

CITY OF OAKLAND



250 FRANK H. OGAWA PLAZA

OAKLAND, CALIFORNIA 94612-2034

Public Works Agency
Vitaly B. Troyan
Interim Director

(510) 238-3961

FAX (510) 238-6428

TDD (510) 238-7644

RECEIVED

12:50 pm, Feb 16, 2012

Alameda County
Environmental Health

February 9, 2012

Mr. Paresh Khatri
Hazardous Materials Specialist
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: Summary of Groundwater Investigation for 690 15th Street, Oakland, California

Reference: ACEH Fuel Leak Case No. RO0002456, GeoTracker Global ID T0600100987

Dear Mr. Khatri:

The City of Oakland is pleased to submit the attached Summary of Groundwater Investigation report prepared by Arcadis Inc. (Arcadis). The City is submitting this report to complete groundwater quality evaluation and obtain "No Further Action" status for the above referenced site. Arcadis prepared this report as a consultant to the City.

Certification

I certify under penalty of law that this document and attachments are prepared under my direction or supervision in accordance with the system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing the violations.

Please contact me at (510) 238-7371 if you have questions or comments.

Sincerely,

A handwritten signature in cursive script that reads "Mark Arniola".

Mark Arniola
Environmental Protection Specialist

Mr. Paresh C. Khatri.
Alameda County Environmental Health
Local Oversight Program
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Summary of Groundwater Investigation for MTBE Analysis for Fuel Leak Case No. RO0002456 and GeoTracker Global ID T0600100987, 690 15th Street, Oakland, California

Dear Mr. Khatri:

ARCADIS U.S., Inc. (ARCADIS) has prepared this letter report to summarize the October 2011 groundwater investigation activities conducted at the Dignity Housing Site located at 690 15th Street, Oakland, California ("the Site). The groundwater investigation was conducted in accordance with ARCADIS' "Work Plan to conduct Groundwater Investigation for MTBE Analysis for Fuel Leak Case No. RO0002456, 690 15th Street, Oakland, California," dated January 26, 2011 ("the Work Plan"). The Work Plan had been prepared in response to a request from the Alameda County Environmental Health (ACEH) to the City of Oakland Public Works Agency, Environmental Services Division ("the City of Oakland") to provide groundwater quality data for the Site. This letter report was prepared on behalf of the City of Oakland.

The following sections summarize ARCADIS' site reconnaissance, drilling and grab groundwater sampling activities, and the groundwater results.

Site Reconnaissance

As requested by Alameda County Environmental Health (ACEH) in their July 1, 2010 letter to the City of Oakland and March 25, 2011 response to the Work Plan (Attachment 1), ARCADIS staff visited the Site on January 24th and March 25, 2011 in an attempt to locate groundwater monitoring wells and a six-inch supply well that previously existed on and around the site.

No evidence of the monitoring wells and supply well were located during either Site visit. ARCADIS assumes these wells have been abandoned or destroyed during previous site and street improvement activities. Because the monitoring wells were not present at the Site, grab groundwater samples would need to be collected to provide the groundwater quality requested by the ACEH.

ARCADIS U.S., Inc.
2000 Powell Street
Suite 700
Emeryville
California 94608
Tel 510 652 4500
Fax 510 652 4906
www.arcadis-us.com

ENVIRONMENT

Date:
February 6, 2012

Contact:
Charles Pardini

Phone:
510.596.9536

Email:
Chuck.Pardini@arcadis-us.com

Our ref:
LC010060.0017

Grab Groundwater Sampling

Pre-Field Activities

Prior to implementing field activities, Underground Service Alert (USA) was notified 48 hours in advance of mobilization to the field. A private utility locator was also contracted to identify underground utilities at each sample location. A soil boring permit was obtained from Alameda County Public Works Agency, Water Resources Section, and is available in Attachment 2.

Sampling Activities

On October 3, 2011, grab groundwater samples were collected from the first water-yielding interval sediments located at three locations around the site (B-1, B-2 and B-3; Figure 1) in accordance with the Work Plan. At each location, soil borings were advanced using a direct-push rig, and the grab groundwater samples were collected between approximately 20 to 30 feet below ground surface (bgs). During the advancement of the borings, soil samples were collected continuously to a total depth of approximately 30 feet bgs to identify the first water-yielding interval. The soil cores were examined and the lithology logged by an ARCADIS field geologist using the Unified Soil Classification System. Once the water bearing zone was identified and the total depth of the boring achieved, a polyvinyl chloride (PVC) casing, including a 10 foot screened section, was temporarily deployed into the boring. The groundwater sample was collected at each location by lowering a small-diameter (0.75-inch) stainless steel bailer down into the temporary PVC casing. The groundwater was then transferred from the bailer into clean, laboratory-provided sample containers, stored in an ice-chilled cooler, and transported under chain-of-custody protocol to the laboratory for analysis. The bailer was cleaned using Alconox and water prior to collecting each sample to avoid cross contamination.

In accordance with the Work Plan, the grab groundwater samples were submitted to Curtis and Tompkins Ltd., a state-certified analytical laboratory, to be analyzed for MTBE by EPA Method 8260B.

After the groundwater samples were collected, the temporary PVC casing was removed and the soil borings were abandoned with a neat cement grout under the oversight of an Alameda County inspector.

The soil boring logs are available in Attachment 3.

Results

MTBE was not detected above the laboratory reporting limit of 0.5 micrograms per liter ($\mu\text{g/L}$) in any of the three groundwater samples collected from the site in October 2011 (Attachment 4). Based on the absence of MTBE in the recent grab

groundwater samples as well as historical groundwater and soil quality data, ARCADIS requests that closure be granted for the Site.

Sincerely,

ARCADIS U.S., Inc.



Pardini, P.G.
Vice President, Principal Geologist



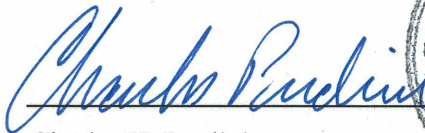
Daren Roth
Senior Geologist


Attachments:

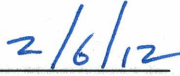
- Figure 1 – Site Plan with Approximate Boring Locations
- Attachment 1 – ACEH Letters
- Attachment 2 – Soil Boring Permit
- Attachment 3 – Boring Logs
- Attachment 4 – Analytical Laboratory Report

CERTIFICATION

All hydrogeologic and geologic information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by an ARCADIS U.S., Inc., California Professional Geologist.*

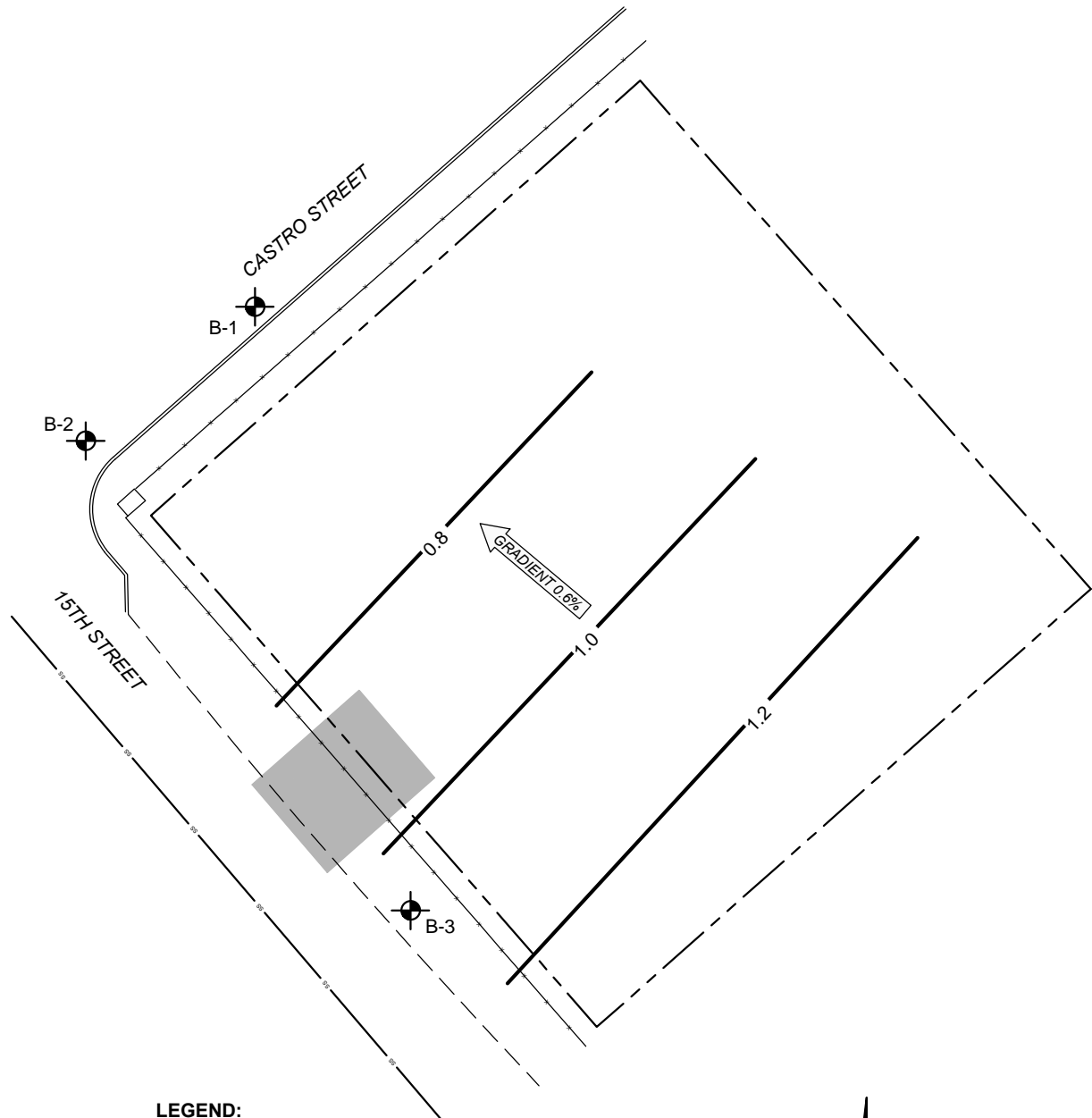

Charles H. Pardini
Principal Geologist
California Professional Geologist (6444)




February 6, 2012

* A professional geologist's certification of conditions comprises a declaration of his or her professional judgment. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of its responsibility to abide by contract documents, applicable codes, standards, regulations, and ordinances.

CITY:(Reop) DIV:(GROUP:(Reop) DB:(Reop) LD:(Opt) PIC:(Opt) PM:(Reop) TM:(Opt) LYR:(Opt)ON="OFF"-REF
 G:\ENV\CAD\Emeryville\ACT\CC01000000\14\CC01000000\B01.dwg LAYOUT: T.1 SAVED: 1/24/2012 4:06 PM ACADVER: 18.1S (LMS TECH) PAGES: 18 BY: BEARDSLEY, DANIEL
 XREFS: IMAGES: PROJECTNAME: SERVER-100698738156.jpg



LEGEND:

- PROPERTY BOUNDARY
- APPROXIMATE BORING LOCATION
- SOIL REMEDIATION EXCAVATION
- EDGE OF PAVEMENT
- 8" SANITARY SEWER LINE
- 1.0 GROUNDWATER GRADIENT CONTOUR

NOTES:

1. REFERENCE TOPOGRAPHIC MAP PREPARED BY BATES AND BAILY, LAND SURVEYORS ENTITLED PROPERTY AT 690 15TH STREET, OAKLAND, DATED FEBRUARY 191.
2. SOURCE FIGURE PREPARED BY SUBSURFACE CONSULTANTS, INC., DATED JUNE 27, 1991, FIGURE PROVIDED BY THE CITY OF OAKLAND, PUBLIC WORKS DEPARTMENT, ENVIRONMENTAL SERVICED DIVISION.

DIGNITY HOUSING WEST - OAKLAND CALIFORNIA

SITE PLAN WITH APPROXIMATE BORING LOCATIONS



FIGURE
1

Attachment 1

ACEH Letters



ENVIRONMENTAL HEALTH DEPARTMENT
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

July 1, 2010

Mark Gomez
City of Oakland
250 Frank Ogawa Plaza, Suite 5301
Oakland, CA 94612

Oakland.com Housing
(Address Unknown)

Subject: MTBE Analysis for Fuel Leak Case No. RO0002456 and GeoTracker Global ID T0600100987, City of Oakland / Dignity Housing West, 690 15th Street, Oakland, CA 94612

Dear Mr. Gomez:

Alameda County Environmental Health (ACEH) recently reviewed this case for case closure consideration. Based on our findings it appears that the soil and/or groundwater has not been analyzed for methyl tertiary butyl ether (MTBE) and the status of a water supply well located at the site is unknown. Therefore, an adequate closure evaluation could not be performed. ACEH requests that you address the following technical comments and send us a work as requested below.

TECHNICAL COMMENTS

1. **Regional Geologic and Hydrogeologic Setting** – In December 1979, the City of Oakland acquired the subject site. At that time, two underground tanks were identified on the property. The tanks were removed by a contractor retained by the City. Total petroleum hydrocarbons as gasoline were detected as high as 5,600 mg/kg. In 1990, Dignity Housing West acquired the property to construct housing for the homeless. In 1991, Dignity Housing West redeveloped the property to its current use as housing. Prior to the redevelopment, the UST pit was over-excavated.

According to Section 25299.37.1, "[n]o closure letter pursuant to this chapter shall be issued unless the soil or groundwater, or both, where applicable, at the site have been tested for MTBE and the results of that testing are known to the regional board."

Since a gasoline UST was utilized at the site and gasoline range contaminants were also present in the soil, MTBE analysis is required. Therefore, please propose a scope of work to

Mr. Gomez
RO0002456
July 1, 2010, Page 2

address the above-mentioned concerns and submit a work plan due by the date specified below.

2. **Status of Water Well** - Reports in our case file indicate that a 6-inch diameter water supply well existed at the site. However, disposition of the well is unknown. Please provide documentation to verify the status of the water well. Please address the above-mentioned comments in a work plan, due by the date specified below.

REQUEST FOR INFORMATION

ACEH's case file for the subject site contains the following reports electronic reports as listed on our website (<http://www.acgov.org/aceh/lop/ust.htm>). You are requested to submit copies of all other reports related to environmental investigations for this property (including Phase 1 reports) by **July 30, 2010**.

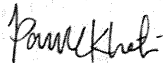
TECHNICAL REPORT REQUEST

Please submit technical reports to ACEH (Attention: Paresh Khatri), according to the following schedule:

- **August 30, 2010** – Soil and Water Investigation Work Plan

Thank you for your cooperation. Should you have any questions or concerns regarding this correspondence or your case, please call me at (510) 777-2478 or send me an electronic mail message at paresh.khatri@acgov.org.

Sincerely,



Digitally signed by Paresh Khatri
DN: cn=Paresh Khatri, o=Alameda
County Environmental Health,
ou=Local Oversight Program,
email=Paresh.Khatri@acgov.org,
c=US
Date: 2010.07.01 15:54:17 -07'00'

Paresh C. Khatri
Hazardous Materials Specialist

Enclosure: Responsible Party(ies) Legal Requirements/Obligations
ACEH Electronic Report Upload (ftp) Instructions

cc: Fugro West, Inc., 1000 Broadway, Suite 440, Oakland, CA 94607
Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland,
CA 94612-2032 (Sent via E-mail to: lgriffin@oaklandnet.com)
Donna Drogos, ACEH (Sent via E-mail to: donna.drogos@acgov.org)
Paresh Khatri, ACEH (Sent via E-mail to: paresh.khatri@acgov.org)
GeoTracker
File

Responsible Party(ies) Legal Requirements/Obligations

REPORT REQUESTS

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.shtml).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	ISSUE DATE: July 5, 2005
	REVISION DATE: March 27, 2009
	PREVIOUS REVISIONS: December 16, 2005, October 31, 2005
SECTION: Miscellaneous Administrative Topics & Procedures	SUBJECT: Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- Entire report including cover letter must be submitted to the ftp site as a **single portable document format (PDF) with no password protection**. (Please do not submit reports as attachments to electronic mail.)
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- Signature pages and perjury statements **must** be included and have either original or electronic signature.
- **Do not password protect the document**. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:
RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Additional Recommendations

- A separate copy of the tables in the document should be submitted by e-mail to your Caseworker in **Excel** format. These are for use by assigned Caseworker only.

Submission Instructions

- 1) Obtain User Name and Password:
 - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
 - i) Send an e-mail to dehloptoxic@acgov.org
Or
 - ii) Send a fax on company letterhead to (510) 337-9335, to the attention of My Le Huynh.
 - b) In the subject line of your request, be sure to include "**ftp PASSWORD REQUEST**" and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for**.
- 2) Upload Files to the ftp Site
 - a) Using Internet Explorer (IE4+), go to <ftp://alcoftp1.acgov.org>
 - (i) Note: Netscape and Firefox browsers will not open the FTP site.
 - b) Click on File, then on Login As.
 - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
 - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
 - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
 - a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
 - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
 - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO# use the street address instead.
 - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director



ENVIRONMENTAL HEALTH DEPARTMENT
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

March 25, 2011

Mark Gomez
City of Oakland
250 Frank Ogawa Plaza, Suite 5301
Oakland, CA 94612

Oakland.com Housing
(Address Unknown)

Subject: MTBE Analysis for Fuel Leak Case No. RO0002456 and GeoTracker Global ID T0600100987, City of Oakland / Dignity Housing West, 690 15th Street, Oakland, CA 94612

Dear Mr. Gomez:

Thank you for the recently submitted document entitled, "Work Plan to Conduct Groundwater Investigation for MTBE Analysis," dated January 26, 2011, which was prepared by ARCADIS for the subject site. Alameda County Environmental Health (ACEH) staff has reviewed the case file including the above-mentioned work plan for the above-referenced site. ARCADIS proposes to obtain background information and conduct a site reconnaissance to verify the existence of the groundwater monitoring wells. If wells cannot be located, ARCADIS proposes to install direct push borings to collect "grab" groundwater samples to verify current groundwater conditions.

ACEH generally concurs with the proposed scope of work and the proposed scope of work may be implemented provided that the modifications requested in the technical comments below are addressed and incorporated during the field implementation. Submittal of a revised Work Plan is not required unless an alternate scope of work outside that described in the Work Plan and technical comments below is proposed.

We request that you address the following technical comments, perform the proposed work, and send us the technical reports requested below.

TECHNICAL COMMENTS

1. **Status of Water Well** - Reports in our case file indicate that a 6-inch diameter water supply well existed at the site. However, disposition of the well is unknown. Please locate and provide documentation to verify the status of the water well. Please address the above-mentioned comments in a Report, due by the date specified below.

Mr. Gomez
RO0002456
March 25, 2011, Page 2


TECHNICAL REPORT REQUEST

Please submit technical reports to ACEH (Attention: Paresh Khatri), according to the following schedule:

- **June 23, 2011** – Soil and Water Investigation Report

Thank you for your cooperation. Should you have any questions or concerns regarding this correspondence or your case, please call me at (510) 777-2478 or send me an electronic mail message at paresh.khatri@acgov.org.

Sincerely,



Digitally signed by Paresh Khatri
DN: cn=Paresh Khatri, o=Alameda
County Environmental Health,
ou=Local Oversight Program,
email=Paresh.Khatri@acgov.org, c=US
Date: 2011.03.25 14:11:44 -07'00'

Paresh C. Khatri
Hazardous Materials Specialist

Enclosure: Responsible Party(ies) Legal Requirements/Obligations
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cc: Charles Pardini, ARCADIS, 5150 El Camino Real, Suite D-21, Los Altos, CA 94022
Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland,
CA 94612-2032 (Sent via E-mail to: lgriffin@oaklandnet.com)
Donna Drogos, ACEH (Sent via E-mail to: donna.drogos@acgov.org)
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 - i) Send an e-mail to dehloptoxic@acgov.org
 - Or
 - ii) Send a fax on company letterhead to (510) 337-9335, to the attention of My Le Huynh.
 - b) In the subject line of your request, be sure to include "**ftp PASSWORD REQUEST**" and in the body of your request, include the **Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.**
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- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
 - a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
 - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
 - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO# use the street address instead.
 - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

Attachment 2

Soil Boring Permit

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 08/31/2011 By jamesy

Permit Numbers: W2011-0565
Permits Valid from 09/22/2011 to 09/23/2011

Application Id: 1314650774029
Site Location: 650 15th St, Oakland, CA
Project Start Date: 09/22/2011
Assigned Inspector: Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org

City of Project Site: Oakland
Completion Date: 09/23/2011

Applicant: Arcadis - Michael Sullivan
2000 Powell St, 7th Flr., Emeryville, CA 94608
Phone: 510-596-9689

Property Owner: Dignity Housing Comm. Housing Devt Corp
1535 A Fred Jackson Wy, Richmond, CA 94801
Phone: 510-412-9290

Client: City of Oakland, PWA - Env. Health Div.
250 Frank Ogawa Plaza #4314, Oakland, CA 94612
Phone: 510-238-3961

	Total Due:	\$265.00
Receipt Number: WR2011-0264	Total Amount Paid:	\$265.00
Payer Name : Arcadis	Paid By: CHECK	PAID IN FULL

Works Requesting Permits:

Borehole(s) for Investigation-Environmental/Monitoring Study - 3 Boreholes
Driller: Gregg Drilling - Lic #: 485165 - Method: DP

Work Total: \$265.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2011-0565	08/31/2011	12/21/2011	3	2.00 in.	30.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
4. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
6. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and

Attachment 3

Boring Logs



690 15th St.

Logged By:		Dates Drilled:		Drilling Contractor:		Project Name:		Method/Equipment:		Boring Number:				
ROM		10/3/11		Pencore		City of Oakland		F-550 DP Rig		SB-1				
See Unified Soil Classification System for sampling method, classifications and laboratory testing methods.			Boring Diam. (in.):		Surface Elev. (ft.):		Groundwater Depth (ft.):		Total Depth (ft.):		Drive wt. (lbs.):		Drop Dist. (in.):	
			2				First Water 26' Static Water 26'		30		NA		NA	
Feet (bgs)	Boring or Well Completion	Depth (ft.)	Sample Recovery	Blows/6"	Classification Letter	Description (classification, color w/code using ASTM standard, grain shape, consistency, moisture, other, odor)	PID/FID (ppm)	Sample Name	Feet (bgs)					
1	concrete					7.5" concrete			1					
2		HA			SC	Sand w/ ^{little} clay (10YR 4/4) dark yellowish brown, moist, m, dense, f-m grain		SB-1 @ 1345	2					
3								Sample = ER100311 @ 1340	3					
4									4					
5									5					
6					SAA		0.0		6					
7									7					
8		5'							8					
9									9					
10							0.0		10					
11	Neat Cement								11					
12					SC	Sand and clay (5YR 3/3) dark reddish brown, w/ black streaks plastic clay, moist, dense, f-m	0.0		12					
13		5'							13					
14									14					
15						Sand w/ little clay ^{trace} resumes			15					
16						m dense, moist, (10YR 4/4) dark yellowish brown, f-m grain	0.0		16					
17		4'							17					
18					SC	SC slight moisture increase (10YR 5/4) yellowish brown, little clay, f-m grain	0.0		18					
19									19					
20							0.0		20					
21		4'			SC	Sand w/ ^{trace} SAA (10YR 4/4) dark yellowish brown			21					
22									22					
23					SC	SAA (10YR 5/3) resumes			23					
24		2'					0.0		24					
25									25					



Logged By:		Dates Drilled:		Drilling Contractor			Project Name:		Method/Equipment:		Boring Number:	
REM		10/3/11		Pencore			City of Oakland		F-550 DP Rig		SB-1	
Feet (bgs)	Boring or Well Completion	Depth, (ft.)	Sample Recovery	Blows/6"	Classification Letter	Description (classification, color w/code using ASTM standard, grain shape, consistency, moisture, other, odor)	PID/FID (ppm)	Sample Name			Feet (bgs)	
26	Neat cement	2.5'	✓	SC	SC	SAA but Brown (10% 3/3) & wet	0.0				26	
27											27	
28											28	
29		2.5'		SC	SAA but dark greyish brown (10% 4/2)	0.0				29		
30											30	
31						TD = 30' bgs					31	
32						Temp well of 10' screen (20-30') used to collect ground water.					32	
33											33	
34											34	
35											35	
36											36	
37											37	
38											38	
39											39	
40											40	
41											41	
42											42	
43											43	
44											44	
45											45	
46											46	
47											47	
48											48	
49											49	
50											50	

Project No. LC010060.0014.00001

Date 10/3/11

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Logged By:		Dates Drilled:		Drilling Contractor		Project Name:		Method/Equipment:		Boring Number:				
REM		10/3/11		Penecone		City of Oakland LCO10060.0014		F-550 DP Rig (Penecone)		SB-2				
See Unified Soil Classification System for sampling method, classifications and laboratory testing methods.			Boring Diam. (in.):		Surface Elev. (ft.):		Groundwater Depth (ft):		Total Depth (ft.):		Drive wt. (lbs.):		Drop Dist. (in.):	
			2				First Water ∇ 25.0 Static Water ∇ 26.5		30		NA		NA	
Feet (bgs)	Boring or Well Completion	Depth, (ft.)	Sample Recovery	Blow/ft	Classification Letter	Description (classification, color w/code using ASTM standard, grain shape, consistency, moisture, other, odor)				PID/4B (ppm)	Sample Name	Feet (bgs)		
1	Concrete				SP	7.5" concrete					SB-2	1		
2						if trace clays						2		
3		HA				Sand (10% 7/16) dark yellowish brown damp. (clay below plastic limit)						3		
4						f-m grain, dense						4		
5												5		
6					SAA					0.0	NA	6		
7												7		
8												8		
9										0.0		9		
10	Next cement											10		
11					SAA					0.0		11		
12												12		
13										0.0		13		
14												14		
15												15		
16						SAA, but moist (10% 5/16) yellowish brown, med dense				0.0		16		
17												17		
18												18		
19										0.0		19		
20												20		
21												21		
22					SC	SAA w/ little clay.				0.1		22		
23												23		
24												24		
25												25		



Logged By:		Dates Drilled:		Drilling Contractor			Project Name:		Method/Equipment:		Boring Number:	
POM		10/3/11		Pencore			City of Oakland		F-550 DP Rig		SB-2	
Feet (bgs)	Boring or Well Completion	Depth, (ft.)	Sample Recovery	Blows/ft.	Classification Letter	Description (classification, color w/code using ASTM standard, grain shape, consistency, moisture, other, odor)	PID/FID (ppm)	Sample Name	Feet (bgs)			
26	Neat Cement			▽	SC	SAA but wet @ 25'	0.0		26			
27				▽		SAA	0.0		27			
28									28			
29									29			
30							0.0		30			
31						TD = 30' bgs.			31			
32									32			
33						Temp well w/ 10' screen			33			
34						(20-30') used to collect			34			
35						ground water.			35			
36									36			
37									37			
38									38			
39									39			
40									40			
41									41			
42									42			
43									43			
44									44			
45									45			
46									46			
47									47			
48									48			
49									49			
50									50			


Project No. LC010060.0014.00001

Date 10/30/11

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AS King

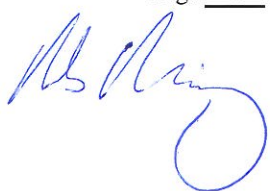
Logged By:		Dates Drilled:		Drilling Contractor		Project Name:		Method/Equipment:		Boring Number:	
RDM		10/3/11		Penecone		City of Oakland LCO/0060.0014		F-550 DP Rig (Penecone)		SB-3	
See Unified Soil Classification System for sampling method, classifications and laboratory testing methods.				Boring Diam. (in.):		Surface Elev. (ft.):		Groundwater Depth (ft):		Total Depth (ft.):	
				2				First Water: 22.5' Static Water: 27'		31	
								Drive wt. (lbs.):		Drop Dist. (in.):	
								NA		NA	
Feet (bgs)	Boring or Well Completion	Depth, (ft.)	Sample Recovery	Blows/6"	Classification Letter	Description (classification, color w/code using ASTM standard, grain shape, consistency, moisture, other, odor)			PID/FTD (ppm)	Sample Name	Feet (bgs)
1	concrete					Asphalt Boulders					1
2	stained Black to Match asphalt				SC	Sand (7.5 PR 4/4) brown w/ little clay, f-m grain, moist, loose.					2
3			NA								3
4											4
5									0.0		5
6											6
7											7
8				5' run					0.0		8
9											9
10	Not Cement					Free moisture on liner, but at Not Free water (10.5 to 12.5')			0.0		10
11											11
12				4' run							12
13					SC	Sand and clay (5 PR 4/3) reddish brown, f-m grain, plastic clay, dense			0.0		13
14						moist					14
15					SC	Sand w/ little clay residues, free moisture, and dense			0.0		15
16				5' run							16
17											17
18					SC	SAA but (10 PR 5/4) yellowish brown + dense.			0.0		18
19											19
20											20
21				4'	SP	SAA w/ trace clay.			0.0		21
22											22
23					SP	Sand med grain (10 PR 4/5) wet (very little water)			0.1		23
24				4'							24
25											25

Logged By:		Dates Drilled:		Drilling Contractor			Project Name:		Method/Equipment:		Boring Number:	
REM		10/3/11		Pencore			City of Oakland		F-550 DP rig		SB-3	
Feet (bgs)	Boring or Well Completion	Depth, (ft.)	Sample Recovery	Blows/6"	Classification Letter	Description (classification, color w/code using ASTM standard, grain shape, consistency, moisture, other, odor)	PID/FID (ppm)	Sample Name	Feet (bgs)			
26					SP				26			
27									27			
28							Sand (10 YR 4/4) dark yellowish brown, trace fines, wet, free water	0.1		28		
29							m. dense			29		
30								0.0		30		
31									31			
32						TD = 31' bgs			32			
33									33			
34									34			
35									35			
36									36			
37									37			
38									38			
39									39			
40									40			
41									41			
42									42			
43									43			
44									44			
45									45			
46									46			
47									47			
48									48			
49									49			
50									50			

Project No. _____

Date 10/3/11

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Attachment 4

Analytical Laboratory Report



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 231520
ANALYTICAL REPORT**

Arcadis
2000 Powell St.
Emeryville, CA 94608

Project : LC010060.0014.00001
Location : 690 15th St. Oakland
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
EB100311	231520-001
SB-1	231520-002
SB-2	231520-003
SB-3	231520-004
SOIL DRUM	231520-005
TB100311	231520-006
DECON-DRUM	231520-007

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Project Manager

Date: 10/21/2011

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 231520
Client: Arcadis
Project: LC010060.0014.00001
Location: 690 15th St. Oakland
Request Date: 10/04/11
Samples Received: 10/03/11

This data package contains sample and QC results for six water samples and one four-point soil composite, requested for the above referenced project on 10/04/11. The samples were received cold and intact. All data were e-mailed to Daren Roth on 10/21/11.

TPH-Purgeables and/or BTXE by GC (EPA 8015B) Water:

No analytical problems were encountered.

TPH-Purgeables and/or BTXE by GC (EPA 8015B) Soil:

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B) Water:

Low surrogate recovery was observed for o-terphenyl in the MS for batch 179687; the parent sample was not a project sample. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B) Soil:

SOIL DRUM (lab # 231520-005) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Water:

SB-1 (lab # 231520-002) had multiple vials combined due to sediment. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Soil:

Matrix spikes were not performed for this analysis in batch 179679 due to insufficient sample amount. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7470A) Water:

No analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A) Soil:

High recoveries were observed for copper and zinc in the MS for batch 179761; the parent sample was not a project sample, the BS/BSD were within limits, and the associated RPDs were within limits. No other analytical problems were encountered.

Curtis & Tompkins, Ltd.

Analytical Laboratory Since 1878

2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

Analysis

C & T LOGIN #: 231520

Project No.: LC 010060.0014.00001

Sampler: Rob Moniz

Project Name: 690 15th St Oakland

Report To: Daren Roth

Company: ARCADIS

Project P.O.:

Telephone: (510) 596-9558

Turnaround Time: standard

Fax: (510) 652-4906

MTBE (8260)
VOCs (8260) → vol. organics & do not carry
Title 22 Metals
TPH g
TPH d/mo/k

Lab No.	Sample ID.	Sampling Date Time		Matrix			# of Containers	Preservative				
				Soil	Water	Waste		HCL	H ₂ SO ₄	HNO ₃	ICE	
1	EB100311	10/3/11	1340		X		3	X				
2	SB-1		1345		X		3	X				
3	SB-2		1210		X		3	X				
4	SB-3		1100		X		3	X				
5	Soil Drum		1400	X			7					
6	TB100311		—		X		3	X				

X																			
X																			
X																			
X																			
X	X	X	X	X															

Notes: For "soil drum" sample:
• Composite 4 soil jars in lab and analyze for metals, TPHg
TPH d/mo/k

SAMPLE RECEIPT

Intact Cold
 On Ice Ambient

Preservative Correct?
 Yes No N/A

RELINQUISHED BY:

Daren C Roth
[Signature]

for Rob Moniz 10/4/11 0912
DATE / TIME

DATE / TIME

DATE / TIME

RECEIVED BY:

Troy B...
[Signature]

10/4/11 9:58
DATE / TIME

10/4/11 9:58
DATE / TIME

DATE / TIME

ID#: **231520**

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order #

Send Results to:	Contact & Company Name: Daren Botz	Telephone:	Preservative						
	Address:	Fax:	Filtered (✓)						
	City:	E-mail Address:	# of Containers						
	State:		Container Information						

Project Name/Location (City, State): 1574 Street, Oakland	Project #: 2010060.0014.0001
Sampler's Printed Name: Michael Sullivan	Sampler's Signature: <i>[Signature]</i>

PARAMETER ANALYSIS & METHOD

Sample ID	Collection		Type (✓)		Matrix
	Date	Time	Comp	Grab	

<i>TPH_g</i>	<i>TPH_d</i>	<i>TPH_{22ml}</i>	<i>VOC 8260B</i>				
------------------------	------------------------	---------------------------	------------------	--	--	--	--

- Keys**
- Preservation Key:**
A. H₂SO₄
B. HCL
C. HNO₃
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____
- Container Information Key:**
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____
- Matrix Key:**
SO - Soil SE - Sediment NL - NAPL/Oil
W - Water SL - Sludge SW - Sample Wipe
T - Tissue A - Air Other: _____

7	Decon - Drum	10/4/11 1000		Y	W	X	X	X	X		
	Decon - Drum	10/2/11 1430		Y	W	X	X	X	X		

REMARKS

[Large handwritten signature]

Special Instructions/Comments: _____ Special QA/QC Instructions(✓): _____

Laboratory Information and Receipt		Relinquished By		Received By		Relinquished By		Laboratory Received By	
Lab Name: C+T	Cooler Custody Seal (✓) <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Printed Name: Michael Sullivan	Signature: <i>[Signature]</i>	Printed Name: Ty B...	Signature: <i>[Signature]</i>	Printed Name:	Signature:	Printed Name:	Signature:
<input checked="" type="checkbox"/> Cooler packed with ice (✓)	Sample Receipt:	Firm: Arcadis	Date/Time: 10/4/11 1050	Firm/Courier: Need	Date/Time: 10/4/11 1050	Firm/Courier:	Date/Time:	Firm:	Date/Time:
Specify Turnaround Requirements: Standard	Condition/Cooler Temp: _____								

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 231520 Date Received 10/3/11 Number of coolers 1
Client ARCADIS Project 690 15th St. Detamore

Date Opened 10/3/11 By (print) Vidua Demin (sign) [Signature]
Date Logged in [Signature] By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C)

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer? 1755 10/3/11

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Did you check preservatives for all bottles for each sample? YES NO N/A

16. Did you document your preservative check? YES NO N/A

17. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

18. Are bubbles > 6mm absent in VOA samples? YES NO N/A

19. Was the client contacted concerning this sample delivery? YES NO


If YES, Who was called? Daan By TRB Date: 10-5-11

COMMENTS

18. = out 3 of 3 VOAs w/ bubbles
isc =
we will run motor oil & gas
on the H2O per DR 10/5/11

Curtis & Tompkins Sample Preservation for 231520

<u>Sample</u>	<u>pH:</u>	<u><2</u>	<u>>12</u>	<u>Other</u>
-007a		<input type="checkbox"/>	<input type="checkbox"/>	_____
b		<input type="checkbox"/>	<input type="checkbox"/>	_____
c		<input type="checkbox"/>	<input type="checkbox"/>	_____
d		<input type="checkbox"/>	<input type="checkbox"/>	_____
e		<input type="checkbox"/>	<input type="checkbox"/>	_____
f		<input type="checkbox"/>	<input type="checkbox"/>	_____
g		<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
h		<input type="checkbox"/>	<input type="checkbox"/>	_____
i		<input type="checkbox"/>	<input type="checkbox"/>	_____

Analyst: 

Date: 10/4/11

Total Volatile Hydrocarbons			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Field ID:	DECON-DRUM	Batch#:	179886
Matrix:	Water	Sampled:	10/04/11
Units:	ug/L	Received:	10/03/11
Diln Fac:	1.000		

Type: SAMPLE Analyzed: 10/11/11
 Lab ID: 231520-007

Analyte	Result	RL
Gasoline C7-C12	59 Y Z	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	78-123

Type: BLANK Analyzed: 10/10/11
 Lab ID: QC612912

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	78-123

Y= Sample exhibits chromatographic pattern which does not resemble standard
 Z= Sample exhibits unknown single peak or peaks
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC612909	Batch#:	179886
Matrix:	Water	Analyzed:	10/10/11
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,102	110	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	78-123

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	179886
MSS Lab ID:	231768-002	Sampled:	10/09/11
Matrix:	Water	Received:	10/10/11
Units:	ug/L	Analyzed:	10/11/11
Diln Fac:	1.000		

Type: MS Lab ID: QC612913

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	84.85	2,000	1,887	90	66-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	98	78-123

Type: MSD Lab ID: QC612914

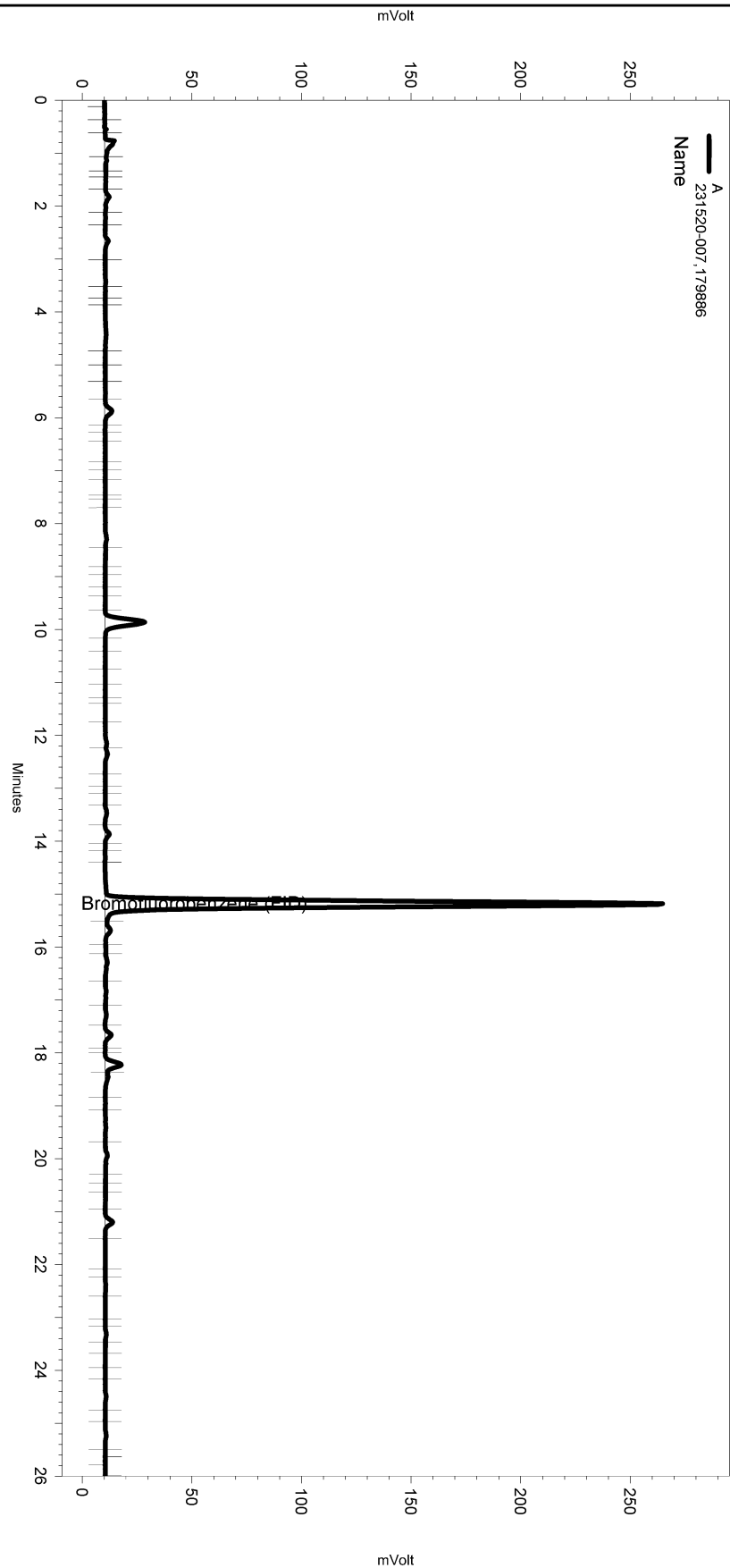
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,876	90	66-120	1	25

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	78-123

RPD= Relative Percent Difference

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC07\Sequence\283.seq
 Sample Name: 231520-007,179886
 Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\283-022
 Instrument: GC07 Vial: N/A Operator: lims2k3\tvh3
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbx280r.met

Software Version 3.1.7
 Run Date: 10/11/2011 9:19:24 AM
 Analysis Date: 10/11/2011 9:48:07 AM
 Sample Amount: 5 Multiplier: 5
 Vial & pH or Core ID: c1.0



Channel A

---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

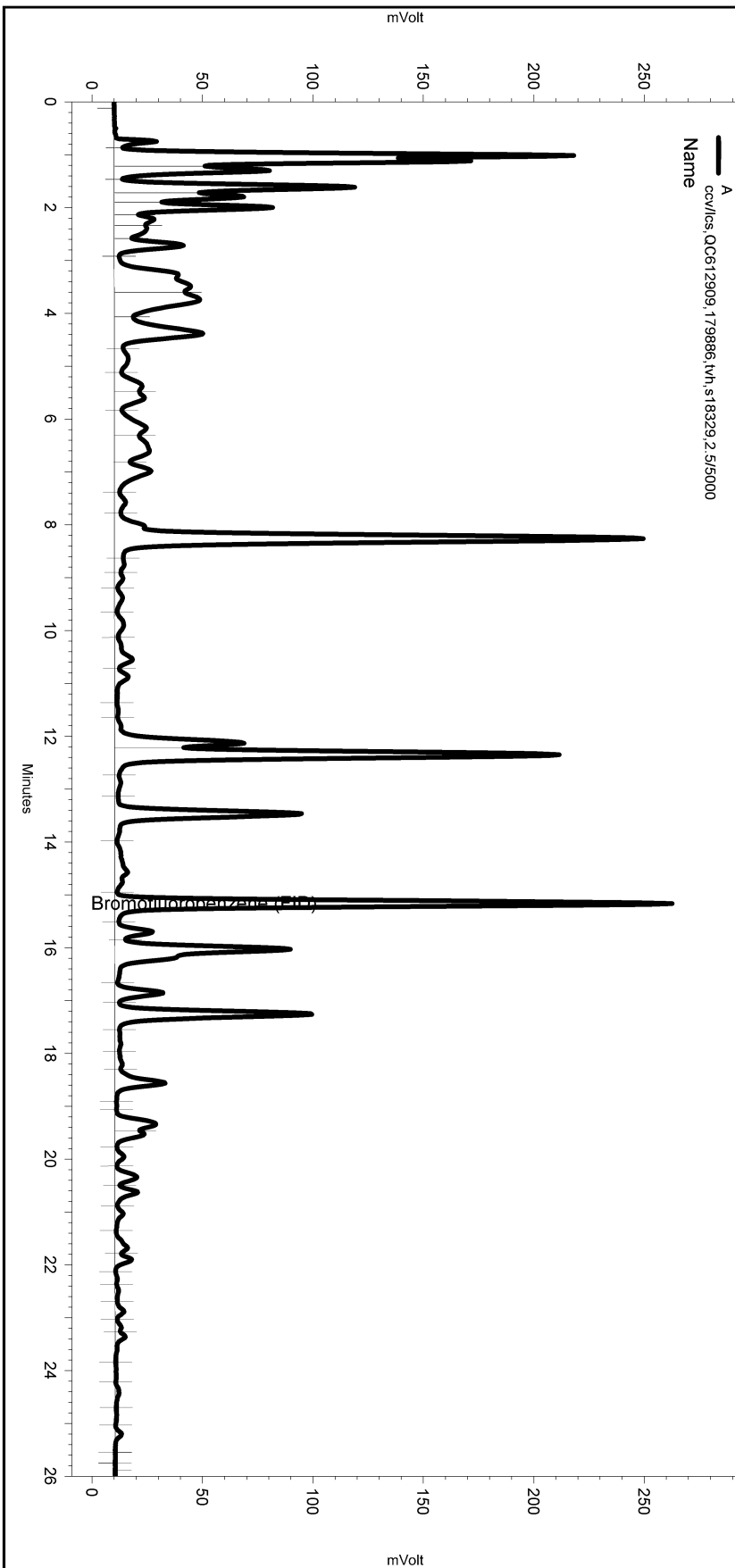
Manual Integration Fixes

Data File: C:\Documents and Settings\All Users\Application Data\ChromatographySystem\Recovery Data\Instrument.10049\283-022_057A.tmp

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
None				

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC07\Sequence\283.seq
 Sample Name: ccv/lcs, QC612909, 179886, tvh, s18329, 2.5/5000
 Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\283-003
 Instrument: GC07 Vial: N/A Operator: lims2k3\tvh3
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbx280r.met

Software Version 3.1.7
 Run Date: 10/10/2011 9:13:20 PM
 Analysis Date: 10/10/2011 9:42:04 PM
 Sample Amount: 5 Multiplier: 5
 Vial & pH or Core ID: {Data Description}



Channel A

---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

Data File: C:\Documents and Settings\All Users\Application Data\ChromatographySystem\Recovery Data\Instrument.10049\283-003_0567.tmp

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
None				

Total Volatile Hydrocarbons			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Field ID:	SOIL DRUM	Batch#:	180049
Matrix:	Soil	Sampled:	10/03/11
Units:	mg/Kg	Received:	10/03/11
Basis:	as received	Analyzed:	10/13/11
Diln Fac:	1.000		

Type: SAMPLE Lab ID: 231520-005

Analyte	Result	RL
Gasoline C7-C12	ND	0.92

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	88	74-132

Type: BLANK Lab ID: QC613600

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	91	74-132

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC613599	Batch#:	180049
Matrix:	Soil	Analyzed:	10/13/11
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.9402	94	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	74-132

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Field ID:	SOIL DRUM	Diln Fac:	1.000
MSS Lab ID:	231520-005	Batch#:	180049
Matrix:	Soil	Sampled:	10/03/11
Units:	mg/Kg	Received:	10/03/11
Basis:	as received	Analyzed:	10/13/11

Type: MS Lab ID: QC613601

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.03937	9.524	8.513	89	43-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	74-132

Type: MSD Lab ID: QC613602

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.615	9.060	94	43-120	5	34

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	74-132

RPD= Relative Percent Difference

Total Extractable Hydrocarbons			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Field ID:	DECON-DRUM	Batch#:	179687
Matrix:	Water	Sampled:	10/04/11
Units:	ug/L	Received:	10/03/11
Diln Fac:	1.000	Prepared:	10/05/11

Type: SAMPLE Analyzed: 10/08/11
 Lab ID: 231520-007

Analyte	Result	RL
Kerosene C10-C16	260 Y	50
Diesel C10-C24	1,000 Y	50
Motor Oil C24-C36	790	300

Surrogate	%REC	Limits
o-Terphenyl	83	68-120

Type: BLANK Analyzed: 10/06/11
 Lab ID: QC612089

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	96	68-120

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC612090	Batch#:	179687
Matrix:	Water	Prepared:	10/05/11
Units:	ug/L	Analyzed:	10/06/11

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,295	92	61-120

Surrogate	%REC	Limits
o-Terphenyl	94	68-120

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	179687
MSS Lab ID:	231582-004	Sampled:	10/04/11
Matrix:	Water	Received:	10/04/11
Units:	ug/L	Prepared:	10/05/11
Diln Fac:	1.000	Analyzed:	10/11/11

Type: MS
 Lab ID: QC612091

Cleanup Method: EPA 3630C

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	2,902	2,500	6,052	126	33-140

Surrogate	%REC	Limits
o-Terphenyl	62 *	68-120

Type: MSD
 Lab ID: QC612092

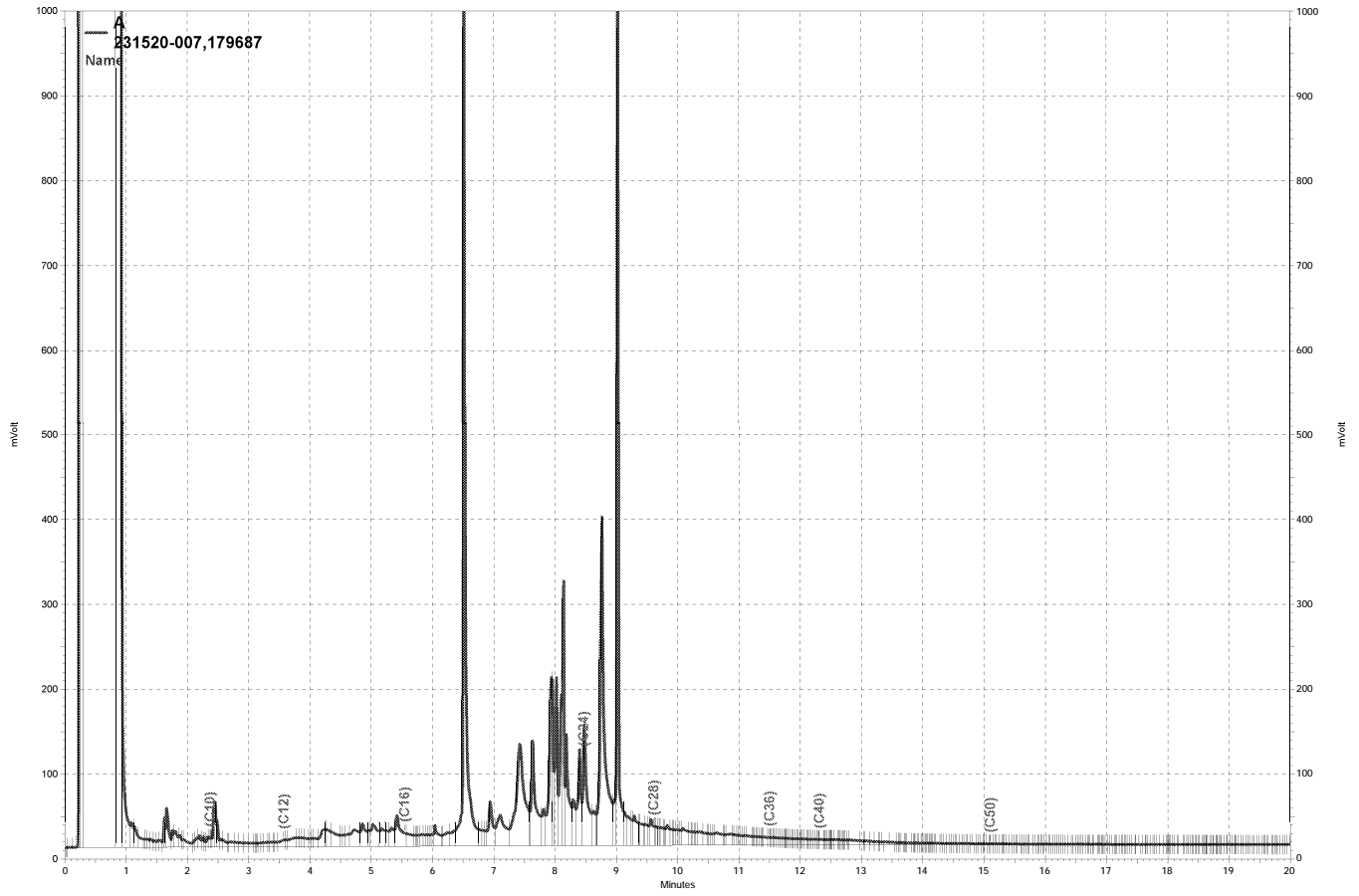
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	5,639	109	33-140	7	30

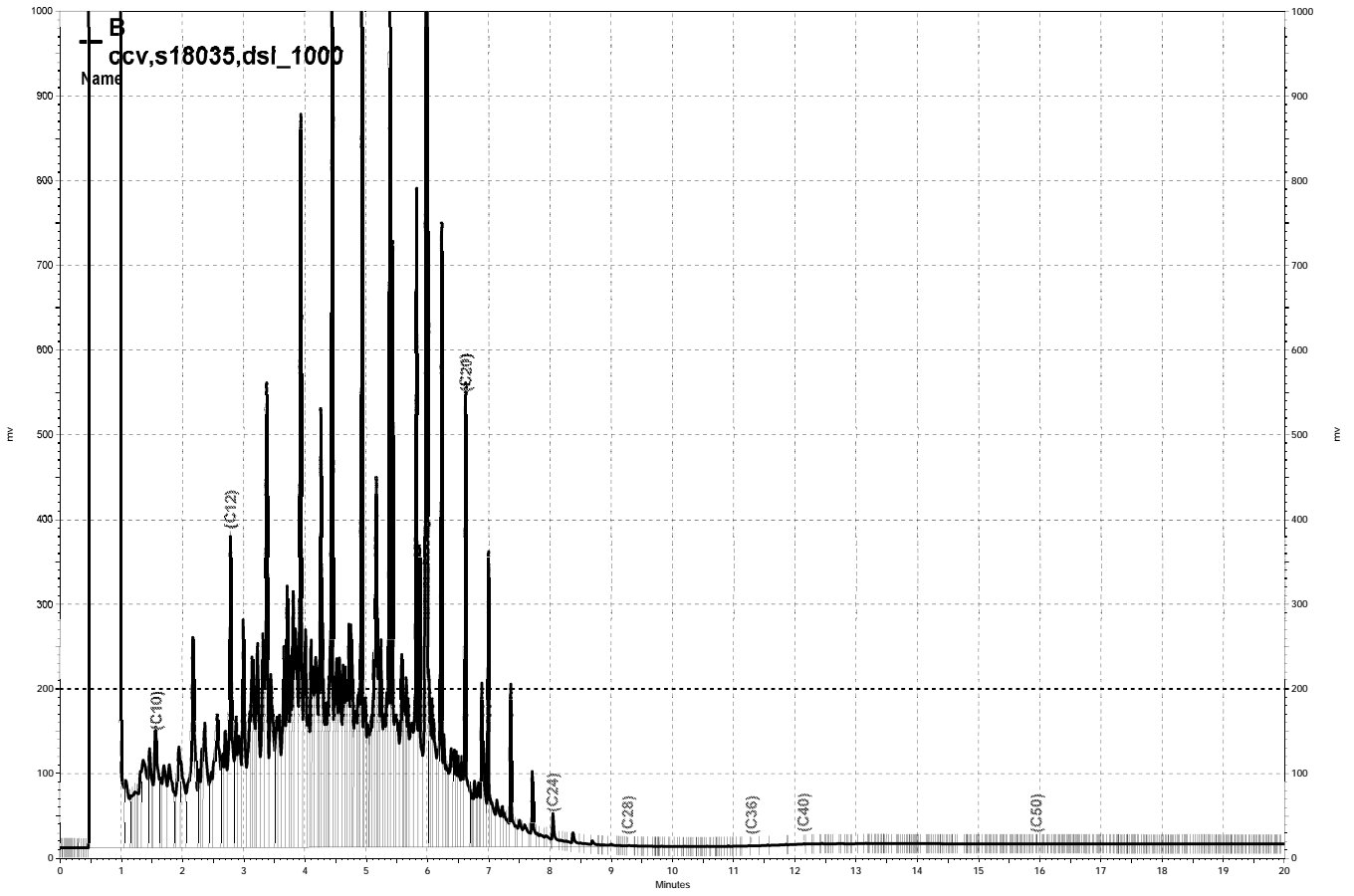
Surrogate	%REC	Limits
o-Terphenyl	69	68-120

*= Value outside of QC limits; see narrative

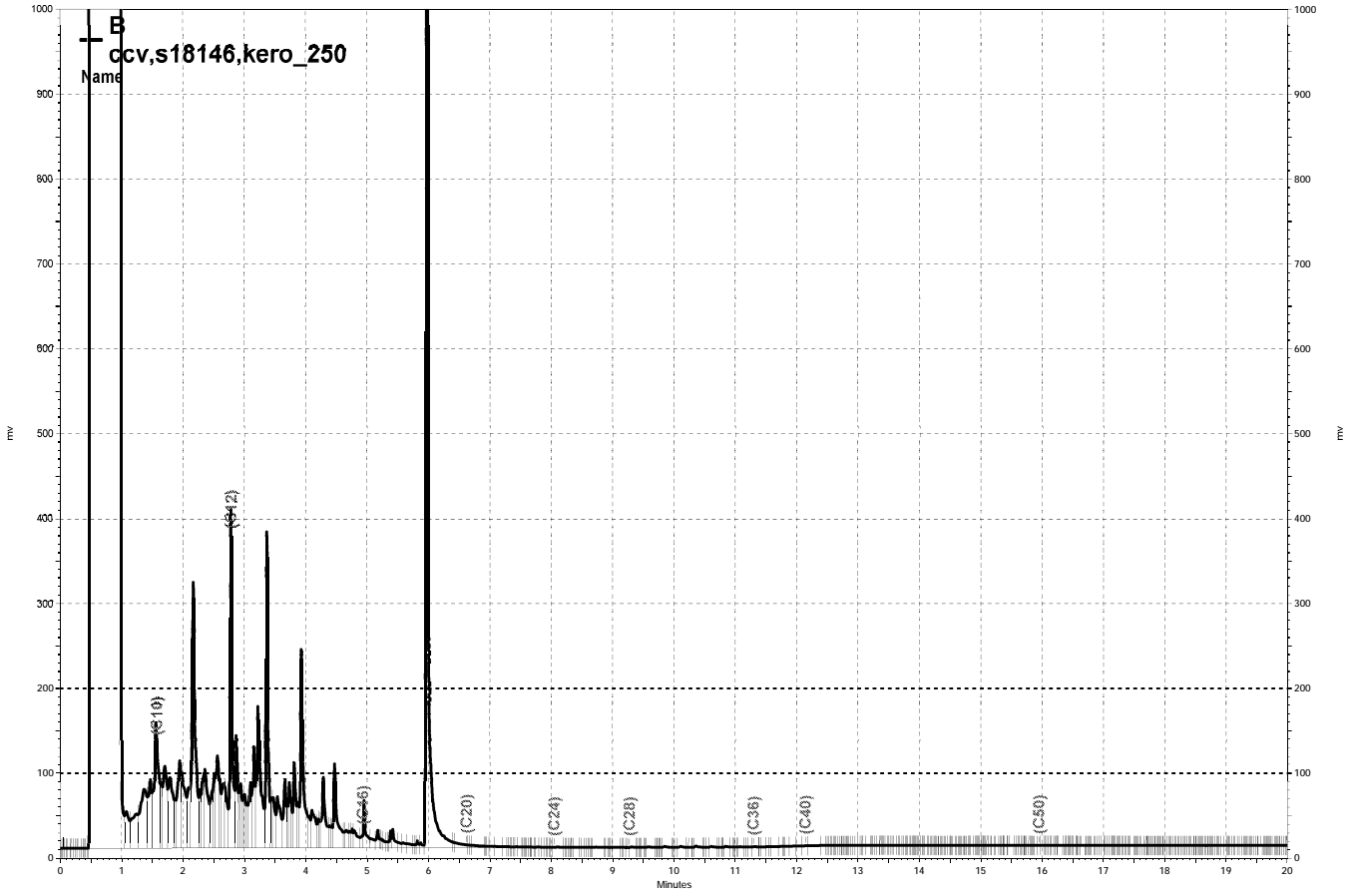
RPD= Relative Percent Difference



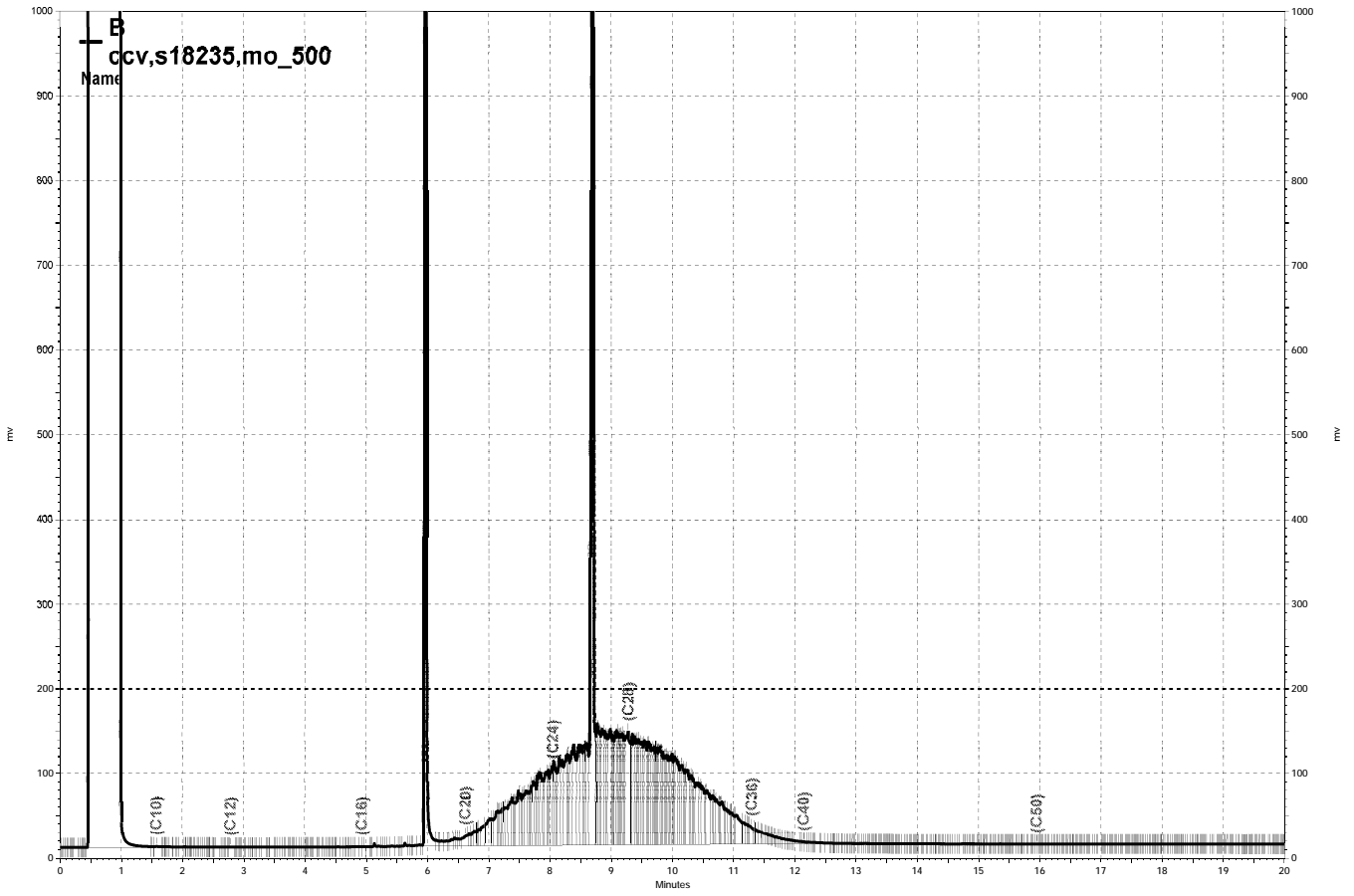
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— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\278b047, B



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\278b050, B



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\278b048, B

Total Extractable Hydrocarbons			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	SHAKER TABLE
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Field ID:	SOIL DRUM	Batch#:	179684
Matrix:	Soil	Sampled:	10/03/11
Units:	mg/Kg	Received:	10/03/11
Basis:	as received	Prepared:	10/05/11
Diln Fac:	1.000	Analyzed:	10/12/11

Type: SAMPLE Lab ID: 231520-005

Analyte	Result	RL
Kerosene C10-C16	ND	1.0
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	93	62-120

Type: BLANK Lab ID: QC612077

Analyte	Result	RL
Kerosene C10-C16	ND	1.0
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	97	62-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	SHAKER TABLE
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC612078	Batch#:	179684
Matrix:	Soil	Prepared:	10/05/11
Units:	mg/Kg	Analyzed:	10/08/11

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.76	46.56	94	54-138

Surrogate	%REC	Limits
o-Terphenyl	92	62-120

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	SHAKER TABLE
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	179684
MSS Lab ID:	231575-004	Sampled:	10/04/11
Matrix:	Soil	Received:	10/04/11
Units:	mg/Kg	Prepared:	10/05/11
Basis:	as received	Analyzed:	10/12/11
Diln Fac:	3.000		

Type: MS Lab ID: QC612079

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	82.03	49.87	130.4	97	35-150

Surrogate	%REC	Limits
o-Terphenyl	75	62-120

Type: MSD Lab ID: QC612080

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.54	147.0	131	35-150	12	71

Surrogate	%REC	Limits
o-Terphenyl	85	62-120

RPD= Relative Percent Difference

MTBE by GC/MS			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	10/03/11
Units:	ug/L	Received:	10/03/11
Diln Fac:	1.000	Analyzed:	10/06/11
Batch#:	179721		

Field ID: EB100311 Lab ID: 231520-001
 Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127

Field ID: SB-1 Lab ID: 231520-002
 Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127

Field ID: SB-2 Lab ID: 231520-003
 Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Field ID:	DECON-DRUM	Diln Fac:	1.000
Lab ID:	231520-007	Sampled:	10/04/11
Matrix:	Water	Received:	10/03/11
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Freon 12	ND	1.0	179765	10/07/11
Chloromethane	ND	1.0	179721	10/06/11
Vinyl Chloride	ND	0.5	179765	10/07/11
Bromomethane	ND	1.0	179765	10/07/11
Chloroethane	ND	1.0	179765	10/07/11
Trichlorofluoromethane	ND	1.0	179765	10/07/11
Acetone	ND	10	179765	10/07/11
Freon 113	ND	5.0	179765	10/07/11
1,1-Dichloroethene	ND	0.5	179765	10/07/11
Methylene Chloride	ND	5.0	179765	10/07/11
Carbon Disulfide	0.3 J	0.5	179765	10/07/11
MTBE	ND	0.5	179765	10/07/11
trans-1,2-Dichloroethene	ND	0.5	179765	10/07/11
Vinyl Acetate	ND	10	179765	10/07/11
1,1-Dichloroethane	ND	0.5	179765	10/07/11
2-Butanone	ND	10	179765	10/07/11
cis-1,2-Dichloroethene	ND	0.5	179765	10/07/11
2,2-Dichloropropane	ND	0.5	179765	10/07/11
Chloroform	ND	0.5	179765	10/07/11
Bromochloromethane	ND	0.5	179765	10/07/11
1,1,1-Trichloroethane	ND	0.5	179765	10/07/11
1,1-Dichloropropene	ND	0.5	179765	10/07/11
Carbon Tetrachloride	ND	0.5	179765	10/07/11
1,2-Dichloroethane	ND	0.5	179765	10/07/11
Benzene	ND	0.5	179765	10/07/11
Trichloroethene	ND	0.5	179765	10/07/11
1,2-Dichloropropane	ND	0.5	179765	10/07/11
Bromodichloromethane	ND	0.5	179765	10/07/11
Dibromomethane	ND	0.5	179765	10/07/11
4-Methyl-2-Pentanone	ND	10	179765	10/07/11
cis-1,3-Dichloropropene	ND	0.5	179765	10/07/11
Toluene	ND	0.5	179765	10/07/11
trans-1,3-Dichloropropene	ND	0.5	179765	10/07/11
1,1,2-Trichloroethane	ND	0.5	179765	10/07/11
2-Hexanone	ND	10	179765	10/07/11
1,3-Dichloropropane	ND	0.5	179765	10/07/11
Tetrachloroethene	ND	0.5	179765	10/07/11

J= Estimated value

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Field ID:	DECON-DRUM	Diln Fac:	1.000
Lab ID:	231520-007	Sampled:	10/04/11
Matrix:	Water	Received:	10/03/11
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Dibromochloromethane	ND	0.5	179765	10/07/11
1,2-Dibromoethane	ND	0.5	179765	10/07/11
Chlorobenzene	ND	0.5	179765	10/07/11
1,1,1,2-Tetrachloroethane	ND	0.5	179765	10/07/11
Ethylbenzene	ND	0.5	179765	10/07/11
m,p-Xylenes	ND	0.5	179765	10/07/11
o-Xylene	ND	0.5	179765	10/07/11
Styrene	ND	0.5	179765	10/07/11
Bromoform	ND	1.0	179721	10/06/11
Isopropylbenzene	ND	0.5	179765	10/07/11
1,1,2,2-Tetrachloroethane	ND	0.5	179765	10/07/11
1,2,3-Trichloropropane	ND	0.5	179765	10/07/11
Propylbenzene	ND	0.5	179765	10/07/11
Bromobenzene	ND	0.5	179765	10/07/11
1,3,5-Trimethylbenzene	ND	0.5	179765	10/07/11
2-Chlorotoluene	ND	0.5	179765	10/07/11
4-Chlorotoluene	ND	0.5	179765	10/07/11
tert-Butylbenzene	ND	0.5	179765	10/07/11
1,2,4-Trimethylbenzene	ND	0.5	179765	10/07/11
sec-Butylbenzene	ND	0.5	179765	10/07/11
para-Isopropyl Toluene	ND	0.5	179765	10/07/11
1,3-Dichlorobenzene	ND	0.5	179765	10/07/11
1,4-Dichlorobenzene	ND	0.5	179765	10/07/11
n-Butylbenzene	ND	0.5	179765	10/07/11
1,2-Dichlorobenzene	ND	0.5	179765	10/07/11
1,2-Dibromo-3-Chloropropane	ND	2.0	179765	10/07/11
1,2,4-Trichlorobenzene	ND	0.5	179765	10/07/11
Hexachlorobutadiene	ND	2.0	179765	10/07/11
Naphthalene	ND	2.0	179765	10/07/11
1,2,3-Trichlorobenzene	ND	0.5	179765	10/07/11

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	105	80-127	179765	10/07/11
1,2-Dichloroethane-d4	93	73-145	179765	10/07/11
Toluene-d8	98	80-120	179765	10/07/11
Bromofluorobenzene	97	80-120	179765	10/07/11

J= Estimated value
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	179721
Units:	ug/L	Analyzed:	10/06/11
Diln Fac:	1.000		

Type: BS Lab ID: QC612235

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	27.88	112	64-133
Benzene	25.00	26.45	106	80-122
Trichloroethene	25.00	26.32	105	78-120
Toluene	25.00	25.34	101	80-120
Chlorobenzene	25.00	24.75	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-127
1,2-Dichloroethane-d4	93	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	99	80-120

Type: BSD Lab ID: QC612236

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	27.57	110	64-133	1	20
Benzene	25.00	25.98	104	80-122	2	20
Trichloroethene	25.00	25.75	103	78-120	2	20
Toluene	25.00	25.12	100	80-120	1	20
Chlorobenzene	25.00	24.71	99	80-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-127
1,2-Dichloroethane-d4	93	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Batch QC Report

MTBE by GC/MS			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	179721
Units:	ug/L	Analyzed:	10/06/11
Diln Fac:	1.000		

Type: BS Lab ID: QC612235

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	23.81	95	59-123

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-127

Type: BSD Lab ID: QC612236

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	24.54	98	59-123	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-127

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC612237	Batch#:	179721
Matrix:	Water	Analyzed:	10/06/11
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC612237	Batch#:	179721
Matrix:	Water	Analyzed:	10/06/11
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-127
1,2-Dichloroethane-d4	95	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	114	80-120

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	179765
Units:	ug/L	Analyzed:	10/07/11
Diln Fac:	1.000		

Type: BS Lab ID: QC612411

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	31.25	30.82	99	64-133
Benzene	31.25	32.26	103	80-122
Trichloroethene	31.25	31.45	101	78-120
Toluene	31.25	32.47	104	80-120
Chlorobenzene	31.25	31.71	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-127
1,2-Dichloroethane-d4	92	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	102	80-120

Type: BSD Lab ID: QC612412

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	31.25	29.84	95	64-133	3	20
Benzene	31.25	31.66	101	80-122	2	20
Trichloroethene	31.25	30.65	98	78-120	3	20
Toluene	31.25	32.04	103	80-120	1	20
Chlorobenzene	31.25	31.66	101	80-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-127
1,2-Dichloroethane-d4	92	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC612413	Batch#:	179765
Matrix:	Water	Analyzed:	10/07/11
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC612413	Batch#:	179765
Matrix:	Water	Analyzed:	10/07/11
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-127
1,2-Dichloroethane-d4	91	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	179765
MSS Lab ID:	231648-001	Sampled:	10/06/11
Matrix:	Water	Received:	10/06/11
Units:	ug/L	Analyzed:	10/07/11
Diln Fac:	10.00		

Type: MS Lab ID: QC612514

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.3181	250.0	234.5	94	73-126
Benzene	0.3136	250.0	262.2	105	80-120
Trichloroethene	<0.2000	250.0	244.1	98	69-122
Toluene	0.8496	250.0	257.3	103	80-120
Chlorobenzene	<0.2000	250.0	253.9	102	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-127
1,2-Dichloroethane-d4	94	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-120

Type: MSD Lab ID: QC612515

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	250.0	246.5	99	73-126	5	20
Benzene	250.0	269.0	107	80-120	3	20
Trichloroethene	250.0	251.7	101	69-122	3	20
Toluene	250.0	265.8	106	80-120	3	20
Chlorobenzene	250.0	260.1	104	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-127
1,2-Dichloroethane-d4	94	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Purgeable Organics by GC/MS

Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5035
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Field ID:	SOIL DRUM	Diln Fac:	0.8489
Lab ID:	231520-005	Batch#:	179679
Matrix:	Soil	Sampled:	10/03/11
Units:	ug/Kg	Received:	10/03/11
Basis:	as received	Analyzed:	10/05/11

Analyte	Result	RL
Freon 12	ND	8.5
Chloromethane	ND	8.5
Vinyl Chloride	ND	8.5
Bromomethane	ND	8.5
Chloroethane	ND	8.5
Trichlorofluoromethane	ND	4.2
Acetone	ND	17
Freon 113	ND	4.2
1,1-Dichloroethene	ND	4.2
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.2
MTBE	ND	4.2
trans-1,2-Dichloroethene	ND	4.2
Vinyl Acetate	ND	42
1,1-Dichloroethane	ND	4.2
2-Butanone	ND	8.5
cis-1,2-Dichloroethene	ND	4.2
2,2-Dichloropropane	ND	4.2
Chloroform	ND	4.2
Bromochloromethane	ND	4.2
1,1,1-Trichloroethane	ND	4.2
1,1-Dichloropropene	ND	4.2
Carbon Tetrachloride	ND	4.2
1,2-Dichloroethane	ND	4.2
Benzene	ND	4.2
Trichloroethene	ND	4.2
1,2-Dichloropropane	ND	4.2
Bromodichloromethane	ND	4.2
Dibromomethane	ND	4.2
4-Methyl-2-Pentanone	ND	8.5
cis-1,3-Dichloropropene	ND	4.2
Toluene	ND	4.2
trans-1,3-Dichloropropene	ND	4.2
1,1,2-Trichloroethane	ND	4.2
2-Hexanone	ND	8.5
1,3-Dichloropropane	ND	4.2
Tetrachloroethene	ND	4.2

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5035
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Field ID:	SOIL DRUM	Diln Fac:	0.8489
Lab ID:	231520-005	Batch#:	179679
Matrix:	Soil	Sampled:	10/03/11
Units:	ug/Kg	Received:	10/03/11
Basis:	as received	Analyzed:	10/05/11

Analyte	Result	RL
Dibromochloromethane	ND	4.2
1,2-Dibromoethane	ND	4.2
Chlorobenzene	ND	4.2
1,1,1,2-Tetrachloroethane	ND	4.2
Ethylbenzene	ND	4.2
m,p-Xylenes	ND	4.2
o-Xylene	ND	4.2
Styrene	ND	4.2
Bromoform	ND	4.2
Isopropylbenzene	ND	4.2
1,1,2,2-Tetrachloroethane	ND	4.2
1,2,3-Trichloropropane	ND	4.2
Propylbenzene	ND	4.2
Bromobenzene	ND	4.2
1,3,5-Trimethylbenzene	ND	4.2
2-Chlorotoluene	ND	4.2
4-Chlorotoluene	ND	4.2
tert-Butylbenzene	ND	4.2
1,2,4-Trimethylbenzene	ND	4.2
sec-Butylbenzene	ND	4.2
para-Isopropyl Toluene	ND	4.2
1,3-Dichlorobenzene	ND	4.2
1,4-Dichlorobenzene	ND	4.2
n-Butylbenzene	ND	4.2
1,2-Dichlorobenzene	ND	4.2
1,2-Dibromo-3-Chloropropane	ND	4.2
1,2,4-Trichlorobenzene	ND	4.2
Hexachlorobutadiene	ND	4.2
Naphthalene	ND	4.2
1,2,3-Trichlorobenzene	ND	4.2

Surrogate	%REC	Limits
Dibromofluoromethane	113	71-126
1,2-Dichloroethane-d4	113	74-130
Toluene-d8	88	80-120
Bromofluorobenzene	97	76-131

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5035
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC612058	Batch#:	179679
Matrix:	Soil	Analyzed:	10/05/11
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5035
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC612058	Batch#:	179679
Matrix:	Soil	Analyzed:	10/05/11
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	106	71-126
1,2-Dichloroethane-d4	108	74-130
Toluene-d8	95	80-120
Bromofluorobenzene	96	76-131

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5035
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	179679
Units:	ug/Kg	Analyzed:	10/05/11
Diln Fac:	1.000		

Type: BS Lab ID: QC612059

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	20.00	23.60	118	69-127
Benzene	20.00	23.72	119	80-122
Trichloroethene	20.00	22.98	115	76-123
Toluene	20.00	20.82	104	80-120
Chlorobenzene	20.00	20.10	100	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	107	71-126
1,2-Dichloroethane-d4	108	74-130
Toluene-d8	94	80-120
Bromofluorobenzene	94	76-131

Type: BSD Lab ID: QC612060

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	20.00	22.42	112	69-127	5	27
Benzene	20.00	22.47	112	80-122	5	20
Trichloroethene	20.00	21.63	108	76-123	6	21
Toluene	20.00	19.62	98	80-120	6	21
Chlorobenzene	20.00	19.47	97	80-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	105	71-126
1,2-Dichloroethane-d4	105	74-130
Toluene-d8	90	80-120
Bromofluorobenzene	95	76-131

RPD= Relative Percent Difference

California Title 22 Metals			
Lab #:	231520	Project#:	LC010060.0014.00001
Client:	Arcadis	Location:	690 15th St. Oakland
Field ID:	DECON-DRUM	Diln Fac:	1.000
Lab ID:	231520-007	Sampled:	10/04/11
Matrix:	Water	Received:	10/03/11
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	10	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Arsenic	ND	7.1	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Barium	190	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Beryllium	ND	2.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Cadmium	ND	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Chromium	69	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Cobalt	9.3	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Copper	28	5.0	179639	10/04/11	10/18/11	EPA 3010A	EPA 6010B
Lead	ND	5.0	179639	10/04/11	10/19/11	EPA 3010A	EPA 6010B
Mercury	ND	0.20	179776	10/07/11	10/07/11	METHOD	EPA 7470A
Molybdenum	24	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Nickel	23	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Selenium	ND	10	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Silver	ND	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Thallium	ND	10	179639	10/04/11	10/20/11	EPA 3010A	EPA 6010B
Vanadium	9.0	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Zinc	97	20	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 3010A
Project#:	LC010060.0014.00001	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC611881	Batch#:	179639
Matrix:	Water	Prepared:	10/04/11
Units:	ug/L	Analyzed:	10/10/11

Analyte	Result	RL
Antimony	ND	10
Arsenic	ND	7.1
Barium	ND	5.0
Beryllium	ND	2.0
Cadmium	ND	5.0
Chromium	ND	5.0
Cobalt	ND	5.0
Copper	ND	5.0
Lead	ND	5.0
Molybdenum	ND	5.0
Nickel	ND	5.0
Selenium	ND	10
Silver	ND	5.0
Thallium	ND	10
Vanadium	ND	5.0
Zinc	ND	20

ND= Not Detected

RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 3010A
Project#:	LC010060.0014.00001	Analysis:	EPA 6010B
Matrix:	Water	Batch#:	179639
Units:	ug/L	Prepared:	10/04/11
Diln Fac:	1.000	Analyzed:	10/10/11

Type: BS Lab ID: QC611882

Analyte	Spiked	Result	%REC	Limits
Antimony	500.0	529.4	106	75-120
Arsenic	100.0	100.2	100	80-128
Barium	2,000	2,125	106	80-120
Beryllium	50.00	55.58	111	80-121
Cadmium	50.00	55.23	110	80-120
Chromium	200.0	210.8	105	80-120
Cobalt	500.0	512.5	103	80-120
Copper	250.0	253.2	101	77-120
Lead	100.0	103.9	104	77-120
Molybdenum	400.0	431.4	108	80-120
Nickel	500.0	526.8	105	80-120
Selenium	100.0	111.2	111	80-123
Silver	50.00	52.51	105	79-120
Thallium	100.0	120.0	120	80-124
Vanadium	500.0	539.0	108	80-120
Zinc	500.0	543.7	109	80-120

Type: BSD Lab ID: QC611883

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	500.0	501.9	100	75-120	5	20
Arsenic	100.0	104.0	104	80-128	4	20
Barium	2,000	2,054	103	80-120	3	20
Beryllium	50.00	53.62	107	80-121	4	20
Cadmium	50.00	53.76	108	80-120	3	20
Chromium	200.0	203.3	102	80-120	4	20
Cobalt	500.0	490.9	98	80-120	4	20
Copper	250.0	241.9	97	77-120	5	20
Lead	100.0	101.8	102	77-120	2	20
Molybdenum	400.0	419.9	105	80-120	3	20
Nickel	500.0	508.2	102	80-120	4	20
Selenium	100.0	105.8	106	80-123	5	24
Silver	50.00	50.83	102	79-120	3	20
Thallium	100.0	110.7	111	80-124	8	20
Vanadium	500.0	517.8	104	80-120	4	20
Zinc	500.0	527.8	106	80-120	3	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 3010A
Project#:	LC010060.0014.00001	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	179639
MSS Lab ID:	231537-025	Sampled:	10/03/11
Matrix:	Water	Received:	10/04/11
Units:	ug/L	Prepared:	10/04/11
Diln Fac:	1.000	Analyzed:	10/10/11

Type: MS Lab ID: QC611884

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<1.774	500.0	529.8	106	68-121
Arsenic	6.373	100.0	109.0	103	70-139
Barium	2.052	2,000	2,148	107	71-120
Beryllium	<0.2014	50.00	56.04	112	79-123
Cadmium	<1.150	50.00	56.22	112	70-123
Chromium	<0.4886	200.0	213.6	107	70-120
Cobalt	<0.5184	500.0	514.1	103	72-120
Copper	2.982	250.0	254.2	100	66-124
Lead	<1.610	100.0	109.6	110	58-120
Molybdenum	<0.7651	400.0	436.5	109	76-120
Nickel	<0.6431	500.0	534.5	107	66-120
Selenium	<2.501	100.0	101.4	101	64-132
Silver	<1.586	50.00	53.40	107	50-127
Thallium	3.727	100.0	120.3	117	64-129
Vanadium	<0.8763	500.0	541.9	108	73-120
Zinc	<3.104	500.0	553.7	111	69-126

Type: MSD Lab ID: QC611885

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	500.0	520.7	104	68-121	2	20
Arsenic	100.0	106.5	100	70-139	2	28
Barium	2,000	2,085	104	71-120	3	24
Beryllium	50.00	54.02	108	79-123	4	23
Cadmium	50.00	54.44	109	70-123	3	22
Chromium	200.0	206.9	103	70-120	3	22
Cobalt	500.0	498.8	100	72-120	3	22
Copper	250.0	250.3	99	66-124	2	30
Lead	100.0	102.0	102	58-120	7	29
Molybdenum	400.0	429.4	107	76-120	2	25
Nickel	500.0	513.8	103	66-120	4	22
Selenium	100.0	97.59	98	64-132	4	31
Silver	50.00	51.65	103	50-127	3	27
Thallium	100.0	114.8	111	64-129	5	25
Vanadium	500.0	532.4	106	73-120	2	25
Zinc	500.0	536.2	107	69-126	3	23

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	METHOD
Project#:	LC010060.0014.00001	Analysis:	EPA 7470A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	179776
Lab ID:	QC612452	Prepared:	10/07/11
Matrix:	Water	Analyzed:	10/07/11
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	METHOD
Project#:	LC010060.0014.00001	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	179776
Matrix:	Water	Prepared:	10/07/11
Units:	ug/L	Analyzed:	10/07/11
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC612453	2.500	2.510	100	80-120		
BSD	QC612454	2.500	2.440	98	80-120	3	27

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	METHOD
Project#:	LC010060.0014.00001	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	179776
Field ID:	ZZZZZZZZZZ	Sampled:	10/06/11
MSS Lab ID:	231648-001	Received:	10/06/11
Matrix:	Water	Prepared:	10/07/11
Units:	ug/L	Analyzed:	10/07/11
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC612455	0.9420	2.500	3.440	100	67-120		
MSD	QC612456		2.500	3.410	99	67-120	1	39

RPD= Relative Percent Difference

California Title 22 Metals

Lab #:	231520	Project#:	LC010060.0014.00001
Client:	Arcadis	Location:	690 15th St. Oakland
Field ID:	SOIL DRUM	Basis:	as received
Lab ID:	231520-005	Diln Fac:	1.000
Matrix:	Soil	Sampled:	10/03/11
Units:	mg/Kg	Received:	10/03/11

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.50	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Arsenic	3.1	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Barium	44	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Beryllium	0.18	0.10	179761	10/06/11	10/20/11	EPA 3050B	EPA 6010B
Cadmium	ND	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Chromium	42	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Cobalt	5.3	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Copper	6.0	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Lead	1.8	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Mercury	ND	0.020	179848	10/10/11	10/10/11	METHOD	EPA 7471A
Molybdenum	ND	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Nickel	39	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Selenium	ND	0.50	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Silver	ND	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Thallium	ND	0.50	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Vanadium	28	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Zinc	21	1.0	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	LC010060.0014.00001	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC612392	Batch#:	179761
Matrix:	Soil	Prepared:	10/06/11
Units:	mg/Kg		

Analyte	Result	RL	Analyzed
Antimony	ND	0.50	10/07/11
Arsenic	ND	0.25	10/19/11
Barium	ND	0.25	10/07/11
Beryllium	ND	0.10	10/07/11
Cadmium	ND	0.25	10/07/11
Chromium	ND	0.25	10/07/11
Cobalt	ND	0.25	10/07/11
Copper	ND	0.26	10/07/11
Lead	ND	0.25	10/07/11
Molybdenum	ND	0.25	10/07/11
Nickel	ND	0.25	10/07/11
Selenium	ND	0.50	10/07/11
Silver	ND	0.25	10/07/11
Thallium	ND	0.50	10/07/11
Vanadium	ND	0.25	10/07/11
Zinc	ND	1.0	10/07/11

ND= Not Detected

RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	LC010060.0014.00001	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	179761
Units:	mg/Kg	Prepared:	10/06/11
Diln Fac:	1.000	Analyzed:	10/07/11

Type: BS Lab ID: QC612393

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	102.8	103	80-120
Arsenic	50.00	51.09	102	80-120
Barium	100.0	103.0	103	80-120
Beryllium	2.500	2.493	100	80-120
Cadmium	10.00	10.24	102	80-120
Chromium	100.0	103.3	103	80-120
Cobalt	25.00	25.35	101	80-120
Copper	12.50	12.35	99	80-120
Lead	100.0	98.38	98	80-120
Molybdenum	20.00	20.72	104	80-120
Nickel	25.00	24.78	99	80-120
Selenium	50.00	50.74	101	80-120
Silver	10.00	9.927	99	80-120
Thallium	50.00	51.06	102	80-120
Vanadium	25.00	25.54	102	80-120
Zinc	25.00	25.61	102	80-120

Type: BSD Lab ID: QC612394

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	103.9	104	80-120	1	20
Arsenic	50.00	51.10	102	80-120	0	20
Barium	100.0	101.7	102	80-120	1	20
Beryllium	2.500	2.456	98	80-120	2	20
Cadmium	10.00	10.22	102	80-120	0	20
Chromium	100.0	102.0	102	80-120	1	20
Cobalt	25.00	25.05	100	80-120	1	20
Copper	12.50	12.12	97	80-120	2	20
Lead	100.0	97.99	98	80-120	0	20
Molybdenum	20.00	20.77	104	80-120	0	20
Nickel	25.00	24.71	99	80-120	0	20
Selenium	50.00	50.61	101	80-120	0	20
Silver	10.00	9.837	98	80-120	1	20
Thallium	50.00	50.58	101	80-120	1	20
Vanadium	25.00	25.17	101	80-120	1	20
Zinc	25.00	25.01	100	80-120	2	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 3050B
Project#:	LC010060.0014.00001	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	179761
MSS Lab ID:	231592-001	Sampled:	10/03/11
Matrix:	Soil	Received:	10/04/11
Units:	mg/Kg	Prepared:	10/06/11
Basis:	as received		

Type: MS Lab ID: QC612395

Analyte	MSS Result	Spiked	Result	%REC	Limits	Diln	Fac	Analyzed
Antimony	<1.542	91.74	62.45	68	1-120	10.00		10/07/11
Arsenic	3.017	45.87	50.19	103	70-120	1.000		10/19/11
Barium	39.20	91.74	135.5	105	39-146	10.00		10/07/11
Beryllium	0.1966	2.294	2.538	102	79-120	10.00		10/07/11
Cadmium	<0.1551	9.174	10.05	109	70-120	10.00		10/07/11
Chromium	30.90	91.74	132.6	111	54-127	10.00		10/07/11
Cobalt	4.514	22.94	29.99	111	54-121	10.00		10/07/11
Copper	8.768	11.47	29.60	182 *	37-159	10.00		10/07/11
Lead	13.71	91.74	113.5	109	54-124	10.00		10/07/11
Molybdenum	<0.5451	18.35	19.82	108	67-120	10.00		10/07/11
Nickel	29.07	22.94	56.06	118	37-141	10.00		10/07/11
Selenium	<1.420	45.87	43.82	96	70-120	10.00		10/07/11
Silver	<0.7258	9.174	9.789	107	68-120	10.00		10/07/11
Thallium	<1.583	45.87	48.16	105	65-120	10.00		10/07/11
Vanadium	25.85	22.94	50.56	108	47-144	10.00		10/07/11
Zinc	25.21	22.94	69.73	194 *	32-153	10.00		10/07/11

Type: MSD Lab ID: QC612396

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Diln	Fac	Analyzed
Antimony	92.59	66.10	71	1-120	5	41	10.00		10/07/11
Arsenic	46.30	48.99	99	70-120	3	32	1.000		10/19/11
Barium	92.59	132.0	100	39-146	3	53	10.00		10/07/11
Beryllium	2.315	2.398	95	79-120	7	21	10.00		10/07/11
Cadmium	9.259	9.605	104	70-120	5	37	10.00		10/07/11
Chromium	92.59	124.6	101	54-127	7	36	10.00		10/07/11
Cobalt	23.15	27.61	100	54-121	9	33	10.00		10/07/11
Copper	11.57	22.30	117	37-159	29	32	10.00		10/07/11
Lead	92.59	111.4	105	54-124	3	43	10.00		10/07/11
Molybdenum	18.52	18.36	99	67-120	9	22	10.00		10/07/11
Nickel	23.15	52.00	99	37-141	8	33	10.00		10/07/11
Selenium	46.30	45.10	97	70-120	2	22	10.00		10/07/11
Silver	9.259	9.090	98	68-120	8	26	10.00		10/07/11
Thallium	46.30	46.11	100	65-120	5	29	10.00		10/07/11
Vanadium	23.15	47.32	93	47-144	7	30	10.00		10/07/11
Zinc	23.15	56.10	133	32-153	22	37	10.00		10/07/11

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	METHOD
Project#:	LC010060.0014.00001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	179848
Lab ID:	QC612749	Prepared:	10/10/11
Matrix:	Soil	Analyzed:	10/10/11
Units:	mg/Kg		

Result	RL
ND	0.020

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	METHOD
Project#:	LC010060.0014.00001	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	179848
Matrix:	Soil	Prepared:	10/10/11
Units:	mg/Kg	Analyzed:	10/10/11
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC612750	0.2083	0.2167	104	80-120		
BSD	QC612751	0.2083	0.2083	100	80-120	4	28

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	METHOD
Project#:	LC010060.0014.00001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	5.000
Field ID:	ZZZZZZZZZZ	Batch#:	179848
MSS Lab ID:	231595-001	Sampled:	10/03/11
Matrix:	Soil	Received:	10/04/11
Units:	mg/Kg	Prepared:	10/10/11
Basis:	as received	Analyzed:	10/10/11

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC612752	2.575	0.2049	2.582	3 NM	63-133		
MSD	QC612753		0.2016	2.306	-133 NM	63-133	11	39

NM= Not Meaningful: Sample concentration > 4X spike concentration
 RPD= Relative Percent Difference