/2015 12:14	<input type="checkbox"/>	A	A	A	A									

Test Legend:

1	8260B_S	2	G-MBTEX_S	3	LUFTMS_6020_S	4	TPH(DMO)WSG_S	5	
6		7		8		9		10	
11		12							

The following SampIDs: 001A, 002A, 003A, 004A, 005A contain testgroup.

Prepared by: Maria Venegas

Comments: For Soil Vapor Samples ALWAYS report in ug/L AND nL/L per Brian

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

QC Level: LEVEL 2

Work Order: 1508465

Project: 0778,001.15; Limited Pre-Con Soil Assessment

Client Contact: Christopher Houlihan

Date Received: 8/14/2015

Comments: For Soil Vapor Samples ALWAYS report in ug/L AND nL/L per Brian

Contact's Email: chrish@eddcclarkandassociates.com

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Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1508465-001A	B-9 COMP	Soil	SW6020 (LUFT)	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	8/12/2015 8:45	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
1508465-002A	B-10 COMP	Soil	SW6020 (LUFT)	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	8/12/2015 9:45	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
1508465-003A	B-11 COMP	Soil	SW6020 (LUFT)	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	8/12/2015 10:22	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
1508465-004A	B-2 COMP	Soil	SW6020 (LUFT)	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	8/12/2015 11:28	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
1508465-005A	B-1 COMP	Soil	SW6020 (LUFT)	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	8/12/2015 12:14	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

QC Level: LEVEL 2

Work Order: 1508465

Project: 0778,001.15; Limited Pre-Con Soil Assessment

Client Contact: Christopher Houlihan

Date Received: 8/14/2015

Comments: For Soil Vapor Samples ALWAYS report in ug/L AND nL/L per Brian

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Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
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Sample Receipt Checklist

Client Name: **Edd Clark & Associates, Inc.** Date and Time Received: **8/13/2015 3:50:00 PM**
 Project Name: **0778,001.15; Limited Pre-Con Soil Assessment** LogIn Reviewed by: **Maria Venegas**
 WorkOrder No: **1508465** Matrix: Soil Carrier: Bernie Cummins (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present? Yes No
 Chain of custody signed when relinquished and received? Yes No
 Chain of custody agrees with sample labels? Yes No
 Sample IDs noted by Client on COC? Yes No
 Date and Time of collection noted by Client on COC? Yes No
 Sampler's name noted on COC? Yes No

Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes No NA
 Shipping container/cooler in good condition? Yes No
 Samples in proper containers/bottles? Yes No
 Sample containers intact? Yes No
 Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
 Sample/Temp Blank temperature Temp: 1°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No

(Ice Type: WET ICE)

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes No NA
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes No NA

* NOTE: If the "No" box is checked, see comments below.

 Comments: