

Alameda-Contra Costa Transit District

May 22, 2009

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Alameda County Environmental Health

Mr. Stephen Plunkett Alameda County Health Division Division of Environmental Protection Department of Environmental Health 1131 Harbor Bay Parkway, Second Floor Alameda, CA 94502

Dear Mr. Plunkett:

Subject: Downgradient Subsurface Investigation Report – May 2009 AC Transit, 1177 47th Street, Emeryville

AC Transit hereby submits the enclosed Downgradient Subsurface Investigation Report for the AC Transit, 1177 47th Street, Emeryville, facility (Site). The report contains the results and description of activities performed by Cameron-Cole in December 2008 through March 2009 to define the extent of petroleum hydrocarbons downgradient of the Site. The field activities were performed in accordance with a workplan submitted and subsequently approved by the Alameda County Environmental Health Services Agency (ACEHS).

A total of eight soil samples and seven groundwater samples were collected from seven borings drilled downgradient of the Site. Based on the sampling results of subsurface soil and grab groundwater samples, two new groundwater monitoring wells (MW-15 and MW-16) were installed. While locating utilities prior to drilling activities, Cameron-Cole discovered an unmarked monitoring well on Doyle Street, adjacent to monitoring well MW-13. Upon field verification of well condition and construction and getting approval from your office, Cameron-Cole included this well instead of installing a new well for the AC Transit monitoring well network.

The three off-site wells were included in the quarterly groundwater sampling event conducted by Cameron-Cole in March 2009. The results of sampling these wells are contained in the Groundwater Monitoring Report, dated May 2009.

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.

If you have any questions or comments regarding the enclosed report, please call me at (510) 577-8869.

Sincerely,

ie Chaew Environmental Engineer

Enclosure

DOWNGRADIENT SUBSURFACE INVESTIGATION REPORT FOR THE AC TRANSIT 1177 47TH STREET FACILITY EMERYVILLE, CALIFORNIA

Prepared For:

Ms. Suzanne Chaewsky AC Transit 10626 E. 14th Street Oakland, California 94603



Prepared By:

Cameron-Cole 101 W. Atlantic, Building 90 Alameda, California 94501



May 2009

DOWNGRADIENT SUBSURFACE INVESTIGATION REPORT FOR THE AC TRANSIT 1177 47TH STREET FACILITY EMERYVILLE CALIFORNIA

Prepared For: Ms. Suzanne Chaewsky AC Transit-Environmental 10626 E. 14th Street Oakland, California 94603

Prepared By: Cameron-Cole LLC 101 West Atlantic Blvd. Alameda, California 94501

May 2009

Brad Wright, RG, CHG Principal Hydrogeologis

Into Moto

Dustin Metz Geologist

TABLE OF CONTENTS

INTRODUCTION	1
PREVIOUS SITE INVESTIGATIONS	1
DOWNGRADIENT SUBSURFACE INVESTIGATION	3
BORING INSTALLATION	3
INVESTIGATION RESULTS	5
Lithology Laboratory Results Monitor Well Installation	5
LABORATORY RESULTS	6
QUARTERLY GROUNDWATER MONITORING ACTIVITIES	
CONCLUSIONS/RECOMMENDATIONS	8
REFERENCES	9

LIST OF FIGURES

Figure 1	AC Transit Emeryville Facility Site Location Map
Figure 2	Soil Boring and Monitor Well Locations
Figure 3	First Quarter 2009 Potentiometric Surface Map
Figure 4	Cross-Section A-A'

LIST OF TABLES

Table 1	. Summary of Grab Groundwater Analytical Results
Table 2	Summary of Soil Analytical Results

LIST OF APPENDICES

Appendix A	Permits
Appendix B	Boring Logs
Appendix C	Certified Analytical Reports

Introduction

On behalf of AC Transit, Cameron-Cole has prepared this report to present the results of a subsurface investigation performed at the AC Transit facility located at 1177 47th Street in Emeryville, California (the Site) (Figure 1), Alameda County Environmental Health Services (ACEHS) fuel leak case No. RO0000402. The Facility consists of bus maintenance buildings, a tire shop building, parking areas, a bus wash and a gasoline and diesel fueling island. Total petroleum hydrocarbon (TPH) impacts to soil and groundwater observed at the Site are associated with underground storage tanks (USTs), one documented surface diesel spill and a leaking hydraulic lift. The results of previous subsurface investigations (February 2003 and October 2003) were reported to ACEHS in the Subsurface Investigation Report, (Cameron-Cole, 2003a) and the Groundwater Monitoring and Subsurface Investigation Report, (Cameron-Cole, 2003b). In an August 23, 2006 letter to AC Transit, ACEHS requested the submittal of a Workplan for a Soil and Groundwater Investigation which presents a plan to better define the extent of TPH in soil and groundwater downgradient of the Site. On behalf of AC Transit, Cameron-Cole submitted a Workplan for a Downgradient Subsurface Investigation in September 2006 to satisfy the ACEHS directives (Cameron-Cole, 2006). The field activities were performed in December 2008. The time lapse between the workplan and field activities was the result of AC Transit negotiating an access agreement with the downgradient property owner.

The following sections of this report present details of activities conducted during the soil and groundwater investigation, investigation results, conclusions and recommendations.

Previous Site Investigations

Prior to 1999, several subsurface soil and groundwater investigations associated with USTs and one surface diesel spill were conducted at the Site. During these historic investigations, several soil borings and 14 groundwater monitor wells (MW-1 through MW-10 and W-1 through W-4) were installed at the Site (Figure 2). In 1999, it was determined that the casing in monitor well W-2 was bent at a depth of three feet below grade, preventing the lowering of a bailer for sample collection. Monitor well W-2 was subsequently abandoned. In December 1999, six USTs located in Tank Farm No. 2 (Figure 2) were excavated and removed under oversight from the ACHCS.

Additional subsurface investigation work conducted in 2001 included the installation of soil borings SB-1a through SB-4a installed in the vicinity of former Tank Farm No. 2 and the installation of soil borings SB-5a through SB-8a located along the downgradient property boundary. After reviewing the results from samples collected from soil borings SB-1a through SB-8a, three additional monitor wells (MW-11 through MW-13) were installed at the Site. Figure 2 shows the location of the monitor wells and soil borings. Figure 2 also displays the location of facility buildings, former and existing UST locations and subsurface utilities.

During third quarter 2002 groundwater monitoring conducted at the Site, an approximate sevenfoot free phase product layer was measured in monitor well MW-13. This was the first measurable product layer recorded in this monitor well. Subsequent testing conducted by AC Transit on the hydraulic lift system located in the Tire Shop located near monitor well MW-13 confirmed that one of the hydraulic hoists had leaked. The lift was immediately taken out of service. ACHCS was notified of the release by AC Transit in a letter dated November 6, 2002. On November 13, 2002, removal of the free phase product from monitor well MW-13 was initiated. Product layer removal consisted of pumping the free phase layer from the well on a daily basis. By November 20, 2002, the layer had been reduced to a sheen (< 0.01 feet).

On February 18, 2003, five soil borings (SB-1b through SB-5b) were installed in the vicinity of the Tire Building to assess the extent of the impact of hydraulic oil (Figure 1). At the request of ACHCS a sixth boring (SB-6b) was located downgradient of a 1,000-gallon UST used by the facility's emergency generator. The review of analytical results from samples collected from soil borings SB-1b through SB-5b, resulted in a second investigation focused along Doyle Street, located downgradient of the Site. Soil borings SB-7b through SB-12b were installed within Doyle Street to better define the extent of TPH downgradient of the Site. At the request of ACHCS, two additional borings SB-13b and SB-14b were installed on-site to sufficient depths to define a sand layer encountered in monitor wells W-1, W-2 and MW-13.

Downgradient Subsurface Investigation

This investigation was designed to define the extent of TPH downgradient of the Site. Monitor well MW-13, which contained the seven-foot free phase product layer, is located along the western property line of the Site and monitors groundwater immediately downgradient of the facility. During this subsurface investigation, seven borings (SB-15 through SB-21) were installed near the Emeryville Business Center located at 4701 Doyle Street, downgradient of monitor well MW-13 (Figure 2). All borings were installed for purposes of collecting soil and grab groundwater samples and to visually inspect for the presence of free phase product.

Following review of the analytical data from samples collected during soil boring installation, a network of monitor wells were located and installed.

Boring Installation

Prior to mobilizing equipment to the Site, the following activities were completed:

- The Site specific Health and Safety Plan was updated in accordance with California Occupational Health and Safety Administration requirements;
- AC Transit negotiated an access agreement with the owners of the Emeryville Business Center located at 4701 Doyle Street;
- An encroachment permit was obtained from the City of Emeryville for those soil borings and monitor wells located on Doyle Street (Appendix A);
- Underground Service Alert (USA) was notified of impending activities. Additionally, a professional underground utility locator cleared each boring location;
- Drilling Contractors were scheduled; and
- Drilling permits were obtained from Alameda County Public Works Agency (ACPWA) (Appendix A).

The borings were installed on December 17, 2008, using GeoprobeTM push technology coring equipment. During boring advancement, soil cores were continuously collected in clear acetate sleeves, which allowed the field geologist to describe the soil lithology according to the Unified Soil Classification System. A representative sample from each soil horizon was screened with a photoionization detector (PID) to determine if volatile constituents were present in the soil core. The lithologic logs for each boring are presented in Appendix B.

Laboratory soil samples were collected where evidence of contamination was observed in the field and immediately above the transmissive zone. Laboratory soil sample preparation included cutting the polyethylene sleeve for the interval to be submitted, capping each end of the sleeve with Teflon tape and tight fitting caps, assigned the sample interval a unique identification number, placing the sample in plastic bags and an ice filled color. The sample ID number, depth, time and date of collection and requested analysis were entered onto chain-of-custody documentation.

Grab groundwater samples were collected from the water table aquifer through PVC casing installed in the borings. Grab groundwater samples were pumped to the surface through small diameter tubing. The samples were placed in laboratory-supplied containers, assigned unique identification numbers, sealed in plastic bags and placed in an ice filled cooler. The sample ID number, depth, time and date of collection and requested analysis was entered onto chain-of-custody documentation.

Once the total depth of the soil boring was reached and all samples were collected, the boring was backfilled with neat cement pumped into the borehole from the bottom up.

Drill cuttings and fluids generated during soil boring installation were contained in appropriate labeled containers, moved to the Site's drummed waste area and disposed of in accordance with all regulatory requirements.

Laboratory Analysis

All samples were submitted to Accutest Laboratories for analysis by USEPA Method 8015 modified for extractable fuel scan with silica gel cleanup and for benzene, toluene, ethyl benzene, xylenes and fuel oxygenates by USEPA Method 8260B.

Investigation Results

A total of eight soil samples and seven groundwater samples were collected from seven borings and submitted for laboratory analysis. There was no visual evidence of sheen or free phase hydrocarbons detected in any of the borings installed in December 2008. One soil sample and one groundwater sample were collected from each boring with the exception of SB-18, where a hydrocarbon odor at approximately ten feet below ground surface (bgs) prompted the collection of an additional soil sample.

Lithology

The lithology encountered during the installation of borings SB-15 through SB-21 is consistent with that encountered during the installation of monitor wells MW-12 and MW-13, which are located in the vicinity of this investigation. The Site is underlain by clayey sand to depths of three to six feet bgs, where a silty clay layer is commonly encountered. Very moist to saturated conditions are encountered below the silty clay layer at depths of 17 to 25 feet bgs in more transmissive clayey sand to silty sand layers.

A geologic cross-section incorporating lithologic data from monitor wells installed across the Site is presented as Figure 3. The trace of cross-section A-A' has been oriented to follow the general direction of groundwater flow observed across the Site. Underlying the engineering fill, the lithology consists primarily of silty clays with discontinuous sand and gravel layers. A continuous core of the lithology was not collected in the monitor wells that were installed in 1987 and 1989. In these wells, approximately 1.5 feet of core was collected every five feet during well installation. Therefore, sand and gravel layers may be present in these wells at intervals not logged by the onsite geologist at the time of their installation.

Laboratory Results

Certified analytical reports for all grab groundwater and soil samples analyzed during this investigation are presented in Appendix C and the results are summarized in Table 1 and Table 2. As depicted in Table 1, gasoline was only detected in groundwater samples from SB-20 and SB-21 (59.5 micrograms per liter (μ g/L) and 65.7 μ g/L, respectively). Both concentrations are below the Environmental Screening Level (ESL) for gasoline (100 μ g/L). Toluene was detected in groundwater samples from each boring location with the exception of SB-15, but all concentrations were below the ESL (40 μ g/L). With the exception of SB-19, each groundwater sample contained concentrations of Methyl Tert Butyl Ether (MTBE) that exceeded the ESL (5 μ g/L). These results are not unusual as MTBE tends to migrate downgradient faster than petroleum hydrocarbons.

Table 2 presents analytical results for soil samples. As depicted, low levels of gasoline and diesel (102 μ g/kg and 22.2 mg/kg, respectively) were detected at a relatively shallow depth (10 feet) in boring SB-18. Boring SB-18 is the furthest downgradient boring and no analytes were detected in any other soil samples. The low levels of gasoline and diesel in SB-18 are most likely due to previous activities on the 4701 Doyle Street property.

Monitor Well Installation

Laboratory analysis of samples collected during the investigation indicated that petroleum hydrocarbons as gasoline, toluene and MTBE are present in the groundwater. Analytical results from grab groundwater samples were used to determine the placement of wells to monitor the downgradient plume boundary (Figure 2). Two new wells, MW-15 and MW-16, were installed on February 19, 2009.

Monitor wells were installed using hollow-stem auger drilling equipment. During drilling a continuous core was collected to confirm consistency with the lithologic logs generated during soil boring installation. The wells were constructed with two-inch diameter PVC casing and five-

foot screened intervals. To insure interception of any floating hydrocarbons, the screen extends above first encountered groundwater. The sand filter-pack extends approximately one foot above the screened interval. A three-foot thick bentonite bridge was established on top of the filter-pack and the remaining annular space was sealed with a mix of cement with 5% bentonite. Wells are protected with a traffic rated vault box set to grade and locking cap.

Prior to sample collection, the new monitor wells were developed by surging the screened interval to promote flow through the filterpack and purging of approximately ten casing volumes of groundwater.

While locating utilities prior to drilling activities, an unmarked monitor well was discovered on Doyle Street, adjacent to monitor well MW-13. The well was most likely associated with an inactive Pacific Gas and Electric Company materials facility at 4525 Hollis Street. The Department of Water Resources does not have a well completion form for the unmarked monitor well. A camera was deployed down the well to determine the screened interval and to inspect the condition of the PVC. The well was in good condition and had a total depth of 22.3 feet bgs with a screen to approximately 13 feet bgs. The well construction and location are ideal for monitoring the plume boundary downgradient of the Site. In lieu of installing an additional well at the same location, the unmarked well was named MW-14 and incorporated into the AC Transit monitor well network following a telephone conversation and January 15, 2009 email correspondence with Steven Plunkett of ACEHS.

Quarterly Groundwater Monitoring Activities

Work performed during the March 2009 monitoring event included measuring depth to water and collecting ground water samples from all monitor wells. The procedures and results of this event are discussed as part of the First Quarter 2009 Groundwater Monitoring Report submitted May 2009.

Groundwater elevation contours from March 2009 are included as Figure 4 of this report. As shown, groundwater flow is west at a gradient of approximately 0.028 feet per foot. Monitor well

MW-13 was the only well with a free-phase hydrocarbon layer detected. The free-phase hydrocarbon layer in MW-13 measure 0.36 feet.

Table 3 of the quarterly report presents historic and first quarter 2009 groundwater analytical results. The first quarter sampling results are consistent with the soil and groundwater investigation data contained in the report. Low levels of MTBE were detected in all three of the new monitor wells. Monitor well MW-16 also had a low detection of gasoline (62.9 μ g/L). No other compounds were reported above detection limits in monitor wells MW-14, MW-15 or MW-16 during first quarter 2009.

Conclusions/Recommendations

The results for grab groundwater samples collected during soil boring installation indicated concentrations of MTBE above ESLs. No other analytes were detected above ESLs in soil or groundwater samples. Subsequent monitor well installation and sampling confirmed the presence of MTBE downgradient of the Site. These results suggest that components of the fuel and hydraulic oil observed in MW-13 may have begun to migrate downgradient of the Site.

Monthly over purging of MW-13 is scheduled to remove the free-phase hydrocarbon layer. Quarterly groundwater monitoring of monitor wells MW-11 through MW-16 is scheduled for June 2009. This event will include site-wide depth to groundwater level measurements, including inspection of each monitor well for free-phase hydrocarbon. AC Transit will evaluate potential remedial alternatives to address the concentrations of chemicals detected above cleanup objectives in groundwater. The results of the remedial alternatives evaluation will be submitted to ACHES.

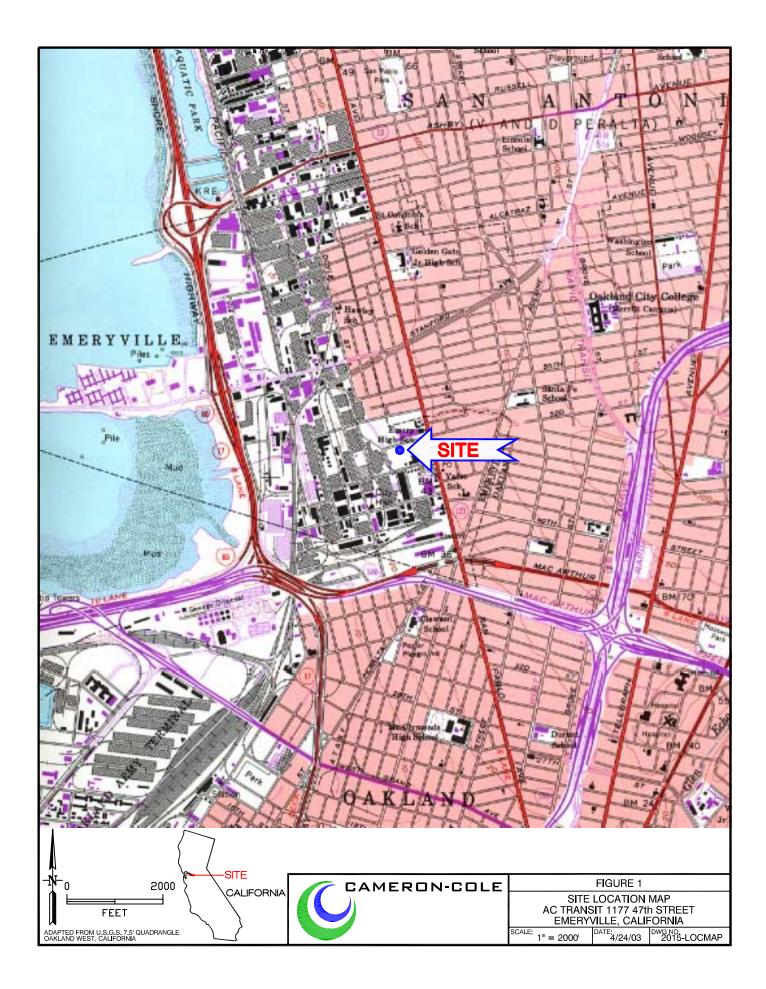
References

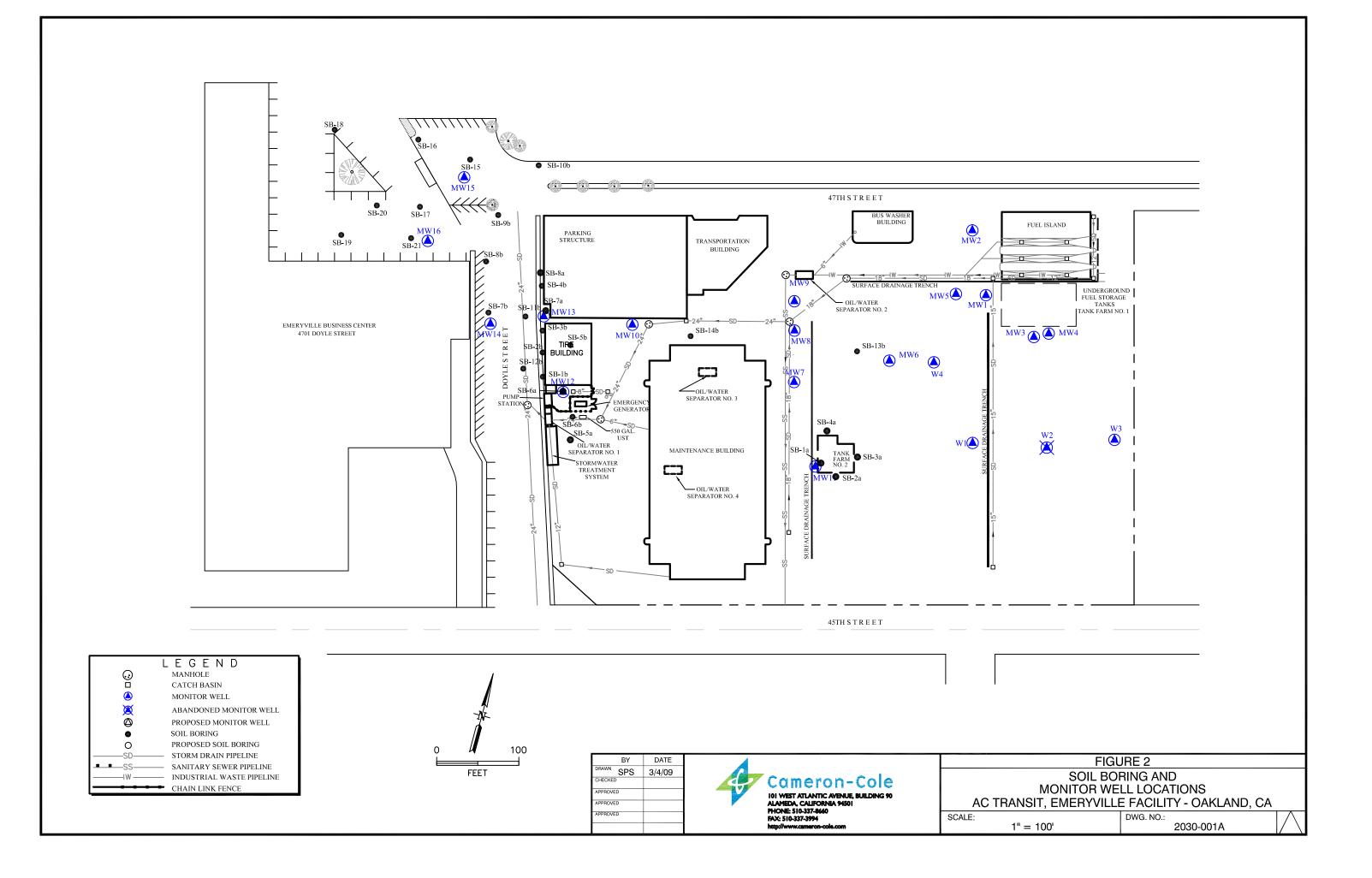
Cameron-Cole 2003a, Subsurface Investigation Report for the AC Transit Facility Located at 1177 47th Street, Emeryville, California, May 2003

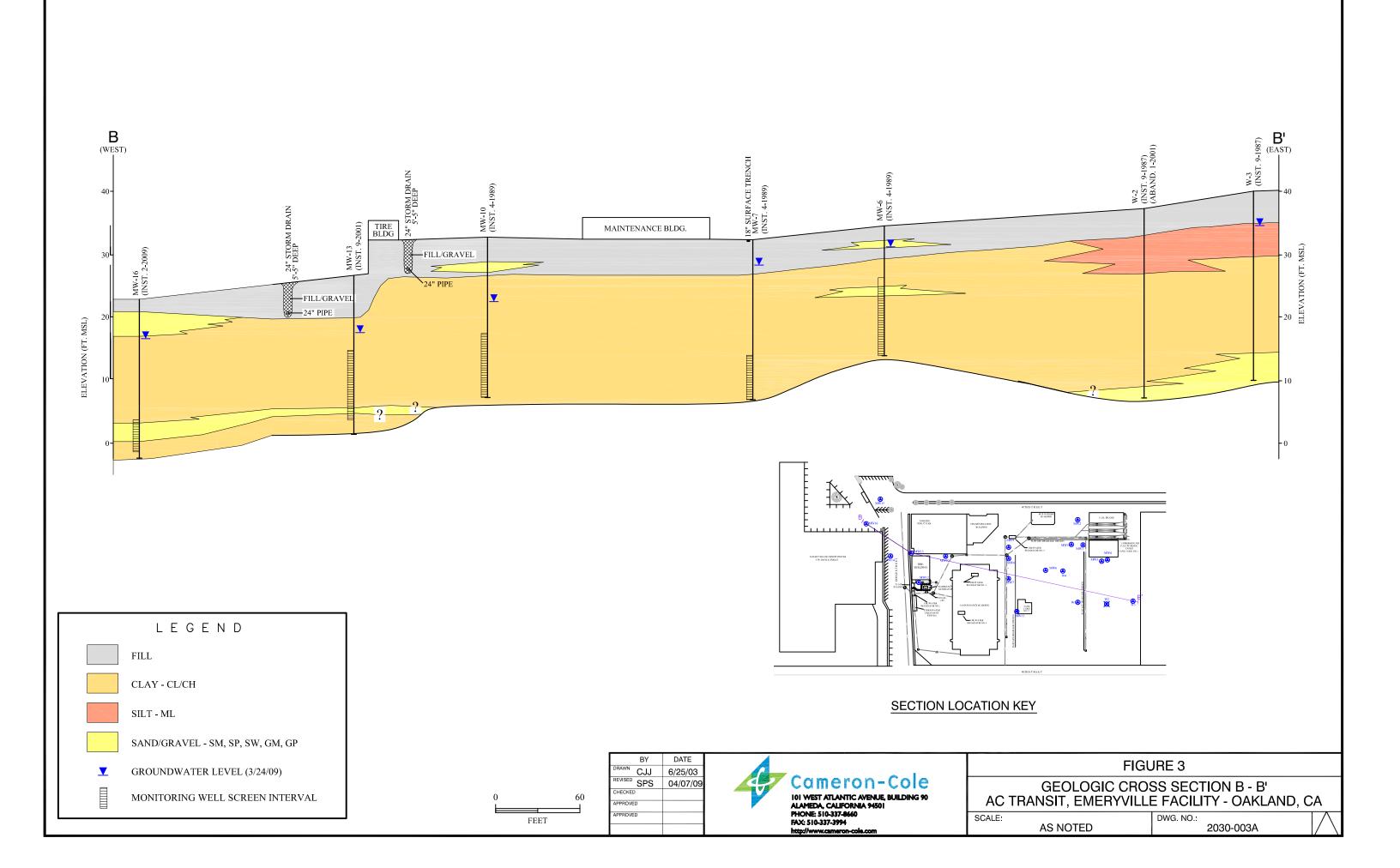
Cameron-Cole 2003b, Groundwater Monitoring and Subsurface Investigation Report for the AC Transit 1177 47th Street Facility, Emeryville California, January 2003

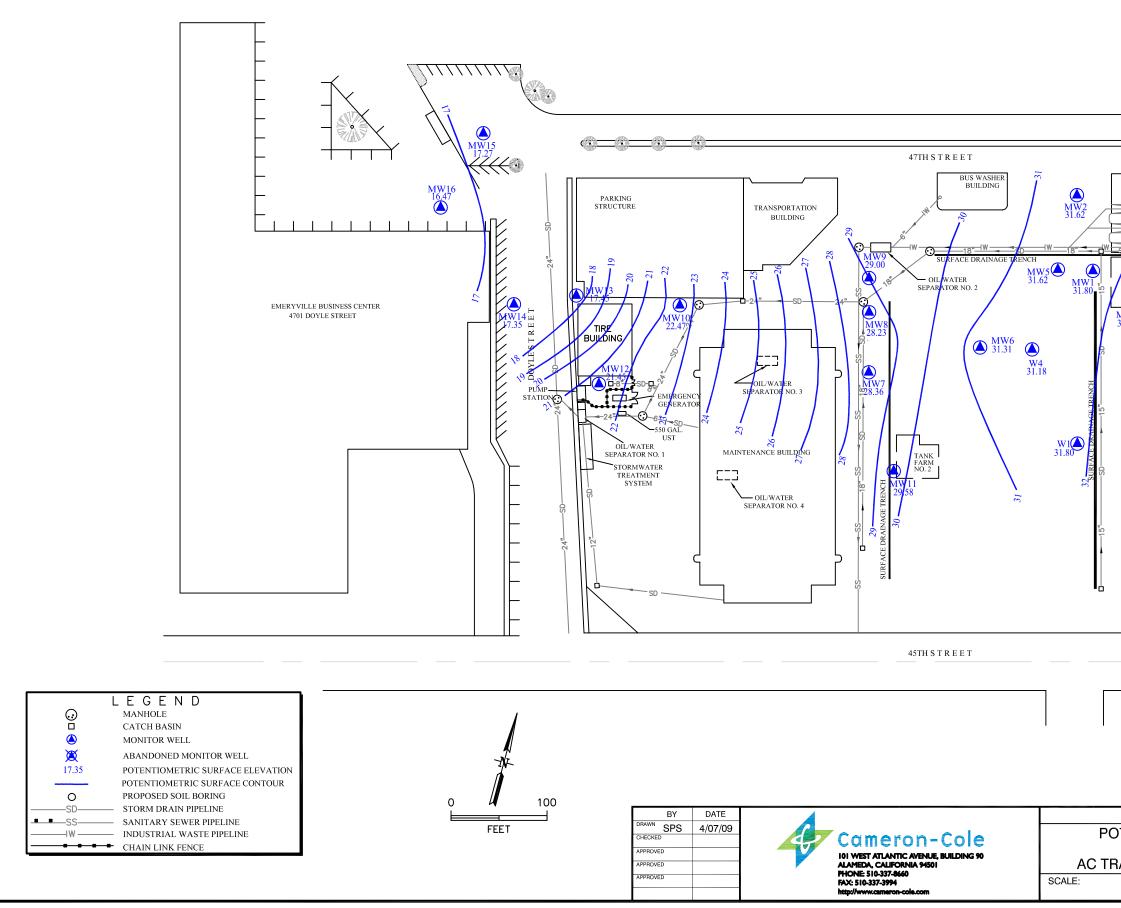
Cameron-Cole 2006, Workplan for Downgradient Subsurface Investigation at the AC Transit 1177 47th Street Facility, Emeryville California, January 2006

FIGURES









FUEL ISLAND FUEL ISLAND UNDERGROU FUEL STORAC TANKS TANK FARM NO 32.36 W2 W2 W2 W2 W3 34.70	E
MARCH	RFACE CONTOUR MAP 24, 2009
RANSIT, EMERYVILLE	E FACILITY - OAKLAND, CA
1" = 100'	DWG. NO.: 2030-002A

TABLES

TABLE 1 GRAB GROUNDWATER ANALYTICAL RESULTS FOR SELECTED ANALYTES AC Transit Facility 1177 47th Street, Emeryville, California

Sample ID	Media Description	Diesel	Gasoline	Motor Oil	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
		Concentration	Concentration	Concentration	Concentration	Concentration	Concentration	Concentrations	Concerntrations
		mg/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L
		ESL = 100	ESL = 100	ESL = 100	ESL = 1	ESL = 40	ESL = 30	ESL = 20	ESL=5
SB-15	Groundwater	< 0.099	<50	<0.2	<1.0	<1.0	<1.0	<2.0	6.2
SB-16	Groundwater	< 0.10	<50	< 0.728	<1.0	1.2	<1.0	<2.0	9.1
SB-17	Groundwater	< 0.10	<50	< 0.20	<1.0	1.5	<1.0	<2.0	10.1
SB-18	Groundwater	< 0.10	<50	< 0.20	<1.0	1.4	<1.0	<2.0	5.8
SB-19	Groundwater	< 0.10	<50	< 0.20	<1.0	1.3	<1.0	<2.0	2.7
SB-20	Groundwater	< 0.11	59.5	< 0.20	<1.0	1.5	<1.0	<2.0	13.2
SB-21	Groundwater	< 0.11	65.7	< 0.22	<1.0	1.9	<1.0	<2.0	8.3

Notes: ESL: Environmental Sceening Level

TABLE 2 SOIL ANALYTICAL RESULTS FOR SELECTED ANALYTES AC Transit Facility 1177, 47th Street, Emeryville, California

Sample ID	Media Description	Depth (ft)	Diesel	Gasoline	Motor Oil	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
			Concentration	Concentration	Concentration	Concentration	Concentration	Concentration	Concentrations	Concerntrations
			mg/kg	ug/kg	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
			ESL = 83	ESL = 83,000	ESL = 83	ESL = 44	ESL = 2900	ESL = 3300	ESL = 2300	ESL = 23
SB-15 @ 20.5	Soil	20.5-21	<10	<100	<20	<5	<5	<5	<10	<5
SB-16 @17.5	Soil	17.5-18	<10	<100	<20	<5	<5	<5	<10	<5
SB-17 @ 22.5	Soil	22.5-23	<10	<99	<20	<5	<5	<5	<9.9	<5
SB-18 @ 10	Soil	10-10.5	22.2	102	<20	<5	<5	<5	<9.9	<5
SB-18 @ 19.5	Soil	19.5-20	<10	<98	<20	<4.9	<4.9	<4.9	< 9.8	<4.9
SB-19 @ 19	Soil	19-19.5	<10	<99	<20	<4.9	<4.9	<4.9	<9.9	<4.9
SB-20 @ 22.5	Soil	22.5-23	<10	<99	<20	<4.9	<4.9	<4.9	<9.9	<4.9
SB-21 @ 22	Soil	21.5-22	<10	<99	<20	<5	<5	<5	<9.9	<5

Notes:

ESL: Environmental Screening Level NS: Not Sampled

APPENDIX A DRILLING PERMITS

Alameda County Public Works Agency - Water Resources Well Permit

Public	399 Elmhurst Street Hayward, CA 94544-1395 Telephone: (510)670-6633 Fax:(510)782-1939						
Application Approved	l on: 02/10/2009 By jamesy		09-0140 to W2009-0141 2/17/2009 to 02/19/2009				
Application Id: Site Location: Project Start Date: Assigned Inspector:	1233880878802 Doyle St and 47th, Emeryville, CA 02/17/2009 Contact Vicky Hamlin at (510) 670-5443 or vicky	City of Project Site: Completion Date: h@acpwa.org	·				
Applicant: Property Owner: Client:	Cameron-Cole LLC - Brad Wright 101 W Atlantic Rd., Alameda, CA 94501 City of Emeryville 1333 Park Avenue, Emeryville, CA 94608 ** same as Property Owner **		510-769-3563 510-596-4300				
	Receipt Number: WR2009-0055 Payer Name : Cameron-Cole LLC	Total Due: Total Amount Paid: Paid By: CHECK	\$690.00 \$690.00 PAID IN FULL				
Works Requesting Per Well Construction-Mor Driller: WDC - Lic #: 28	itoring-Monitoring - 2 Wells		Work Total: \$690.00				

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2009- 0140	02/10/2009	05/18/2009	MW-15	6.50 in.	2.00 in.	15.00 ft	25.00 ft
W2009- 0141	02/10/2009	05/18/2009	MW-16	6.50 in.	2.00 in.	15.00 ft	25.00 ft

Specific Work Permit Conditions

A State State State

1. 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.

2. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755

Alameda County Public Works Agency - Water Resources Well Permit							
		Inspection Scheduled					
	399 Elmhurst Street	on 12/5/08					
PUBLIC	Hayward, CA 94544-13 Telephone: (510)670-6633 Fax:(5	195 David have to uset					
Application Approved	l on: 12/02/2008 By jamesy	Permit Numbers: W2008-0900 Permits Valid from 12/17/2008 to 12/17/2008					
Application Id:	1228166499911	City of Project Site: Emeryville					
Site Location: Project Start Date: Requested Inspection		Completion Date: 12/15/2008					
	: 12/03/2008 at 8:30 AM (Contact your inspector	, NO INSPECTOR ASSIGNED-EMAIL ACPWA AT					
Extension Start Date: Extension Count:	wells@acpwa.org WHEN COMPLETED or call 12/17/2008 1	at (510) 670-6633, to confirm.) Extension End Date: 12/17/2008 Extended By: jamesy					
Applicant:	CAMERON - COLE - Brad Wright	Phone: 510-769-3563					
Property Owner:	101 W Atlantic Avenue, Alameda, CA 94501 Fordham Properties Inc.	Phone: 510-547-7177					
Client:	5835 Doyle St. Ste 101, Emeryville, CA 94608 ** same as Property Owner **						
	Receipt Number: WR2008-0430 Payer Name : Brad Wright						

Works Requesting Permits:

Borehole(s) for Investigation-Geotechnical Study/CPT's - 7 Boreholes Driller: WDC Exploration and Wells - Lic #: 283326 - Method: DP

Work Total: \$230.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2008-	12/02/2008	03/02/2009	7	2.00 in.	30.00 ft
0900					

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.

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. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

Alameda County Public Works Agency - Water Resources Well Permit

5. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

6. 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.

7. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

8. No Inspector Assigned to this site.

Applicant shall contact this office by email at wells@acpwa.org and certify in writing that work was completed and according to County Standards within 5 working days after the completion of work.

City of Emeryville • Department of Public Works **Encroachment Permit** Permit No. (2081201 Date 12-5-08 APPLICANT AC Transit Permit Admin. Fee Permit Inspection Deposit (2 hr. min.) CONTACT PERSON Brad Wright Cost Recovery Estimate ADDRESS 101 W. Atlantic Ave Blog 90 Required Security Deposit: PHONE (510) 769-3563 \$1,000 cash FAX (510) 337 - 3994 □ \$10,000 Bond, Bond # □100% Perf. Bond, **OWNER/DEVELOPER OF FACILITIES** Bond Value Bond # Total Payment Required <u>41,155</u> AC Transit ADDRESS 10626 International Blad. OAkland, CA 94603 Received: <u>V</u> Date Receipt # 63-9792 PHONE (570) 577-8869 Failure to obtain approval of a Final Inspection of the FAX (570) 577-8859 work covered by this Encroachment Permit within one (1) year of the estimated completion date shall result in CONTRACTOR DOING WORK WDC. the loss of the security deposit which shall be retained Exploration and Wells by the City of Emeryville. CONTACT PERSON Chris Tatum ADDRESS 1961 Macker Ave. Richmond CA 94804 PHONE (510) 236-6282 FAX (510) 225-2458 LICENSE NO. 283326 CLASS C-57 □Yes No CURRENT CITY BUSINESS LICENSE ON FILE ¥Yes □No PROVIDE PROOF OF INSURANCE EST. START DATE 12/9/08 EST. COMPLETION DATE 12/9/08 EST. COST IN CITY R/W 4/000 LOCATION OF WORK Street Parting lot beated at the intersection of Doyle st. and 47st. CHECK ALL THAT APPLY D Traffic Control DSurvey D Sidewalk Detour Dumpster Temporary No Parking Derivate Facilities on Public Right of Way Construction Sidewalk Diversity Approach Curb & Gutter Pedestrian Ramp DWater Service DGas Service DElectric Service DRoof Drain DUtility Maintenance DEnce DExcavation D Obstruction DAccess Road DMonitoring Well D Sewer Lateral D Storm Drain Crane Block Party FULLY DESCRIBE PROPOSED WORK WITHIN CITY RIGHT-OF-WAY (additional space on reverse if needed): Attach 3 complete sets of plans 8 ½ X 11, if applicable. Install 2 two-inch diameter 60il borings to a depth of 20 feet for the collection of 50il and groundwater samples. Borings will be backfilled and capped with asphalt. Scope of work will be completed in one day. Install 2 I hereby agree to protect and indemnify the City of Emeryville and hold it harmless in every way from all claim or suits for injury or damage to persons or property as set forth in the Standard Provisions. I agree not to begin construction until

for injury or damage to persons or property as set forth in the Standard Provisions. I agree not to begin construction until all materials to be used are on hand; to perform all work in accordance with the plans submitted (if any), the Standard Provisions to Encroachment Permit, and all applicable Special Conditions of Approval, and to pay all inspection and engineering costs in addition to those paid at the time of issuance of this permit. I further agree to complete the work to the satisfaction of the City Engineer and if for any reason the City of Emeryville is required to complete this work, I will pay all costs for such work.

Applicant Signature Drod Ung Date 11-20-08 After final inspection is approved, please contact the Public Works Department at 510-596-4330 to determine final cost, and

After final inspection is approved, please contact the Public Works Department at 510-596-4330 to determine final cost, and for final payment or reimbursement of deposit.

FOR CITY USE ONLY	oTemporary Permit	#	days	OLong Term Permit
The following documents are a Standard Provisions to Energy City Standard Details (List I	oachment Permit 🛛 Spe	eial C	this permit and have conditions of Approv Urban Runoff BMF	val
□Other				
Remarks	· · · · · · · · · · · · · · · · · · ·			
■ 48 HOUR NOTICE PRIOR ■ PROVIDE CONSTRUCTIO ■ AS-BUILT PLANS REQUI ■ PLEASE CALL FOR INSPI ■ PLEASE NOTIFY POLICE This permit is void unless the void This permit is to be strictly our APPROVED	DN SCHEDULE 5 DAYS RED ECTION AT 510-596-43 (510-596-3700) AND F work is completed before nstrued and no other work	S PRIC 333 IRE (5	510-596-3750) 24 H	IOURS IN ADVANCE.

APPENDIX B SOIL BORING LOGS

G		SOIL BORING/WE	LL CONSTRUCTION	I LOG		WE	ELL/BORING	G NO.	
C	CLIENT/ADDRESS AC Transit Emeryville, CA				PERMIT NO. V2008-0900		SB-15		
CAMERON-C	OLE	DRILLING COMPANY: WDC	DRILL METHOD: Direct Push	-	ehole / Well Ng dia (in):	Į	SAMPLE INT	ERVAL:	
DATE: 12/17/08		GROUND SURFACE ELEV. (FT MSL):	TOTAL DEPTH (FT): 25'		WATER DEPTH (FT N/A):	PROJECT 1 2030	NUMBER:	
SCREENED INTER (FT): N/A	RVAL	SCREEN SIZE (IN): N/A	CASING INTERVAL (FT): N/A		TOP OF CASING E (FT MSL): N/A	LEV	LOGGED E Dustin Metz		
SAND INTERVAL (I N/A	FT):	BENTONITE INTERVAL (FT) N/A	: GROUT INTERVAL (FT): 0-25		SURFACE COMPLE Concrete	TION	END CA N/A	P	
WELL COMPLETION	DEPT FEE1		DESCRIPTION		USCS CODE GRAPHIC	USCS			
	Ŧ	0 Fill: 0'-2' Asphalt/Fill				Fill			
	+ + + + + + +	5 Silty Clay: 6'-19' (0,15,25,	60); very dark brown (10YR 2/2			SC	0.0		
		plasticity; stiff; slightly moi	st			CL	4.3		
	+						0.8		
	+	Silty Sand: 19'-22' (0,50,30 coarse sand; medium grad	0,20); gray (10YR 6/1); dense; ded; saturated	very fine	to 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SM	0.8		
	+	Silty Clay: 22'-25' (0,20,35 medium plasticity; slightly	i,45); dark gray (10YR 4/1); me moist	dium stiff	;	CL	0.8		
		25							

G	SOIL BORING/WEL	L CONSTRUCTION	N LOG		WE	ELL/BORING	NO.
C	CLIENT/ADDRESS AC Transit Emeryville, CA			11T NO. 8-0900	SE	B-16	
CAMERON-COLE	DRILLING COMPANY: WDC	DRILL METHOD: Direct Push		HOLE / WELL IG DIA (IN):		SAMPLE INTE	RVAL:
DATE: 12/17/08	GROUND SURFACE ELEV. (FT MSL):	TOTAL DEPTH (FT): 25'		WATER DEPTH (FT N/A):	PROJECT N 2030	UMBER:
SCREENED INTERVAL (FT): N/A	SCREEN SIZE (IN): N/A	CASING INTERVAL (FT): N/A		TOP OF CASING E (FT MSL): N/A	LEV	LOGGED B Dustin Metz	
SAND INTERVAL (FT): N/A	BENTONITE INTERVAL (FT): N/A	GROUT INTERVAL (FT): 0-25		SURFACE COMPLE Concrete	TION	END CAF N/A	ס
WELL DEPT COMPLETION FEE		DESCRIPTION		USCS CODE GRAPHIC	USCS CODE		
	0 Fill: 0'-2' Asphalt/Fill				Fill		
	.5	0); very dark brown (10YR 2/2			SC	0.0	
	10					2.0	
	20				CL	0.6	
	Silty Sand: 23'-24.5' (0,50, medium sand; medium gra	30,20); gray (10YR 6/1); dens ded; saturated	e; very fine	e to	SM	1.0	
		5,45); dark gray (10YR 4/1); s	oft; mediu	m	CL		

G		SOIL BORING/WEL		N LOG		WE	ELL/BORING NO.		
C		CLIENT/ADDRESS AC Transit Emeryville, CA				SB-17			
CAMERON-C	OLE	DRILLING COMPANY: WDC	DRILL METHOD: Direct Push		HOLE / WELL NG DIA (IN):		SAMPLE INTERVAL:		
DATE: 12/17/08		GROUND SURFACE ELEV. (FT MSL):	TOTAL DEPTH (FT): 25'		WATER DEPTH (FT N/A	`) :	PROJECT NUMBER: 2030		
SCREENED INTER (FT): N/A	RVAL	SCREEN SIZE (IN): N/A	CASING INTERVAL (FT): N/A		TOP OF CASING E (FT MSL): N/A	LEV	LOGGED BY: Dustin Metz		
SAND INTERVAL (N/A	(FT):	BENTONITE INTERVAL (FT): N/A	GROUT INTERVAL (FT): 0-25		SURFACE COMPL Concrete	ETION	END CAP N/A		
WELL COMPLETION	DEPT FEE		DESCRIPTION		USCS CODE GRAPHIC	USCS			
	Ŧ	0 Fill: 0'-2' Concrete/Fill				Fill			
	+	Clayey Sand: 2'-7' (0,50,20 very fine sand; poorly grad),30); dark yellowish brown (ed; slightly moist	10YR 4/6); I	oose;	sc			
	+	Silty Clay: 7'-23' (0,15,25,6 plasticity; stiff; slightly mois	i0); very dark brown (10YR 2 st	/2); medium			6.3		
	+	15				CL	0.8		
	+						0.6		
	+	20					0.4		
	+	Silty Sand: 23'-24.5' (0,50, medium sand; poorly grade	30,20); grayish brown (10YR ed; very moist to saturated	. 5/2); very f	ine to	SM	0.4		
		25 Silty Clay: 24.5'-25' (0,20,3 low plasticity; slightly moist	0,50); dark grayish brown (1	0YR 4/2); s	oft;	CL			

G		SOIL BORING/WEL	L CONSTRUCTIO	ON LOG		WE	ELL/BORING	G NO.
C		CLIENT/ADDRESS AC Transit Emeryville, CA			ЛІТ NO. 18-0900	SI	B-18	
CAMERON-CO	LE	DRILLING COMPANY: WDC	DRILL METHOD: Direct Push		HOLE / WELL NG DIA (IN):		SAMPLE INTE	ERVAL:
DATE: 12/17/08		GROUND SURFACE ELEV. (FT MSL):	TOTAL DEPTH (FT): 25'		WATER DEPTH (FT N/A):	PROJECT N 2030	IUMBER:
SCREENED INTERV (FT): N/A	/AL	SCREEN SIZE (IN): N/A	CASING INTERVAL (FT) N/A	:	TOP OF CASING E (FT MSL): N/A	LEV	LOGGED B Dustin Metz	
SAND INTERVAL (F ⁻ N/A	T):	BENTONITE INTERVAL (FT): N/A	GROUT INTERVAL (FT): 0-25		SURFACE COMPLE Concrete	TION	END CA N/A	P
WELL COMPLETION	DEPTI FEET		DESCRIPTION		USCS CODE GRAPHIC	USCS CODE		
		Fill: 0'-2' Concrete/Fill				Fill		
	+ + + + +	Clayey Sand: 2'-8' (0,50,20 very fine sand; poorly grade	,30); dark grayish brown (1 ed; slightly moist	0YR 4/6); lo	ose;	SC		
		Silty Clay: 8'-20' (0,15,25,6 plasticity; medium stiff to st 0 @9'-10' Diesel Odor	0); very dark brown (10YR : iff; slightly moist	2/2); mediun	n		30.5 2.4	
		15				CL	3.6	
	+ :	20 Silty Sand: 20'-21' (0,60,25	@19.5'-20' Increased Silt and Sand; moist Silty Sand: 20'-21' (0,60,25,15); dark grayish brown (10YR 4/2); dense; very fine sand; poorly graded; saturated				1.3	
	+ + +	Silty Clay: 21'-25' (0,20,30, plasticity; medium stiff; slig	Silty Clay: 21'-25' (0,20,30,50); dark grayish brown (10YR 4/2); low plasticity; medium stiff; slightly moist			CL	1.1	

G		SOIL BORING/WEL	L CONSTRUCTIO	N LOG		WE	ELL/BORING	G NO.
C		CLIENT/ADDRESS AC Transit Emeryville, CA			/IT NO. 8-0900	SI	B-19	
CAMERON-CC	JLE	DRILLING COMPANY: WDC	DRILL METHOD: Direct Push		HOLE / WELL NG DIA (IN):	SAMPLE INTERVAL:		
DATE: 12/17/08		GROUND SURFACE ELEV. (FT MSL):	TOTAL DEPTH (FT): 25'		WATER DEPTH (FT N/A	·):	PROJECT N 2030	IUMBER:
SCREENED INTER\ (FT): N/A	VAL	SCREEN SIZE (IN): N/A	CASING INTERVAL (FT): N/A		TOP OF CASING E (FT MSL): N/A	LEV	LOGGED B Dustin Metz	
SAND INTERVAL (F N/A	·T):	BENTONITE INTERVAL (FT): N/A	GROUT INTERVAL (FT): 0-25		SURFACE COMPLE Concrete	TION	END CA N/A	P
WELL COMPLETION	DEPTH FEET		DESCRIPTION		USCS CODE GRAPHIC	USCS CODI		
		Fill: 0'-2' Concrete/Fill				Fill		
	+ + + -+-5	very fine sand; poorly grade	9,30); dark yellowish brown (1 ed; slightly moist	0YR 4/6);	loose;	sc		
	+ + +	plasticity; stiff; slightly mois	5); very dark brown (10YR 2/ it	2); mediun			6.8	
		 @19.5' Silty Sand Lens; sa @21' Clayey Sand Lens; vertical sectors in the sector s				CL	0.6 0.4 1.2	

G		SOIL BORING/WE		LOG		WE	ELL/BORING	G NO.	
C		CLIENT/ADDRESS AC Transit Emeryville, CA			11T NO. 8-0900	SB-20			
CAMERON-C	OLE	DRILLING COMPANY: WDC	DRILL METHOD: Direct Push		HOLE / WELL IG DIA (IN):		SAMPLE INTI	ERVAL:	
DATE: 12/17/08		GROUND SURFACE ELEV (FT MSL):	. TOTAL DEPTH (FT): 25'		WATER DEPTH (FT N/A	-):	PROJECT N 2030	NUMBER:	
SCREENED INTER (FT): N/A	RVAL	SCREEN SIZE (IN): N/A	CASING INTERVAL (FT): N/A		TOP OF CASING E (FT MSL): N/A	LEV	LOGGED B Dustin Metz		
SAND INTERVAL (N/A	FT):	BENTONITE INTERVAL (FT N/A): GROUT INTERVAL (FT): 0-25		SURFACE COMPLI Concrete	ETION	END CA N/A	Р	
WELL COMPLETION	DEPT FEE		DESCRIPTION		USCS CODE GRAPHIC	USCS			
	+	0 Fill: 0'-2' Concrete/Fill Clayey Sand: 2'-8' (0,50,	20,30); dark grayish brown (10YF	R 4/6); loc	Dise;	Fill			
	+		orly graded; slightly moist			sc			
	+	Silty Clay: 8'-23' (0,15,25 plasticity; stiff; slightly mo	,60); dark yellowish brown (10YF ist	8 4/6); me	edium		4.9		
	+						0.6		
		- 15				CL	0.4		
	+	- 20					0.8		
	+	Silty Sand: 23'-24.5' (0,50 to fine sand; poorly grade	0,35,15); dark gray (10YR 4/1); d d; very moist to saturated	ense; ver	y fine	SM			
		- 25 Silty Clay: 24.5'-25' (0,20 plasticity; slightly moist to	,35,45); dark gray (10YR 4/1); so moist	oft; low		CL			

6		SOIL BORING/WEL	L CONSTRUCTION	ON LOG		WE	LL/BORING NO.	
		CLIENT/ADDRESS AC Transit Emeryville, CA				SB-21		
CAMERON-C	OLE	DRILLING COMPANY: WDC	DRILL METHOD: Direct Push		HOLE / WELL NG DIA (IN):		SAMPLE INTERVAL:	
DATE: 2/17/08		GROUND SURFACE ELEV. (FT MSL):	TOTAL DEPTH (FT): 25'	I	WATER DEPTH (FT N/A	j):	PROJECT NUMBER 2030	
CREENED INTER FT): N/A	RVAL	SCREEN SIZE (IN): N/A	CASING INTERVAL (FT) N/A	:	TOP OF CASING E (FT MSL): N/A	LEV	LOGGED BY: Dustin Metz	
SAND INTERVAL	(FT):	BENTONITE INTERVAL (FT): N/A	GROUT INTERVAL (FT): 0-25		SURFACE COMPLE Concrete	TION	END CAP N/A	
WELL COMPLETION	DEPT FEE		DESCRIPTION		USCS CODE GRAPHIC	USCS CODE		
	Ţ	0 Fill: 0'-2' Concrete/Fill				Fill		
	+ + + + +	Clayey Sand: 2'-7' (0,50,20 very fine to fine sand; slight 5 Silty Clay: 7'-22.5' (0,15,25, plasticity; stiff; slightly moist	tly moist ,60); very dark brown (10YI			SC	0.6	
	+	15				CL	0.4	
	+						9.7	
	+	20					0.8	
	+	Silty Sand: 22.5'-24.5' (0,60 fine to fine sand; poorly gra),25,15); dark gray (10YR 4 ded; very moist to saturate	/1); dense; v d	/ery	SC		
		25 Silty Clay: 24.5'-25' (0,20,3	5 45): dark grav (10YR 4/1)	: coft: low		CL		

G	SOIL BORING/WEL	L CONSTRUCTIO	N LOG		WE	ELL/BORING	G NO.
C	CLIENT/ADDRESS AC Transit Emeryville, CA		PERM W2009		M	W-15	
CAMERON-COLE	DRILLING COMPANY: WDC	DRILL METHOD: Auger		HOLE / WELL G DIA (IN): 6.5 / 2		SAMPLE INT Continuous	ERVAL:
DATE: 02/19/2009	GROUND SURFACE ELEV. (FT MSL): N/A	TOTAL DEPTH (FT): 25		WATER DEPTH (FT 21):	PROJECT N 2030	NUMBER:
SCREENED INTERVAL (FT): 20-25	SCREEN SIZE (IN): 0.020 SCH 40 PVC	CASING INTERVAL (FT): 0-25		TOP OF CASING EI (FT MSL): N/A	_EV	LOGGED B Dustin Metz	
SAND INTERVAL (FT): 19-25 8/20 Mesh	BENTONITE INTERVAL (FT): 16-19	GROUT INTERVAL (FT): 0-16 Portland w/ 5% Bentor	nite	SURFACE COMPLE Traffic Rated Vau		END CA 25'	Ρ
WELL DEP COMPLETION FEE		DESCRIPTION		USCS CODE GRAPHIC	USCS		
	0 Fill: 0'-2' Asphalt/Fill				Fill		
	CLAYEY SAND: 2'-7' (0,50 very fine to medium sand;	,20,30); dark yellow brown (1 poorly graded; slightly moist	0YR 4/6); lc	pose;	SC		
	plasticity; stiff; slightly mosi @9' Clayey Sand Lens; mo	SILTY CLAY: 7'-21.5' (0,15,25,60); very dark brown (10YR 2/2); medium plasticity; stiff; slightly mosit @9' Clayey Sand Lens; moist				2.8	
	- 10 @10'-11' Štrong Hydrocart	oon odor; staining				43	
	- 15				CL	2.7	
	@19.5' Clayey Sand Lens					3.2	
	SILTY SAND: 21.5'-24.5' ((to medium sand; medium g	0,60,25,15); gray (10YR 6/1); graded; saturated	dense; very	fine	SM		
	- 25 SILTY CLAY: 24.5'-25' (0,2 medium plasticity; slightly r	20,35,45); dark gray (10YR 4/	I); medium	stiff;	CL	2.4	

G		SOIL BORING/WE	LL CONSTRUCTION	I LOG		W	ELL/BORING	G NO.
C	CLIENT/ADDRESS AC Transit Emeryville, CA				MIT NO. 99-0141	M	W-16	
CAMERON-CI	OLE	DRILLING COMPANY: WDC	DRILL METHOD: Auger		BOREHOLE / WELL CASING DIA (IN): 6.5 / 2		SAMPLE INTERVAL: Continuous	
DATE: 02/19/2009		GROUND SURFACE ELEV. (FT MSL): N/A	TOTAL DEPTH (FT): 25	WATER DEPTH (F 20	T):	PROJECT NUMBER: 2030		
SCREENED INTER (FT): 19-24	VAL	SCREEN SIZE (IN): 0.020 SCH 40 PVC	CASING INTERVAL (FT): 0-25		TOP OF CASING I (FT MSL): N/A	ELEV	LOGGED E Dustin Met	
SAND INTERVAL (F 18-25 8/20 Mesh	FT):	BENTONITE INTERVAL (FT) 18-15	: GROUT INTERVAL (FT): 0-15 Portland w/ 5% Benton	ite	SURFACE COMPL Traffic Rated Va		END CA 25'	١P
WELL COMPLETION	DEPT FEE		DESCRIPTION		USCS CODI GRAPHIC		-	
	Ŧ	0 Fill: 0'-2' Concrete/Fill				Fill		
	+	CLAYEY SAND: 2'-6' (0,5 very fine sand; poorly grad	0,20,30); dark yellow brown (10 ded; slightly moist	YR 4/6);	loose;	SC		
	+	SILTY CLAY: 6'-20' (0,15, plasticity; stiff; slightly mos	SILTY CLAY: 6'-20' (0,15,25,60); very dark brown (10YR 2/2); medium plasticity; stiff; slightly mosit				44	
	+	15				CL	1.5	
	+	@17' Clayey Sand Lens;	very moist				0.7	
	+		SILTY SAND: 20'-23' (0,50,30,20); dark gray (10YR 4/1); de fine sand; poorly graded; saturated			SM	1.1	
		SILTY CLAY: 23'-25' (0,20 low to medium plasticity; s	0,35,45); dark gray (10YR 4/1); Ilightly moist	medium	stiff;	CL		

APPENDIX C CERTIFIED ANALYTICAL REPORTS





01/02/09

Technical Report for

Cameron-Cole

T0600118672-AC Transit-Emeryville, CA

2030

Accutest Job Number: C3467

Sampling Date: 12/17/08

Report to:

Cameron-Cole 101 West Atlantic Avenue Suite 90 Alameda, CA 94501 dmetz@cameron-cole.com

ATTN: Dustin Metz

Total number of pages in report: 63



Luni Sten Altushy

Laurie Glantz-Murphy Laboratory Director

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Diane Theesen 408-588-0200

Certifications: CA (08258CA) This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.





Northern California • 3334 Victor Court • Santa Clara, CA 95054 • tel: 408-588-0200 • fax: 408-588-0201 • http://www.accutest.com



Table of Contents

2 3 4 5

-1-

Section 1: Sample Summary	3
Section 2: Sample Results	5
2.1: C3467-1: SB-21	6
2.2: C3467-2: SB-21-22'	8
2.3: C3467-3: SB-20	10
2.4: C3467-4: SB-20-22.5'	12
2.5: C3467-5: SB-15	14
2.6: C3467-6: SB-15-20.5	16
2.7: C3467-7: SB-16	18
2.8: C3467-8: SB-16-17.5	20
2.9: C3467-9: SB-17	22
2.10: C3467-10: SB-17-22.5'	24
2.11: C3467-11: SB-19	26
2.12: C3467-12: SB-19-19'	28
2.13: C3467-13: SB-18	30
2.14: C3467-14: SB-18-10'	32
2.15: C3467-15: SB-18-19.5'	34
2.16: C3467-16: TB-01	36
Section 3: Misc. Forms	37
3.1: Chain of Custody	38
Section 4: GC/MS Volatiles - QC Data Summaries	
4.1: Method Blank Summary	43
4.2: Blank Spike Summary	47
4.3: Matrix Spike/Matrix Spike Duplicate Summary	55
Section 5: GC Semi-volatiles - QC Data Summaries	
5.1: Method Blank Summary	
5.2: Blank Spike/Blank Spike Duplicate Summary	
5.3: Matrix Spike/Matrix Spike Duplicate Summary	



Sample Summary

Cameron-Cole

Job No: C3467

T0600118672-AC Transit-Emeryville, CA Project No: 2030

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
C3467-1	12/17/08	15:25 DM	12/18/08	AQ	Ground Water	SB-21
C3467-2	12/17/08	15:30 DM	12/18/08	SO	Soil	SB-21-22'
C3467-3	12/17/08	14:10 DM	12/18/08	AQ	Ground Water	SB-20
C3467-4	12/17/08	14:15 DM	12/18/08	SO	Soil	SB-20-22.5'
C3467-5	12/17/08	08:45 DM	12/18/08	AQ	Ground Water	SB-15
C3467-6	12/17/08	09:00 DM	12/18/08	SO	Soil	SB-15-20.5
C3467-7	12/17/08	09:40 DM	12/18/08	AQ	Ground Water	SB-16
C3467-8	12/17/08	09:40 DM	12/18/08	SO	Soil	SB-16-17.5
C3467-9	12/17/08	10:40 DM	12/18/08	AQ	Ground Water	SB-17
C3467-10	12/17/08	10:45 DM	12/18/08	SO	Soil	SB-17-22.5'
C3467-11	12/17/08	13:20 DM	12/18/08	AQ	Ground Water	SB-19
C3467-12	12/17/08	13:30 DM	12/18/08	SO	Soil	SB-19-19'
C3467-13	12/17/08	11:45 DM	12/18/08	AQ	Ground Water	SB-18

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



Sample Summary (continued)

Cameron-Cole

Job No: C3467

T0600118672-AC Transit-Emeryville, CA Project No: 2030

Sample Number	Collected Date	Time By	Received	Matr Code		Client Sample ID
C3467-14	12/17/08	12:00 DM	12/18/08	SO	Soil	SB-18-10'
C3467-15	12/17/08	11:50 DM	12/18/08	SO	Soil	SB-18-19.5'
C3467-16	12/17/08	08:00 DM	12/18/08	AQ	Trip Blank Water	TB-01

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





Sample Results

Report of Analysis



Lab Samj Matrix: Method: Project:	AQ SW8	67-1 - Ground Wa 346 8260B	ater C Transit-Emery	yville, CA	Date Sampled Date Received Percent Solids	: 12/18/08	
Run #1 Run #2	File ID W3436.D	DF 1	Analyzed 12/23/08	By BD	Prep Date n/a	Prep Batch n/a	Analytical Batch VW128
Run #1 Run #2	Purge Volur 10.0 ml	ne					

BTEX, Oxygenates

Compound	Result	RL	Units Q
Benzene	ND	1.0	ug/l
Ethylbenzene	ND	1.0	ug/l ug/l
1,2-Dibromoethane	ND	1.0	ug/l ug/l
Di-Isopropyl ether	7.5	5.0	ug/l ug/l
Methyl Tert Butyl Ether	8.3	1.0	ug/l ug/l
Tert-Butyl Alcohol	ND	10	ug/l ug/l
			ug/l
Surrogate Recoveries	Run# 1	Run# 2	Limits
Dibromofluoromethane Toluene-D8 4-Bromofluorobenzene	101% 104% 103%		60-130% 60-130% 60-130%
	Benzene Toluene Ethylbenzene Xylene (total) 1,2-Dibromoethane 1,2-Dichloroethane Di-Isopropyl ether Ethyl Tert Butyl Ether Methyl Tert Butyl Ether Tert-Amyl Methyl Ether Tert-Butyl Alcohol TPH-GRO (C6-C10) Surrogate Recoveries Dibromofluoromethane Toluene-D8	BenzeneNDToluene1.9EthylbenzeneNDXylene (total)ND1,2-DibromoethaneND1,2-DichloroethaneNDDi-Isopropyl ether7.5Ethyl Tert Butyl EtherNDMethyl Tert Butyl EtherNDTert-Amyl Methyl EtherNDTPH-GRO (C6-C10)65.7Surrogate RecoveriesRun# 1Dibromofluoromethane101%Toluene-D8104%	BenzeneND1.0Toluene1.91.0EthylbenzeneND1.0Xylene (total)ND2.01,2-DibromoethaneND1.01,2-DichloroethaneND1.01,2-DichloroethaneND1.0Di-Isopropyl ether7.55.0Ethyl Tert Butyl EtherND5.0Methyl Tert Butyl EtherND5.0Tert-Amyl Methyl EtherND5.0Tert-Butyl AlcoholND10TPH-GRO (C6-C10)65.750Surrogate RecoveriesRun# 1Run# 2Dibromofluoromethane101%Toluene-D8104%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client San Lab Samp Matrix: Method: Project:	e ID: C3467- AQ - G SW846	round Wa 8015B M	ter SW846 35100 C Transit-Emery	-	Date Sampled: Date Received: Percent Solids: A	12/18/08	
Run #1 ^a Run #2	File ID HH1631.D	DF 1	Analyzed 12/22/08	Ву ЈН	Prep Date 12/19/08	Prep Batch OP594	Analytical Batch GHH91
Run #1 Run #2	Initial Volume 900 ml	Final V 1.0 ml	olume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) ^b TPH (Kerosene)	ND ND 0.120 ND	0.11 0.22 0.11 0.11	mg/l mg/l mg/l mg/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	77%		45-140%

(a) Reporting limits raised due to insufficient sample volume (high level of sediment).

(b) Atypical Mineral Spirits pattern (C9-C16).

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client San Lab Sam Matrix: Method: Project:	ple ID: C346 SO - SW84	7-2 Soil 46 8260B	C Transit-Emery	yville, CA	Date Sampled:12/17/08Date Received:12/18/08Percent Solids:n/a a		
Run #1 Run #2	File ID O02975.D	DF 1	Analyzed 12/19/08	By MF	Prep Date n/a	Prep Batch n/a	Analytical Batch VO148
Run #1 Run #2	Initial Weigh 5.04 g	t					

BTEX, Oxygenates

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	5.0	ug/kg
108-88-3	Toluene	ND	5.0	ug/kg
100-41-4	Ethylbenzene	ND	5.0	ug/kg
1330-20-7	Xylene (total)	ND	9.9	ug/kg
106-93-4	1,2-Dibromoethane	ND	5.0	ug/kg
107-06-2	1,2-Dichloroethane	ND	5.0	ug/kg
108-20-3	Di-Isopropyl ether	ND	5.0	ug/kg
637-92-3	Ethyl tert-Butyl Ether	ND	5.0	ug/kg
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	ug/kg
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	ug/kg
75-65-0	Tert Butyl Alcohol	ND	40	ug/kg
	TPH-GRO (C6-C10)	ND	99	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7 2037-26-5 460-00-4	Dibromofluoromethane Toluene-D8 4-Bromofluorobenzene	101% 104% 96%		60-130% 60-130% 60-130%

(a) All results reported on wet weight basis.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Lab Sam	mple ID: SB-21- ple ID: C3467				Date Sample	Date Sampled:12/17/08Date Received:12/18/08Percent Solids:n/a a		
Matrix:	SO - S	oil			Date Receive			
Method:	SW846	5 8015B M	1 SW846 3545	A	Percent Solie			
Project:	T0600	118672-A	C Transit-Emery	yville, CA	Α			
	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch	
Run #1	HH1657.D	1	12/23/08	JĤ	12/22/08	OP598	GHH92	
Run #2								
	Initial Weight	Final V	olume					
	minital weight							
Run #1	10.0 g	1.0 ml						

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	10 20 10 10	mg/kg mg/kg mg/kg mg/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	62%		45-140%

(a) All results reported on wet weight basis.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client San Lab Samj Matrix: Method: Project:	AQ - SW84	7-3 Ground W 46 8260B	ater C Transit-Emery	yville, CA	Percent Solie	ed: 12/18/08	
Run #1 Run #2	File ID W3437.D	DF 1	Analyzed 12/23/08	By BD	Prep Date n/a	Prep Batch n/a	Analytical Batch VW128
Run #1 Run #2	Purge Volum 10.0 ml	e					

BTEX, Oxygenates

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	1.0	ug/l
108-88-3	Toluene	1.5	1.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	2.0	ug/l
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l
108-20-3	Di-Isopropyl ether	10.7	5.0	ug/l
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	13.2	1.0	ug/l
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	ug/l
75-65-0	Tert-Butyl Alcohol	ND	10	ug/l
	TPH-GRO (C6-C10)	59.5	50	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7 2037-26-5 460-00-4	Dibromofluoromethane Toluene-D8 4-Bromofluorobenzene	98% 103% 102%		60-130% 60-130% 60-130%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound





Client San Lab Sam Matrix: Method: Project:	ple ID: C3467-2 AQ - G SW846	round Wa 8015B M	tter SW846 35100 Transit-Emery	-	Date Sampled: Date Received: Percent Solids:	12/18/08	
Run #1 Run #2	File ID HH1632.D	DF 1	Analyzed 12/22/08	Ву JH	Prep Date 12/19/08	Prep Batch OP594	Analytical Batch GHH91
Run #1 Run #2	Initial Volume 1000 ml	Final V 1.0 ml	olume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	0.10 0.20 0.10 0.10	mg/l mg/l mg/l mg/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	72%		45-140%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client San Lab Samj Matrix: Method: Project:	ple ID: C34 SO - SW8	Soil 46 8260B	C Transit-Emery	yville, CA	Date Sample Date Receive Percent Solid	ed: 12/18/08	
Run #1 Run #2	File ID 002976.D	DF 1	Analyzed 12/19/08	By MF	Prep Date n/a	Prep Batch n/a	Analytical Batch VO148
Run #1 Run #2	Initial Weig 5.06 g	nt					

BTEX, Oxygenates

CAS No.	Compound	Result	RL	Units Q
71-43-2 108-88-3 100-41-4	Benzene Toluene Ethylbenzene	ND ND ND	4.9 4.9 4.9	ug/kg ug/kg ug/kg
1330-20-7 106-93-4 107-06-2	Xylene (total) 1,2-Dibromoethane 1,2-Dichloroethane	ND ND ND	4.9 4.9 4.9	ug/kg ug/kg
108-20-3 637-92-3	Di-Isopropyl ether Ethyl tert-Butyl Ether	ND ND	4.9 4.9	ug/kg ug/kg ug/kg
1634-04-4 994-05-8 75-65-0	Methyl Tert Butyl Ether Tert-Amyl Methyl Ether Tert Butyl Alcohol	ND ND ND	4.9 4.9 40	ug/kg ug/kg ug/kg
CAS No.	TPH-GRO (C6-C10) Surrogate Recoveries	ND Run# 1	99 Run# 2	ug/kg Limits
1868-53-7 2037-26-5 460-00-4	Dibromofluoromethane Toluene-D8 4-Bromofluorobenzene	101% 104% 94%		60-130% 60-130% 60-130%

(a) All results reported on wet weight basis.

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Lab Sam	mple ID: SB-20- ple ID: C3467				Date Sample	d: 12/17/08			
Matrix:	SO - S	SO - Soil				Date Received: 12/18/08			
Method:	SW840	SW846 8015B M SW846 3545A			Percent Solie	Percent Solids: n/a ^a			
Project:	T0600	118672-A	C Transit-Emery	yville, CA	L				
	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch		
Run #1	HH1658.D	1	12/23/08	JH	12/22/08	OP598	GHH92		
Run #2									
itan #2									
	Initial Weight	Final V	olume						
Run #1	Initial Weight 10.0 g	Final V 1.0 ml	olume						

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	10 20 10 10	mg/kg mg/kg mg/kg mg/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	70%		45-140%

(a) All results reported on wet weight basis.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client Sar Lab Sam Matrix: Method: Project:	AQ - SW84	7-5 Ground Wa 6 8260B	ater C Transit-Emery	ville, CA	Date Sample Date Receive Percent Solid	d: 12/18/08	
Run #1 Run #2	File ID W3398.D	DF 1	Analyzed 12/22/08	By BD	Prep Date n/a	Prep Batch n/a	Analytical Batch VW127
Run #1 Run #2	Purge Volum 10.0 ml	e					

BTEX, Oxygenates

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	1.0	ug/l
108-88-3	Toluene	ND	1.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	2.0	ug/l
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l
108-20-3	Di-Isopropyl ether	ND	5.0	ug/l
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	6.2	1.0	ug/l
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	ug/l
75-65-0	Tert-Butyl Alcohol	ND	10	ug/l
	TPH-GRO (C6-C10)	ND	50	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7 2037-26-5 460-00-4	Dibromofluoromethane Toluene-D8 4-Bromofluorobenzene	99% 105% 104%		60-130% 60-130% 60-130%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client Sat Lab Samj Matrix: Method: Project:	AQ - G SW846	round Wa 8015B M	ater SW846 3510 Transit-Emery	-	Date Received Percent Solids	Date Sampled:12/17/08Date Received:12/18/08Percent Solids:n/a		
Run #1 Run #2	File ID HH1633.D	DF 1	Analyzed 12/22/08	Ву ЈН	Prep Date 12/19/08	Prep Batch OP594	Analytical Batch GHH91	
Run #1 Run #2	Initial Volume 1010 ml	Final V 1.0 ml	olume					

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	0.099 0.20 0.099 0.099	mg/l mg/l mg/l mg/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	76%		45-140%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client San Lab Samı Matrix: Method: Project:	ple ID: C346 SO - SW8	C3467-6 SO - Soil SW846 8260B T0600118672-AC Transit-Emeryville, CA			Date Sampled:12/17/08Date Received:12/18/08Percent Solids:n/a a		
Run #1 Run #2	File ID O02977.D	DF 1	Analyzed 12/19/08	By MF	Prep Date n/a	Prep Batch n/a	Analytical Batch VO148
Run #1 Run #2	Initial Weigh 5.00 g	t					

BTEX, Oxygenates

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	5.0	ug/kg
108-88-3	Toluene	ND	5.0	ug/kg
100-41-4	Ethylbenzene	ND	5.0	ug/kg
1330-20-7	Xylene (total)	ND	10	ug/kg
106-93-4	1,2-Dibromoethane	ND	5.0	ug/kg
107-06-2	1,2-Dichloroethane	ND	5.0	ug/kg
108-20-3	Di-Isopropyl ether	ND	5.0	ug/kg
637-92-3	Ethyl tert-Butyl Ether	ND	5.0	ug/kg
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	ug/kg
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	ug/kg
75-65-0	Tert Butyl Alcohol	ND	40	ug/kg
	TPH-GRO (C6-C10)	ND	100	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		60-130%
2037-26-5	Toluene-D8	103%		60-130%
460-00-4	4-Bromofluorobenzene	96%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client Sa Lab Sam Matrix: Method: Project:	ple ID: C346' SO - S SW84	2-6 Soil 6 8015B M	SW846 3545		Date Sample Date Receive Percent Solic	d: 12/18/08	
Run #1 Run #2	File ID HH1659.D	DF 1	Analyzed 12/23/08	By JH	Prep Date 12/22/08	Prep Batch OP598	Analytical Batch GHH92
Run #1 Run #2	Initial Weight 9.90 g	Final V 1.0 ml	olume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	10 20 10 10	mg/kg mg/kg mg/kg mg/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	77%		45-140%

(a) All results reported on wet weight basis.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



2.6 2

Lab Samj Matrix: Method: Project:	AQ SW	67-7 - Ground W 846 8260B 00118672-A	ater C Transit-Emery	yville, CA	Date Sampled:12/17/08Date Received:12/18/08Percent Solids:n/a		
Run #1 Run #2	File ID W3394.D	DF 1	Analyzed 12/22/08	By BD	Prep Date n/a	Prep Batch n/a	Analytical Batch VW127
Run #1 Run #2	Purge Volu 10.0 ml	me					

BTEX, Oxygenates

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	1.0	ug/l
108-88-3	Toluene	1.2	1.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	2.0	ug/l
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l
108-20-3	Di-Isopropyl ether	ND	5.0	ug/l
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	9.1	1.0	ug/l
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	ug/l
75-65-0	Tert-Butyl Alcohol	ND	10	ug/l
	TPH-GRO (C6-C10)	ND	50	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7 2037-26-5 460-00-4	Dibromofluoromethane Toluene-D8 4-Bromofluorobenzene	102% 104% 103%		60-130% 60-130% 60-130%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound





Client San Lab Sam Matrix: Method: Project:	ple ID: C3467- AQ - G SW846	round Wa 8015B N	ater I SW846 3510 C Transit-Emery	-	Date Sampled Date Received Percent Solids A	l: 12/18/08	
Run #1 Run #2	File ID HH1634.D	DF 1	Analyzed 12/22/08	Ву ЈН	Prep Date 12/19/08	Prep Batch OP594	Analytical Batch GHH91
Run #1 Run #2	Initial Volume 1000 ml	Final V 1.0 ml	⁷ olume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND 0.728 ND ND	0.10 0.20 0.10 0.10	mg/l mg/l mg/l mg/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	73%		45-140%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client San Lab Samı Matrix: Method: Project:	ple ID: C346 SO - SW8	D: C3467-8 SO - Soil SW846 8260B T0600118672-AC Transit-Emeryville, CA			Date Sampled:12/17/08Date Received:12/18/08Percent Solids:n/a a		
Run #1 Run #2	File ID O02978.D	DF 1	Analyzed 12/19/08	By MF	Prep Date n/a	Prep Batch n/a	Analytical Batch VO148
Run #1 Run #2	Initial Weigh 5.01 g	ıt					

BTEX, Oxygenates

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	5.0	ug/kg
108-88-3	Toluene	ND	5.0	ug/kg
100-41-4	Ethylbenzene	ND	5.0	ug/kg
1330-20-7	Xylene (total)	ND	10	ug/kg
106-93-4	1,2-Dibromoethane	ND	5.0	ug/kg
107-06-2	1,2-Dichloroethane	ND	5.0	ug/kg
108-20-3	Di-Isopropyl ether	ND	5.0	ug/kg
637-92-3	Ethyl tert-Butyl Ether	ND	5.0	ug/kg
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	ug/kg
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	ug/kg
75-65-0	Tert Butyl Alcohol	ND	40	ug/kg
	TPH-GRO (C6-C10)	ND	100	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7 2037-26-5	Dibromofluoromethane Toluene-D8	102% 104%		60-130% 60-130%
460-00-4	4-Bromofluorobenzene	96%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client Sa Lab Samj Matrix: Method:	ple ID: C3467 SO - S SW84	-8 oil 5 8015B M	SW846 3545		Date Sampled Date Received Percent Solid	d: 12/18/08	
Project: Run #1 Run #2	File ID HH1660.D	DF 1	Analyzed 12/23/08	By JH	Prep Date 12/22/08	Prep Batch OP598	Analytical Batch GHH92
Run #1 Run #2	Initial Weight 10.0 g	Final V 1.0 ml	olume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	10 20 10 10	mg/kg mg/kg mg/kg mg/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	73%		45-140%

(a) All results reported on wet weight basis.

- B = Indicates analyte found in associated method blank
- $N = \ Indicates \ presumptive \ evidence \ of \ a \ compound$



Client Sar Lab Samj Matrix: Method: Project:	ple ID: C346 AQ - SW84	7-9 Ground Wa 46 8260B	ater C Transit-Emery	ville, CA	Date Sampled Date Received Percent Solids	: 12/18/08	
Run #1 Run #2	File ID W3395.D	DF 1	Analyzed 12/22/08	By BD	Prep Date n/a	Prep Batch n/a	Analytical Batch VW127
Run #1 Run #2	Purge Volum 10.0 ml	e					

BTEX, Oxygenates

Compound	Result	RL	Units Q
Benzene	ND	1.0	ug/l
Toluene	1.5	1.0	ug/l
Ethylbenzene	ND	1.0	ug/l
Xylene (total)	ND	2.0	ug/l
1,2-Dibromoethane	ND	1.0	ug/l
1,2-Dichloroethane	ND	1.0	ug/l
Di-Isopropyl ether	6.4	5.0	ug/l
Ethyl Tert Butyl Ether	ND	5.0	ug/l
Methyl Tert Butyl Ether	10.1	1.0	ug/l
Tert-Amyl Methyl Ether	ND	5.0	ug/l
Tert-Butyl Alcohol	ND	10	ug/l
TPH-GRO (C6-C10)	ND	50	ug/l
Surrogate Recoveries	Run# 1	Run# 2	Limits
Dibromofluoromethane Toluene-D8 4-Bromofluorobenzene	100% 106% 105%		60-130% 60-130% 60-130%
	Benzene Toluene Ethylbenzene Xylene (total) 1,2-Dibromoethane 1,2-Dichloroethane Di-Isopropyl ether Ethyl Tert Butyl Ether Methyl Tert Butyl Ether Tert-Amyl Methyl Ether Tert-Butyl Alcohol TPH-GRO (C6-C10) Surrogate Recoveries Dibromofluoromethane Toluene-D8	BenzeneNDToluene1.5EthylbenzeneNDXylene (total)ND1,2-DibromoethaneND1,2-DichloroethaneNDDi-Isopropyl ether6.4Ethyl Tert Butyl EtherNDMethyl Tert Butyl EtherNDTert-Amyl Methyl EtherNDTPH-GRO (C6-C10)NDSurrogate RecoveriesRun# 1Dibromofluoromethane100%Toluene-D8106%	BenzeneND1.0Toluene1.51.0EthylbenzeneND1.0Xylene (total)ND2.01,2-DibromoethaneND1.01,2-DichloroethaneND1.01,2-DichloroethaneND1.0Di-Isopropyl ether6.45.0Ethyl Tert Butyl EtherND5.0Methyl Tert Butyl Ether10.11.0Tert-Amyl Methyl EtherND5.0Tert-Butyl AlcoholND10TPH-GRO (C6-C10)ND50Surrogate RecoveriesRun# 1Run# 2Dibromofluoromethane100%Toluene-D8106%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client Sat Lab Samj Matrix: Method: Project:	AQ - G SW846	round Wa 8015B N	ater I SW846 3510 C Transit-Emery	-	Date Received Percent Solids	Date Sampled:12/17/08Date Received:12/18/08Percent Solids:n/a		
Run #1 Run #2	File ID HH1635.D	DF 1	Analyzed 12/22/08	Ву ЈН	Prep Date 12/19/08	Prep Batch OP594	Analytical Batch GHH91	
Run #1 Run #2	Initial Volume 1000 ml	Final V 1.0 ml	olume					

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	0.10 0.20 0.10 0.10	mg/l mg/l mg/l mg/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	76%		45-140%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client San Lab Samj Matrix: Method: Project:	ple ID: C346 SO - SW8	SB-17-22.5' C3467-10 SO - Soil SW846 8260B T0600118672-AC Transit-Emeryville, CA			Date Sampled:12/17/08Date Received:12/18/08Percent Solids:n/a a			
Run #1 Run #2	File ID 002979.D	DF 1	Analyzed 12/19/08	By MF	Prep Date n/a	Prep Batch n/a	Analytical Batch VO148	
Run #1 Run #2	Initial Weigl 5.04 g	nt						

BTEX, Oxygenates

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	5.0	ug/kg
108-88-3	Toluene	ND	5.0	ug/kg
100-41-4	Ethylbenzene	ND	5.0	ug/kg
1330-20-7	Xylene (total)	ND	9.9	ug/kg
106-93-4	1,2-Dibromoethane	ND	5.0	ug/kg
107-06-2	1,2-Dichloroethane	ND	5.0	ug/kg
108-20-3	Di-Isopropyl ether	ND	5.0	ug/kg
637-92-3	Ethyl tert-Butyl Ether	ND	5.0	ug/kg
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	ug/kg
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	ug/kg
75-65-0	Tert Butyl Alcohol	ND	40	ug/kg
	TPH-GRO (C6-C10)	ND	99	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		60-130%
2037-26-5	Toluene-D8	107%		60-130%
460-00-4	4-Bromofluorobenzene	97%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound





Client Sa Lab Sam Matrix:	mple ID: SB-17-2 ple ID: C3467- SO - So	10			Date Sample Date Receive		
					Date Received: 12/18/08 Percent Solids: n/a ^a		
Run #1 Run #2	File ID HH1661.D	DF 1	Analyzed 12/23/08	By JH	Prep Date 12/22/08	Prep Batch OP598	Analytical Batch GHH92
	Initial Weight	Final V	olume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	10 20 10 10	mg/kg mg/kg mg/kg mg/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	71%		45-140%

(a) All results reported on wet weight basis.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Lab Sam Matrix: Method: Project:	AQ - SW8	Ground Wa 46 8260B	ater C Transit-Emery	ville, CA	Date Sampled Date Received Percent Solids	: 12/18/08	
Run #1 Run #2	File ID W3396.D	DF 1	Analyzed 12/22/08	By BD	Prep Date n/a	Prep Batch n/a	Analytical Batch VW127
Run #1	Purge Volum 10.0 ml	ie					

BTEX, Oxygenates

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene Toluene	ND 1.3	1.0	ug/l
108-88-3 100-41-4	Ethylbenzene	ND	1.0 1.0	ug/l ug/l
1330-20-7	Xylene (total)	ND	2.0	ug/l
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l
108-20-3	Di-Isopropyl ether	14.9	5.0	ug/l
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	2.7	1.0	ug/l
994-05-8	Tert-Amyl Methyl Ether	ND	5.0 10	ug/l
75-65-0	Tert-Butyl Alcohol	ND	10	ug/l
	TPH-GRO (C6-C10)	ND	50	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		60-130%
2037-26-5	Toluene-D8	103%		60-130%
460-00-4	4-Bromofluorobenzene	103%		60-130%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client Sa Lab Sam Matrix: Method: Project:	ple ID: C3467- AQ - G SW846	round W 8015B N	ater 1 SW846 3510 C Transit-Emery	-	Date Sampled: Date Received: Percent Solids: A	12/18/08	
Run #1 Run #2	File ID HH1636.D	DF 1	Analyzed 12/22/08	Ву ЈН	Prep Date 12/19/08	Prep Batch OP594	Analytical Batch GHH91
Run #1 Run #2	Initial Volume 1000 ml	Final 1.0 ml	Volume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	0.10 0.20 0.10 0.10	mg/l mg/l mg/l mg/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	78%		45-140%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Lab Sam	•	7-12			Date Sampled: 12/17/08				
Matrix:		SO - Soil				Date Received: 12/18/08			
Method:	SW84	46 8260B			Percent Solids: n/a ^a				
Project:	T060	T0600118672-AC Transit-Emeryville, CA							
	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch		
Run #1	O02980.D	1	12/19/08	MF	n/a	n/a	VO148		
Run #2									
	Initial Weigh	t							
Run #1	5.06 g								
$\pi u \pi \pi$	0.00 5								

BTEX, Oxygenates

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	4.9	ug/kg
108-88-3	Toluene	ND	4.9	ug/kg
100-41-4	Ethylbenzene	ND	4.9	ug/kg
1330-20-7	Xylene (total)	ND	9.9	ug/kg
106-93-4	1,2-Dibromoethane	ND	4.9	ug/kg
107-06-2	1,2-Dichloroethane	ND	4.9	ug/kg
108-20-3	Di-Isopropyl ether	ND	4.9	ug/kg
637-92-3	Ethyl tert-Butyl Ether	ND	4.9	ug/kg
1634-04-4	Methyl Tert Butyl Ether	ND	4.9	ug/kg
994-05-8	Tert-Amyl Methyl Ether	ND	4.9	ug/kg
75-65-0	Tert Butyl Alcohol	ND	40	ug/kg
	TPH-GRO (C6-C10)	ND	99	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		60-130%
2037-26-5	Toluene-D8	106%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

(a) All results reported on wet weight basis.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Lab Sample ID:

Matrix:

Client Sample ID: SB-19-19'

C3467-12

SO - Soil

nalysis		Page 1 of 1	N
Date Sampled:	12/17/08		
Date Received:	12/18/08		
Percent Solids:	n/a ^a		

Analytical Batch

GHH92

Report of Analysis

Method: Project:	SW846 8015B M SW846 3545A T0600118672-AC Transit-Emeryville, CA				Percent Solids: n/a ^a		
Run #1 Run #2	File ID HH1662.D	DF 1	Analyzed 12/23/08	Ву ЈН	Prep Date 12/22/08	Prep Batch OP598	
Run #1 Run #2	Initial Weight 10.0 g	Final Vo 1.0 ml	lume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	10 20 10 10	mg/kg mg/kg mg/kg mg/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	66%		45-140%

(a) All results reported on wet weight basis.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Lab Samj Matrix: Method: Project:	AQ - SW8	C3467-13 AQ - Ground Water SW846 8260B T0600118672-AC Transit-Emeryville, CA				Date Sampled:12/17/08Date Received:12/18/08Percent Solids:n/a		
Run #1 Run #2	File ID W3397.D	DF 1	Analyzed 12/22/08	By BD	Prep Date n/a	Prep Batch n/a	Analytical Batch VW127	
Run #1 Run #2	Purge Volum 10.0 ml	ie						

BTEX, Oxygenates

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	1.0	ug/l
108-88-3	Toluene	1.4	1.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	2.0	ug/l
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l
108-20-3	Di-Isopropyl ether	ND	5.0	ug/l
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	5.8	1.0	ug/l
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	ug/l
75-65-0	Tert-Butyl Alcohol	ND	10	ug/l
	TPH-GRO (C6-C10)	ND	50	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7 2037-26-5 460-00-4	Dibromofluoromethane Toluene-D8 4-Bromofluorobenzene	101% 104% 105%		60-130% 60-130% 60-130%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client Sat Lab Samj Matrix: Method: Project:	AQ - G SW846	round W 8015B N	ater 1 SW846 3510 C Transit-Emery	-	Date Sampled Date Received Percent Solids A	: 12/18/08	
Run #1 Run #2	File ID HH1637.D	DF 1	Analyzed 12/22/08	Ву ЈН	Prep Date 12/19/08	Prep Batch OP594	Analytical Batch GHH91
Run #1 Run #2	Initial Volume 1000 ml	Final V 1.0 ml	Volume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	0.10 0.20 0.10 0.10	mg/l mg/l mg/l mg/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	75%		45-140%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client Sa Lab Sam	mple ID: SB-18 ple ID: C346				Date Sample	Date Sampled: 12/17/08			
Matrix:	SO -	SO - Soil				Date Received: 12/18/08			
Method:	SW84	6 8260B			Percent Solids: n/a ^a				
Project:	T060	0118672-A	C Transit-Emery	ville, CA					
	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch		
D 114	O02981.D	1	12/19/08	MF	n/a	n/a	VO148		
Run #1	002/01.0								
Run #1 Run #2	002901.0								
	Initial Weigh	t							
		t							

BTEX, Oxygenates

Compound	Result	RL	Units Q
Benzene	ND	5.0	ug/kg
Toluene	ND	5.0	ug/kg
Ethylbenzene	ND	5.0	ug/kg
Xylene (total)	ND	9.9	ug/kg
1,2-Dibromoethane	ND	5.0	ug/kg
1,2-Dichloroethane	ND	5.0	ug/kg
Di-Isopropyl ether	ND	5.0	ug/kg
Ethyl tert-Butyl Ether	ND	5.0	ug/kg
Methyl Tert Butyl Ether	ND	5.0	ug/kg
Tert-Amyl Methyl Ether	ND	5.0	ug/kg
Tert Butyl Alcohol	ND	40	ug/kg
TPH-GRO (C6-C10) ^b	102	99	ug/kg
Surrogate Recoveries	Run# 1	Run# 2	Limits
Dibromofluoromethane Toluene-D8 4-Bromofluorobenzene	103% 103% 103%		60-130% 60-130% 60-130%
	Benzene Toluene Ethylbenzene Xylene (total) 1,2-Dibromoethane 1,2-Dichloroethane Di-Isopropyl ether Ethyl tert-Butyl Ether Methyl Tert Butyl Ether Tert-Amyl Methyl Ether Tert Butyl Alcohol TPH-GRO (C6-C10) ^b Surrogate Recoveries Dibromofluoromethane Toluene-D8	BenzeneNDTolueneNDEthylbenzeneNDXylene (total)ND1,2-DibromoethaneND1,2-DichloroethaneNDDi-Isopropyl etherNDEthyl tert-Butyl EtherNDMethyl Tert Butyl EtherNDTert-Amyl Methyl EtherNDTPH-GRO (C6-C10) b102Surrogate RecoveriesRun# 1Dibromofluoromethane103%Toluene-D8103%	BenzeneND5.0TolueneND5.0EthylbenzeneND5.0Xylene (total)ND9.91,2-DibromoethaneND5.01,2-DichloroethaneND5.0Di-Isopropyl etherND5.0Ethyl tert-Butyl EtherND5.0Methyl Tert Butyl EtherND5.0Tert-Amyl Methyl EtherND5.0Tert Butyl AlcoholND40TPH-GRO (C6-C10) b10299Surrogate RecoveriesRun# 1Run# 2Dibromofluoromethane103%Toluene-D8103%

(a) All results reported on wet weight basis.

(b) Atypical pattern.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound





	2.14
Page 1 of 1	2

Client San Lab Sam Matrix: Method:	ple ID: C3467- SO - So SW846	14 oil 8015B M	1 SW846 3545.		Date Sampled: Date Received Percent Solids	: 12/18/08	
Project: Run #1 Run #2	File ID HH1663.D	DF 1	C Transit-Emery Analyzed 12/23/08	By JH	Prep Date 12/22/08	Prep Batch OP598	Analytical Batch GHH92
Run #1 Run #2	Initial Weight 10.0 g	Final V 1.0 ml	olume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) ^b TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	22.2 ND ND ND	10 20 10 10	mg/kg mg/kg mg/kg mg/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	73%		45-140%

(a) All results reported on wet weight basis.

(b) Atypical Diesel pattern (C10-C26).

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Lab Samj Matrix: Method: Project:	SO - SW8	46 8260B	C Transit-Emery	yville, CA	Date Sampled:12/17/08Date Received:12/18/08Percent Solids:n/a a		
Run #1 Run #2	File ID O02999.D	DF 1	Analyzed 12/22/08	By MF	Prep Date n/a	Prep Batch n/a	Analytical Batch VO150
Run #1 Run #2	Initial Weigl 5.09 g	ht					

BTEX, Oxygenates

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	4.9	ug/kg
108-88-3	Toluene	ND	4.9	ug/kg
100-41-4	Ethylbenzene	ND	4.9	ug/kg
1330-20-7	Xylene (total)	ND	9.8	ug/kg
106-93-4	1,2-Dibromoethane	ND	4.9	ug/kg
107-06-2	1,2-Dichloroethane	ND	4.9	ug/kg
108-20-3	Di-Isopropyl ether	ND	4.9	ug/kg
637-92-3	Ethyl tert-Butyl Ether	ND	4.9	ug/kg
1634-04-4	Methyl Tert Butyl Ether	ND	4.9	ug/kg
994-05-8	Tert-Amyl Methyl Ether	ND	4.9	ug/kg
75-65-0	Tert Butyl Alcohol	ND	39	ug/kg
	TPH-GRO (C6-C10)	ND	98	ug/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		60-130%
2037-26-5	Toluene-D8	104%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

(a) All results reported on wet weight basis.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Lab Samp Matrix: Method:	SO - So	oil	SW846 3545.	A	Date Sampled Date Received Percent Solid	1: 12/18/08	
Project:	T06001	18672-AC	Transit-Emery	yville, CA			
	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
			12/22/00	JH	12/22/08	OP598	CIIII02
Run #1	HH1664.D	1	12/23/08	J11	12/22/00	UP 398	GHH92
	HH1664.D HH1689.D	1 1	12/23/08 12/26/08	JH	12/22/08	OP598 OP605	GHH92 GHH93
		1 1 Final Vo	12/26/08		// 0 0		
Run #1 Run #2 ^b Run #1	HH1689.D	1 1 Final Vo 1.0 ml	12/26/08		// 0 0		

Report of Analysis

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	10 20 10 10	mg/kg mg/kg mg/kg mg/kg
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	77%	76%	45-140%

(a) All results reported on wet weight basis.

(b) Confirmation run due to MS/MSD failure on batch#OP598.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Page 1 of 1



Report of Analysis

Lab Samj Matrix: Method: Project:	AQ - SW84	7-16 Trip Blank 46 8260B	Water C Transit-Emery	ville, CA	Date Sampled Date Received Percent Solid	d: 12/18/08	
Run #1 Run #2	File ID W3384.D	DF 1	Analyzed 12/22/08	By BD	Prep Date n/a	Prep Batch n/a	Analytical Batch VW127
Run #1 Run #2	Purge Volum 10.0 ml	e					

BTEX, Oxygenates

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	1.0	ug/l
108-88-3	Toluene	1.5	1.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	2.0	ug/l
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l
108-20-3	Di-Isopropyl ether	ND	5.0	ug/l
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	ug/l
75-65-0	Tert-Butyl Alcohol	ND	10	ug/l
	TPH-GRO (C6-C10)	ND	50	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7 2037-26-5 460-00-4	Dibromofluoromethane Toluene-D8 4-Bromofluorobenzene	97% 102% 101%		60-130% 60-130% 60-130%

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound







Section 3

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

• Chain of Custody



	Northern California		3334	Victor Cou 588-0200	rt, Santa		CA	95054	DD	Y			Accuter	Tracking st Quote #		801		(T		Irder Cont		2	to	7
	Laboratories													<u>v // 6</u> .				•	1			~~		
	Client / Reporting Information				ect Infor					(in in			NACE OF CASE	1		n ister T	0012000000	Reque	ested A	nalysis	- F	ilonischi T	15161.51	Matrix Codes
Company N			Project N	^{ame:} AC 26 E	Tena	c 1	F.	ar.	n	3			e	Sas		[ź							WW-Water
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101	W. Atlantic Ave Bldg 9 State	0	106	26 E	14/1	~ St	ce:	t					Ŭ 2	TPH	Ŧ	Gth	Ę		GC/PID-FID					SO- Soil
City	-	•	City				5	State					H	Ea		E	CRA							01-Oil
Alaw		4501	Dal	<i>eland</i>			(CA					1 T	MAB M M	625	Motor OH - Other	2	-806	e by					WP-Wipe
Project Con	act: tin Metz		Project #	2030									624 🛛 with/TPH as Gasoline	EX/		Diasel - Moto Cleanup 32	1 E	PCBs-8082 []	Gasoline					LIQ - Non-aqueous Liquid
Phone #			PRACATE .										241	CA BT	ly C	Diesel	2	-						Lice - Non-aqueous Liquid
510			0	Limetz	e ca	MU D	1-0	sle.	COM	<u>~</u>				8260Petro (includes BTEX / MtBE / TBA / EtBE / DIPE / TAME / 1,2-DCA / EDB '로) TPH as Gas 한다	PAHs only	Gelf	METALS: CAM-17D LUFT-5D RCRA-8D	5	BTEX-MtBE-TPH as					AIR
Samplers's Dしら	hame try Mett		Client Pu	rcnase Ordei	#								8260 Full List	ME /	PA	titica	CAN	Pesticides-8081	11-3					DW- Drinking Water (Perchlorate Only)
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Sample ID	Sample ID / Field Point / Point of Collection	Date	Time	Sampled by	Matrix	# of bottles	5	N S	2504	ONE	ECH EC	KCOR	260	10 E 20	8270	TPH-Ext		esti	Ě					LAB USE ONLY
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C3467: Chain of Custody Page 1 of 4



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圖 四 「	Northern California			AIN		-)U	Y			FED-EX	Tracking	<i>g</i>			<u> </u>	Bottle O	rder Control #			
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Company Name	anson cole		Project N	^{ame:} Ac	trav	5+	Con	ery	411	12			oline	BE / s Gas			-Wdd	0					WW- Water GW- Ground Water
Address	Attentic AV? Bld	190	Street \	062	ЬE.	14+	ne	5+	60	>+			is Gase	3A / Et TPH a:	914	Other		608	GC/PID-FID				SW- Surface Water SO- Soil
City ALAMO	state La CA 945 DUSTIN METZ		City	ame: Ac 0 6 2)AKL:	nd		Sta (ate 	۴-				with/TPH as Gasoline	8260Petro (Includes BTEX / MIBE / TBA / EIBE / DPE / TAME / 1,2-DCA / EDB Y. TPH as Gas	626 🗆	TPH-Extractable - Diesel - Motor Oil - Other g (With Silica Gel Cleanup) 51,	D RCRA-8D	PCBs-8082 []					OI-Oil WP-Wipe
Project Contact:	DUSTIN METZ		Project #	203	30								624 🗆 wi	TEX / N		dnub	JFT-5C	PCBs	Gasoline by				LIQ - Non-aqueous Liquid
	10769-3578		EMAIL:	JM2+	20	Cerri	Cor	۱ <i></i> С	ore	2· 0	:01	~	0 624	des B	PAHs only 🗆	3el Cle	170 LI		as a				AIR
Samplers's Name	DUSTIN METZ		Client Pu	rchase Orde	r#								List	o (Inclu ME / 1	PAH	actable Silica G	METALS: CAM-17D LUFT-5D 13D	Pesticides-8081 🗆	BTEX-MtBE-TPH				DW- Drinking Water (Perchlorate Only)
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C3467: Chain of Custody Page 2 of 4



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Sample						#of	1 1	HO8		ONE	õ1	NCORF	8260 Full List	8260Pe DIPE / '	8270 []	TPH-Extr	METALS: 13D	Pesticides-8081	TEX-1					LAB USE ONLY
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C3467: Chain of Custody Page 3 of 4



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Matrix liste Analyses Chain is s TAT reque	b) / date & time of collection pro- ed and correct? Yes / No circl listed are those we do or client - igned / dated by both client and ested available? Approved by	le one has authorized a sub sample custodian?7	Sontract? (Fes) /			
If a cooler is	oolers are at 0-6°C? outside the 0-6°C range; note l NC does NOT accept evidentiar	pelow the bottles in th		·		
IDs / bottle Sample be Proper co	nple Bottles: If you answer no, e number / Date / Time of bottle ottle intact? Yes / No circle o ntainers and volumes? Yes	explain below labels match CoC? ne No circle one	Un-broken: Ye			
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	-				C	3467: Chain of Custody
						Page 4 of 4
Client info Comments:	rmed of irregularities at receivir	ng 🗆	Project Mgr ne	eds to contact Client fo	r issues	

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Section 4

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Job Number: Account: Project:	C3467 CCCAA Ca T06001186		ole ansit-Emeryville	e, CA			
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO148-MB	002971.D	1	12/19/08	MF	n/a	n/a	VO148

The QC reported here applies to the following samples:

C3467-2, C3467-4, C3467-6, C3467-8, C3467-10, C3467-12, C3467-14

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	5.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	ug/kg	
637-92-3	Ethyl tert-Butyl Ether	ND	5.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	ug/kg	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	40	ug/kg	
108-88-3	Toluene	ND	5.0	ug/kg	
1330-20-7	Xylene (total)	ND	10	ug/kg	
	TPH-GRO (C6-C10)	ND	100	ug/kg	
CAS No.	Surrogate Recoveries		Limits		
1868-53-7	Dibromofluoromethane	103%	60-1309	%	
2037-26-5	Toluene-D8	103%	60-1309	%	
460-00-4	4-Bromofluorobenzene	97%	60-1309	%	



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Method: SW846 8260B

Job Number: Account: Project:	C3467 CCCAA Ca T06001186		ole ansit-Emeryville	e, CA		
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch
VW127-MB	W3383.D	1	12/22/08	BD	n/a	n/a

The QC reported here applies to the following samples:

Method: SW846 8260B

C3467-5, C3467-7, C3467-9, C3467-11, C3467-13, C3467-16

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	1.0	ug/l
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l
108-20-3	Di-Isopropyl ether	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	ug/l
75-65-0	Tert-Butyl Alcohol	ND	10	ug/l
108-88-3	Toluene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	2.0	ug/l
	TPH-GRO (C6-C10)	ND	50	ug/l
CAS No.	Surrogate Recoveries		Limits	
1868-53-7	Dibromofluoromethane	94%	60-130	%
2037-26-5	Toluene-D8	104%	60-130	%
460-00-4	4-Bromofluorobenzene	100%	60-130	%



Analytical Batch

VW127

Job Number: Account: Project:	C3467 CCCAA Ca T060011867		ole ansit-Emeryville	e, CA			
Sample	File ID	DF	Analyzed 12/22/08	By	Prep Date	Prep Batch	Analytical Batch
VO150-MB	O02992.D	1		MF	n/a	n/a	VO150

The QC reported here applies to the following samples:

Method: SW846 8260B

C3467-15

CAS No.	Compound	Result	RL	Units Q
71-43-2 106-93-4 107-06-2 108-20-3 100-41-4 637-92-3 1634-04-4 994-05-8 75-65-0 108-88-3 1330-20-7	Benzene 1,2-Dibromoethane 1,2-Dichloroethane Di-Isopropyl ether Ethylbenzene Ethyl tert-Butyl Ether Methyl Tert Butyl Ether Tert-Amyl Methyl Ether Tert Butyl Alcohol Toluene Xylene (total) TPH-GRO (C6-C10)	ND ND ND ND ND ND ND ND ND ND ND	$5.0 \\ 5.0 \\ 5.0 \\ 5.0 \\ 5.0 \\ 5.0 \\ 5.0 \\ 5.0 \\ 40 \\ 5.0 \\ 10 \\ 100$	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg
CAS No. 1868-53-7 2037-26-5 460-00-4	Surrogate Recoveries Dibromofluoromethane Toluene-D8 4-Bromofluorobenzene	97% 102% 95%	Limits 60-130 60-130 60-130	%



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Job Number: Account: Project:	C3467 CCCAA Ca T06001186		ole ansit-Emeryville	e, CA			
Sample	File ID	DF	Analyzed 12/23/08	By	Prep Date	Prep Batch	Analytical Batch
VW128-MB	W3421.D	1		BD	n/a	n/a	VW128

The QC reported here applies to the following samples:

Method: SW846 8260B

C3467-1, C3467-3

CAS No.	Compound	Result	RL	Units Q
71-43-2	Benzene	ND	1.0	ug/l
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l
108-20-3	Di-Isopropyl ether	ND	5.0	ug/l
100-41-4	Ethylbenzene	ND	1.0	ug/l
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	ug/l
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	ug/l
75-65-0	Tert-Butyl Alcohol	ND	10	ug/l
108-88-3	Toluene	ND	1.0	ug/l
1330-20-7	Xylene (total)	ND	2.0	ug/l
	TPH-GRO (C6-C10)	ND	50	ug/l
CAS No.	Surrogate Recoveries		Limits	
1868-53-7	Dibromofluoromethane	99%	60-130	%
2037-26-5	Toluene-D8	104%	60-130	
460-00-4	4-Bromofluorobenzene	104%	60-130	



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Job Number:	C3467
Account:	CCCAA Cameron-Cole
Project:	T0600118672-AC Transit-Emeryville, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO148-BS	O02968.D	1	12/19/08	MF	n/a	n/a	VO148

The QC reported here applies to the following samples:

C3467-2, C3467-4, C3467-6, C3467-8, C3467-10, C3467-12, C3467-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	40	39.7	99	60-130
106-93-4	1,2-Dibromoethane	40	42.2	106	60-130
107-06-2	1,2-Dichloroethane	40	36.3	91	60-130
108-20-3	Di-Isopropyl ether	40	39.2	98	60-130
100-41-4	Ethylbenzene	40	37.3	93	60-130
637-92-3	Ethyl tert-Butyl Ether	40	44.5	111	60-130
1634-04-4	Methyl Tert Butyl Ether	40	39.7	99	60-130
994-05-8	Tert-Amyl Methyl Ether	40	46.5	116	60-130
75-65-0	Tert Butyl Alcohol	200	167	84	60-130
108-88-3	Toluene	40	38.1	95	60-130
1330-20-7	Xylene (total)	120	115	96	60-130
CAS No.	Surrogate Recoveries	BSP	Lin	nits	
1868-53-7	Dibromofluoromethane	101%	60-	130%	
2037-26-5	Toluene-D8	99%	60-	130%	
460-00-4	4-Bromofluorobenzene	95%	60-	130%	

Method: SW846 8260B



Job Number:	C3467
Account:	CCCAA Cameron-Cole
Project:	T0600118672-AC Transit-Emeryville, CA

Sample	File ID	DF	Analyzed 12/19/08	By	Prep Date	Prep Batch	Analytical Batch
VO148-BS	002970.D	1		MF	n/a	n/a	VO148

The QC reported here applies to the following samples:

C3467-2, C3467-4, C3467-6, C3467-8, C3467-10, C3467-12, C3467-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
	TPH-GRO (C6-C10)	250	231	92	60-130
CAS No.	Surrogate Recoveries	BSP	Lim	its	
1868-53-7	Dibromofluoromethane	102%	60-1	30%	
2037-26-5	Toluene-D8	103%	60-1	30%	
460-00-4	4-Bromofluorobenzene	97%	60-1	30%	



5

Method: SW846 8260B

Job Number:	C3467
Account:	CCCAA Cameron-Cole
Project:	T0600118672-AC Transit-Emeryville, CA

Sample	File ID	DF	Analyzed 12/22/08	By	Prep Date	Prep Batch	Analytical Batch
VW127-BS	W3381.D	1		BD	n/a	n/a	VW127

The QC reported here applies to the following samples:

Method: SW846 8260B

C3467-5, C3467-7, C3467-9, C3467-11, C3467-13, C3467-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.0	100	60-130
106-93-4	1,2-Dibromoethane	20	20.1	101	60-130
107-06-2	1,2-Dichloroethane	20	19.4	97	60-130
108-20-3	Di-Isopropyl ether	20	20.8	104	60-130
100-41-4	Ethylbenzene	20	19.8	99	60-130
637-92-3	Ethyl Tert Butyl Ether	20	21.2	106	60-130
1634-04-4	Methyl Tert Butyl Ether	20	20.7	104	60-130
994-05-8	Tert-Amyl Methyl Ether	20	21.3	107	60-130
75-65-0	Tert-Butyl Alcohol	100	92.7	93	60-130
108-88-3	Toluene	20	19.8	99	60-130
1330-20-7	Xylene (total)	60	59.7	100	60-130
CAS No.	Surrogate Recoveries	BSP	Lin	nits	
1868-53-7	Dibromofluoromethane	101%	60-	130%	
2037-26-5	Toluene-D8	101%	60-	130%	
460-00-4	4-Bromofluorobenzene	102%	102% 60-130%		



Blank Spike Summary Job Number: C3467

Account: Project:		CCCAA Cameron-Cole T0600118672-AC Transit-Emeryville, CA									
Sample	File ID	DF	Analyzed 12/22/08	By	Prep Date	Prep Batch	Analytical Batch				
VW127-BS	W3382.D	1		BD	n/a	n/a	VW127				

The QC reported here applies to the following samples:

Method: SW846 8260B

C3467-5, C3467-7, C3467-9, C3467-11, C3467-13, C3467-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
	TPH-GRO (C6-C10)	125	138	110	60-130
CAS No.	Surrogate Recoveries	BSP	Lim	its	
1868-53-7	Dibromofluoromethane	95%	60-1	30%	
2037-26-5	Toluene-D8	103%	60-1	30%	
460-00-4	4-Bromofluorobenzene	102%	60-1	30%	



Page 1 of 1

Job Number: Account: Project:	C3467 CCCAA Ca T060011867		ole ansit-Emeryville	e, CA			
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO150-BS	002990.D	1	12/22/08	MF	n/a	n/a	VO150

60-130%

The QC reported here applies to the following samples:

Method: SW846 8260B

C3467-15

CAS No.	Compound	Spike ug/kg	BSI ug/		BSP %	Limits
71-43-2	Benzene	40	35.	5	89	60-130
106-93-4	1,2-Dibromoethane	40	38.	7	97	60-130
107-06-2	1,2-Dichloroethane	40	30.	7	77	60-130
108-20-3	Di-Isopropyl ether	40	37.	0	93	60-130
100-41-4	Ethylbenzene	40	33.	8	85	60-130
637-92-3	Ethyl tert-Butyl Ether	40	42.	0	105	60-130
1634-04-4	Methyl Tert Butyl Ether	40	38.	0	95	60-130
994-05-8	Tert-Amyl Methyl Ether	40	43.	2	108	60-130
75-65-0	Tert Butyl Alcohol	200	169)	85	60-130
108-88-3	Toluene	40	35.	1	88	60-130
1330-20-7	Xylene (total)	120	104		87	60-130
CAS No.	Surrogate Recoveries	BSP		Lim	its	
1868-53-7	Dibromofluoromethane	103%		60-1	30%	
2037-26-5	Toluene-D8	99%	60-130%			

1868-53-7	Dibromofluoromethane	103%
2037-26-5	Toluene-D8	99%
460-00-4	4-Bromofluorobenzene	92%



Job Numbo Account: Project:	er: C3467 CCCAA Cam T0600118672		t-Emeryvil	le, CA				
Sample VO150-BS			Analyzed 12/22/08	By MF	Pi n/	cep Date a	Prep Batch n/a	Analytical Batch VO150
The QC re C3467-15	ported here applie	s to the foll	lowing san	nples:			Method: SW	7846 8260B
CAS No.	Compound		Spike ug/kg	BSP ug/kg	BSP %	Limits		
	TPH-GRO (C6-C	10)	250	212	85	60-130		
CAS No.	Surrogate Recove	eries	BSP	Li	mits			
1868-53-7 2037-26-5 460-00-4	Dibromofluorome Toluene-D8 4-Bromofluorober		98% 102% 96%	60	-130% -130% -130%			

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Page 1 of 1
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Job Number: Account: Project:		C3467 CCCAA Cameron-Cole T0600118672-AC Transit-Emeryville, CA									
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch				
VW128-BS	W3419.D	1	12/23/08	BD	n/a	n/a	VW128				

The QC reported here applies to the following samples:

4-Bromofluorobenzene

C3467-1, C3467-3

460-00-4

CAS No.	Compound	Spike ug/l	BSI ug/	-	BSP %	Limits
71-43-2	Benzene	20	20.4	4	102	60-130
106-93-4	1,2-Dibromoethane	20	20.	7	104	60-130
107-06-2	1,2-Dichloroethane	20	20.3	3	102	60-130
108-20-3	Di-Isopropyl ether	20	22.	1	111	60-130
100-41-4	Ethylbenzene	20	19.2	2	96	60-130
637-92-3	Ethyl Tert Butyl Ether	20	22.)	115	60-130
1634-04-4	Methyl Tert Butyl Ether	20	23.3	3	117	60-130
994-05-8	Tert-Amyl Methyl Ether	20	23.3	3	117	60-130
75-65-0	Tert-Butyl Alcohol	100	116		116	60-130
108-88-3	Toluene	20	19.	3	99	60-130
1330-20-7	Xylene (total)	60	57.′	7	96	60-130
CAS No.	Surrogate Recoveries	BSP		Lim	its	
1868-53-7	Dibromofluoromethane	103%		60-1	30%	
2037-26-5	Toluene-D8	101%	101% 60-130%		30%	

103%

60-130%

Method: SW846 8260B



4.2

4

460-00-4

4-Bromofluorobenzene

Job Numb Account: Project:	er: C3467 CCCAA Cameron-Col T0600118672-AC Tra		le, CA				
Sample VW128-BS	File ID DF W3420.D 1	Analyzed 12/23/08	By BD	Pr n/	rep Date a	Prep Batch n/a	Analytical Batch VW128
The QC re C3467-1, C	ported here applies to the	following san	nples:			Method: SW	7846 8260B
CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits		
	TPH-GRO (C6-C10)	125	144	115	60-130		
CAS No.	Surrogate Recoveries	BSP	Li	mits			
1868-53-7 2037-26-5	Dibromofluoromethane Toluene-D8	97% 104%		-130% -130%			

60-130%

103%



4.2

4

Job Number:	C3467
Account:	CCCAA Cameron-Cole
Project:	T0600118672-AC Transit-Emeryville, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C3467-2MS	O02984.D	1	12/19/08	MF	n/a	n/a	VO148
C3467-2MSD	O02985.D	1	12/19/08	MF	n/a	n/a	VO148
C3467-2	O02975.D	1	12/19/08	MF	n/a	n/a	VO148

The QC reported here applies to the following samples:

Method: SW846 8260B

C3467-2, C3467-4, C3467-6, C3467-8, C3467-10, C3467-12, C3467-14

CAS No.	Compound	C3467-2 ug/kg Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	39.9	35.3	88	36.3	91	3	60-130/30
106-93-4	1,2-Dibromoethane	ND	39.9	42.9	107	41.3	104	4	60-130/30
107-06-2	1,2-Dichloroethane	ND	39.9	33.0	83	33.5	84	2	60-130/30
108-20-3	Di-Isopropyl ether	ND	39.9	35.1	88	35.6	90	1	60-130/30
100-41-4	Ethylbenzene	ND	39.9	33.7	84	34.4	87	2	60-130/30
637-92-3	Ethyl tert-Butyl Ether	ND	39.9	37.9	95	39.2	99	3	60-130/30
1634-04-4	Methyl Tert Butyl Ether	ND	39.9	34.7	87	35.6	90	3	60-130/30
994-05-8	Tert-Amyl Methyl Ether	ND	39.9	42.3	106	43.4	109	3	60-130/30
75-65-0	Tert Butyl Alcohol	ND	200	151	76	150	76	1	60-130/30
108-88-3	Toluene	ND	39.9	34.6	87	34.7	87	0	60-130/30
1330-20-7	Xylene (total)	ND	120	102	85	104	87	2	60-130/30
CAS No.	Surrogate Recoveries	MS	MSD	C34	467-2	Limits			
1868-53-7	Dibromofluoromethane	102%	101%	101	%	60-1309	6		
2037-26-5	Toluene-D8	98%	99%	104	%	60-130%	6		
460-00-4	4-Bromofluorobenzene	96%			60-130%				



Job Number:	C3467
Account:	CCCAA Cameron-Cole
Project:	T0600118672-AC Transit-Emeryville, CA

00 D 1					Analytical Batch
00.D 1	12/22/08	BD	n/a	n/a	VW127
01.D 1	12/22/08	BD	n/a	n/a	VW127
86.D 1	12/22/08	BD	n/a	n/a	VW127
	01.D 1	01.D 1 12/22/08	01.D 1 12/22/08 BD	01.D 1 12/22/08 BD n/a	01.D 1 12/22/08 BD n/a n/a

The QC reported here applies to the following samples:

Method: SW846 8260B

C3467-5, C3467-7, C3467-9, C3467-11, C3467-13, C3467-16

CAS No.	Compound	C3459-2 ug/l Q	Spike ug/l	MS ug/l		MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	20.4		102	20.3	102	0	60-130/25
106-93-4	1,2-Dibromoethane	ND	20	18.8		94	19.6	98	4	60-130/25
107-06-2	1,2-Dichloroethane	ND	20	19.3		97	19.3	97	0	60-130/25
108-20-3	Di-Isopropyl ether	ND	20	22.1		111	21.7	109	2	60-130/25
100-41-4	Ethylbenzene	ND	20	19.8		99	19.6	98	1	60-130/25
637-92-3	Ethyl Tert Butyl Ether	ND	20	22.3		112	22.4	112	0	60-130/25
1634-04-4	Methyl Tert Butyl Ether	0.75 J	20	22.1		107	22.7	110	3	60-130/25
994-05-8	Tert-Amyl Methyl Ether	ND	20	21.7		109	22.3	112	3	60-130/25
75-65-0	Tert-Butyl Alcohol	ND	100	84.8		85	99.3	99	16	60-130/25
108-88-3	Toluene	ND	20	20.0		100	19.6	98	2	60-130/25
1330-20-7	Xylene (total)	ND	60	59.8		100	58.8	98	2	60-130/25
CAS No.	Surrogate Recoveries	MS	MSD	(C 34	59-2	Limits			
1868-53-7	Dibromofluoromethane	103%	103%	ç	98%)	60-130%	ó		
2037-26-5	Toluene-D8	102%	101%	1	1039	%	60-130%	ó		
460-00-4	4-Bromofluorobenzene	103%	104%	1	1019	%	60-130%			



Job Number:	C3467
Account:	CCCAA Cameron-Cole
Project:	T0600118672-AC Transit-Emeryville, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C3504-6MS	W3438.D	1	12/23/08	BD	n/a	n/a	VW128
C3504-6MSD	W3439.D	1	12/23/08	BD	n/a	n/a	VW128
C3504-6	W3424.D	1	12/23/08	BD	n/a	n/a	VW128

The QC reported here applies to the following samples:

Method: SW846 8260B

C3467-1, C3467-3

CAS No.	Compound	C3504-6 ug/l Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	23.1	116	22.6	113	2	60-130/25
106-93-4	1,2-Dibromoethane	ND	20	20.2	101	20.3	102	0	60-130/25
107-06-2	1,2-Dichloroethane	ND	20	20.7	104	20.5	103	1	60-130/25
108-20-3	Di-Isopropyl ether	ND	20	23.2	116	22.9	115	1	60-130/25
100-41-4	Ethylbenzene	ND	20	21.7	109	21.2	106	2	60-130/25
637-92-3	Ethyl Tert Butyl Ether	ND	20	23.1	116	22.9	115	1	60-130/25
1634-04-4	Methyl Tert Butyl Ether	ND	20	22.8	114	22.5	113	1	60-130/25
994-05-8	Tert-Amyl Methyl Ether	ND	20	22.8	114	22.6	113	1	60-130/25
75-65-0	Tert-Butyl Alcohol	ND	100	90.8	91	86.3	86	5	60-130/25
108-88-3	Toluene	ND	20	21.9	110	21.4	107	2	60-130/25
1330-20-7	Xylene (total)	ND	60	64.6	108	64.0	107	1	60-130/25
CAS No.	Surrogate Recoveries	MS	MSD	C	3504-6	Limits			
1868-53-7	Dibromofluoromethane	103%	103%	97	%	60-1309	%		
2037-26-5	Toluene-D8	101%	100%	10	5%	60-1309	%		
460-00-4	4-Bromofluorobenzene	103%	102%	10	1%	60-1309	%		

4.3

4





GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary Job Number: C3467

Account: Project:	CCCAA Ca T060011867		ole ansit-Emeryville	e, CA			
Sample OP594-MB	File ID GG2851.D	DF 1	Analyzed 12/22/08	Ву JH	Prep Date 12/19/08	Prep Batch OP594	Analytical Batch GGG117

The QC reported here applies to the following samples:

Method: SW846 8015B M

C3467-1, C3467-3, C3467-5, C3467-7, C3467-9, C3467-11, C3467-13

CAS No.	Compound	Result	RL	Units	Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	0.10 0.20 0.10 0.10	mg/l mg/l mg/l mg/l	
CAS No.	Surrogate Recoveries		Limits		
630-01-3	Hexacosane	73%	45-140	%	



5<u>.</u>1

S

Method Blank Summary Job Number: C3467

Account: Project:	CCCAA Ca T060011867		ole ansit-Emeryville	e, CA			
Sample OP598-MB	File ID GG2886.D	DF 1	Analyzed 12/23/08	By JH	Prep Date 12/22/08	Prep Batch OP598	Analytical Batch GGG118
The QC repo	rted here appl	ies to the	e following sam	ples:		Method: SW	7846 8015B M

C3467-2, C3467-4, C3467-6, C3467-8, C3467-10, C3467-12, C3467-14, C3467-15

CAS No.	Compound	Result	RL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	10 20 10 10	mg/kg mg/kg mg/kg mg/kg
CAS No.	Surrogate Recoveries		Limi	ts
630-01-3	Hexacosane	73%	45-14	0%

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Page 1 of 1
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5<u>.</u>1



Blank Spike/Blank Spike Duplicate Summary

Job Number:	C3467
Account:	CCCAA Cameron-Cole
Project:	T0600118672-AC Transit-Emeryville, CA

Sample File ID DF Analyzed By OP594-BS GG2852.D 1 12/22/08 JH OP594-BSD GG2853.D 1 12/22/08 JH	Prep DatePrep BatchAnalytical Batch12/19/08OP594GGG11712/19/08OP594GGG117
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The QC reported here applies to the following samples:

Method: SW846 8015B M

C3467-1, C3467-3, C3467-5, C3467-7, C3467-9, C3467-11, C3467-13

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel) TPH (Motor Oil)	1 1	0.668 0.758	67 76	0.626 0.759	63 76	6 0	45-140/30 45-140/30
CAS No.	Surrogate Recoveries	BSP	BSI	D	Limits			
630-01-3	Hexacosane	79%	9% 75%		45-140%			

5.2

S



Blank Spike/Blank Spike Duplicate Summary

Job Number:	C3467
Account:	CCCAA Cameron-Cole
Project:	T0600118672-AC Transit-Emeryville, CA

Sample	File ID	DF	Analyzed	Ву	Prep Date 12/22/08 12/22/08	Prep Batch	Analytical Batch
OP598-BS	GG2887.D	1	12/23/08	ЈН		OP598	GGG118
OP598-BSD	GG2888.D	1	12/23/08	ЈН		OP598	GGG118

The QC reported here applies to the following samples:

Method: SW846 8015B M

C3467-2, C3467-4, C3467-6, C3467-8, C3467-10, C3467-12, C3467-14, C3467-15

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel) TPH (Motor Oil)	100 100	66.5 80.3	67 80	63.1 78.7	63 79	5 2	45-140/30 45-140/30
CAS No.	Surrogate Recoveries	BSP B		BSD				
630-01-3	Hexacosane	78%	75%	,)	45-140%	, 0		

5.2

G



Job Number:	C3467
Account:	CCCAA Cameron-Cole
Project:	T0600118672-AC Transit-Emeryville, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP598-MS	HH1687.D	1	12/26/08	JH	12/22/08	OP598	GHH93
OP598-MSD	HH1688.D	1	12/26/08	JH	12/22/08	OP598	GHH93
C3467-15	HH1664.D	1	12/23/08	JH	12/22/08	OP598	GHH92

The QC reported here applies to the following samples:

Method: SW846 8015B M

C3467-2, C3467-4, C3467-6, C3467-8, C3467-10, C3467-12, C3467-14, C3467-15

CAS No.	Compound	C3467-15 mg/kg Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (Diesel) TPH (Motor Oil)	ND ND	100 100	78.5 76.1	79 76	79.9 77.0	80 77	2 1	45-140/30 45-140/30
CAS No.	Surrogate Recoveries	MS	MSD	C34	C3467-15 Limits				
630-01-3	Hexacosane	78%	78%	77%	, D	45-140%	6		

5.3

S

