# RECEIVED

2:13 pm, Dec 29, 2008

Alameda County Environmental Health



December 8, 2008

Mr. Peter Armstrong EAH Housing Inc. 2169 East Francisco Boulevard, Suite B San Rafael, California 94901

RE: Phase II Environmental Site Assessment (ESA) Report/Limited Soil Characterization 3761 Park Boulevard Way, Oakland, California *Project Number 6783-013.01* 

Dear Mr. Armstrong:

Please find the enclosed two copies of the Phase II ESA/ Limited Soil Characterization Report for 3761 Park Boulevard Way, Oakland, California. The goal of this report was to identify is constituents of concern related to a former underground storage tank (UST) are present in Site soils at 3761 Park Boulevard Way, Oakland, California.

If you have any questions regarding the report, please contact me at (510) 638-8400, ext. 110 or email me at jsiudyla@accenv.com.

Sincerely,

Julia Siudyla Project Geologist

Enclosures



# Phase II Environmental Site Assessment/Limited Soil Characterization

# 3761 Park Boulevard Way Oakland, California

ACC Project Number: 6783-001.01

Prepared for:

Mr. Peter Armstrong EAH Housing Inc. 2169 East Francisco Boulevard, Suite B San Rafael, California 94901

December 8, 2008

Prepared by:

Julia Siudyla Project Geologist

K theider mist



Reviewed by:

Misty C. Kaltreider, PG 7016, CEG 2466 Engineering Geologist

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## Phase II Environmental Site Assessment/ Limited Soil Characterization 3761 Park Boulevard Way Oakland, California

### **1.0 INTRODUCTION**

At the request of the EAH Housing, Inc (ACC), has prepared this Phase II ESA/Limited Soil Characterization Report summarizing subsurface investigation work performed at 3761 Park Boulevard Way, Oakland, California (Site). The primary goals of this investigation were to determine if constituents of concern (petroleum hydrocarbons) are present in soil related to a former underground storage tank (UST) at the Site.

### 2.0 BACKGROUND

The site is located 3761 Park Boulevard Way in Oakland, California. The Site is comprised of an approximately 0.6-acre parcel located on the northeast side of Park Boulevard Way. The subject property is developed with a five story, u-shaped building comprising 70,000-square feet of multi-tenant apartments. The building consists of 84 one-bedroom apartments, and several common areas and two passenger elevators. The building has been improved with carpet, vinyl floor tiles, ceramic tile, acoustical ceiling tiles, baseboard, and gypsum wallboard. The building also has a ground level parking garage located below the southwestern portion of the building.

The subject property is known to be a historical gas station. The historical resources utilized in the Phase I ESA (EDR City Directories and the historical Sanborn maps) indicated that the subject property was occupied by a former gas station (Ritchey's Union Service Station and Earl's Union 76) from approximately 1950-1970. No information pertaining to the former gas station on the subject property was obtained from the City of Oakland Fire Department, the California EPA-Regional Water Quality Control Board, the California EPA-Department of Toxic Substance Control, Region 2 or Alameda County Environmental Health. The presence of a former gas station on the subject property is interpreted to be a recognized environmental condition. Further investigation was deemed warranted.

#### **3.0 FIELD PROCEDURES**

#### **Soil Borings**

On December 2, 2008, ACC's Staff Geologist, Julia Siudyla, performed four soil borings. The subsurface materials in the soil borings were identified and classified. Soil borings were continuously cored using a pneumatic Geoprobe® sampling tool. ACC utilized a four-foot long, stainless steel Geoprobe® macro-core sampling tool equipped with 2-inch inside-diameter clear acetate liners. The sampling probe and rods were pre-cleaned prior to use and between sample drives by washing them

with a trisodium phosphate and potable water solution and two potable water rinses. Upon removal from the sampler, each recovered soil core was visually inspected. Subsurface materials in the soil borings were identified and classified during drilling operations according to the Unified Soil Classification System (USCS).

Four exploratory soil borings were advanced at select, representative locations. Approximate soil boring locations are illustrated on Figure 2. Each soil boring was continuously cored to facilitate logging and screening encountered soils and obtain soil sample intervals for potential laboratory analysis. Two soil samples were collected from soil boring SB-1, SB-2, and SB-4. No soil samples were collected from soil boring SB-3; refusal was encountered at 2.5 feet bgs in this soil boring. Each soil sample was labeled, and stored in a pre-chilled, insulated container to be transported following chain of custody protocol to TestAmerica (formerly STL San Francisco), a state-certified analytical laboratory. Three composite soil samples were analyzed for TPHg, benzene, toluene, ethylbenzene, xylenes and MTBE via EPA Method 8260B and TEPH as diesel and motor oil via EPA Method 8015M.

Following drilling and sample collection, each soil boring location was abandoned with neat cement to the surface (2 to 3 inches). The surface of each boring location was completed with concrete to grade.

Prior to conducting all invasive work, ACC contract Underground Service Alert, underground utility locator to mark all utilities at the subject property.

# 4.0 FINDINGS

## 4.1 Subsurface Conditions

Soil borings SB-1, SB-2 and SB-3 were all conducted in the area reported (by Mr. Mortimer Howard, current property owner) to formerly contain the UST. This area is located in the southwestern corner of the subject building in the parking garage. This area of the parking garage is paved with concrete.

Soil boring SB-1 was conducted in what was identified to be the central area of the former tank location. This soil boring was conducted to a maximum depth of 24 feet below ground surface (bgs). This was mostly comprised of clay with sand and highly plastic clay. Visual (staining and discoloration) and olfactory evidence (gasoline odor) of contamination was evident in this soil boring from approximately 3 to 8 feet bgs. The maximum photo ionization detector (PID) reading was 6469 ppm at approximately 7 feet bgs. Two soil samples were collected from this soil boring, SB-1 (6.5-7.0) and SB-1 (17-18). These two soil samples were composited in the laboratory prior to analysis. Groundwater was not encountered in this soil boring and thus was not sampled.

Soil boring SB-2 was conducted in what was identified to be the northeastern side of the former tank location. This soil boring was conducted to a maximum depth of 16 feet below ground surface (bgs). This was mostly comprised of clay with sand and highly plastic clay. Visual (discoloration) and olfactory evidence (gasoline odor) of contamination was evident in this soil boring from approximately 3

to 16 feet bgs. The maximum photo ionization detector (PID) reading was 196 ppm at approximately 6 feet bgs. Two soil samples were collected from this soil boring, SB-2 (5- 6) and SB-2 (9.5 -10.5). These two soil samples were composited in the laboratory prior to analysis. Groundwater was not encountered in this soil boring and thus was not sampled.

Soil boring SB-3 was conducted in what was identified to be the southwestern side of the former tank location. This soil boring was conducted to a maximum depth of 2.5 feet below ground surface (bgs). This was mostly comprised of clay with sand. No samples were collected from this soil boring due to encountering refusal at 2.5 feet bgs repeatedly. Groundwater was not encountered in this soil boring and thus was not sampled.

Soil Boring SB-5 was conducted in the vicinity of the former dispenser island/pump location (as identified by Mr. Mortimer Howard). This soil boring was conducted to a maximum depth of 16 feet below ground surface (bgs). This was mostly comprised of clay with sand and highly plastic clay. Visual (discoloration) and olfactory evidence (gasoline odor) of contamination was evident in this soil boring from approximately 3 to 16 feet bgs. The maximum photo ionization detector (PID) reading was 1614 ppm at approximately 12 feet bgs. Two soil samples were collected from this soil boring, SB-4 (4-5) and SB4 (10-12). These two soil samples were composited in the laboratory prior to analysis. Groundwater was not encountered in this soil boring and thus was not sampled.

## 4.2 Analytical Results

- In the composite soil sample SB-1 (SB-1 (6.5-7.0) and SB-1 (17-18)) TPH as gasoline was detected at 260 mg/kg, Benzene was detected at < 0.98 mg/kg and ethyl benzene was detected at 4.7 mg/kg above their respective environmental screening levels (ESLs) for residential land use.
- In the composite soil sample SB-2 (SB-2 (5-6) and SB-2 (9.5-10.5)) TPH as gasoline was detected at 280 mg/kg and Benzene was detected at < 0.98 mg/kg above their respective ESLs for residential land use.
- No samples were collected from SB-3.
- In the composite soil sample SB-4 (SB-4 (4-5) and SB-4 (10-12)) TEPH as motor oil was detected at 550 mg/kg above its ESL.

A Soil Sample Analytical Summary Table is proved as Table 1.

## 5.0 **DISCUSSION**

The primary goals of this investigation were to determine if constituents of concern (petroleum hydrocarbons) are present in soil related to a former underground storage tank (UST) at the Site. ACC advanced four exploratory soil borings in select locations relative to probable sources, such as the former UST locations and the dispenser islands/pump locations.

Logging continuously cored soil borings confirmed that low permeable clays are the predominant soil type to approximately 24 feet bgs. No groundwater was encountered during this investigation. Soil samples were logged and screened with a PID and representative samples were submitted for analysis.

TPHg-impacted soil was primarily encountered in the area identified to as the former tank location. TEPH as motor oil impacted soil was encountered in the area identified to as the former location of the dispenser island/pump location.

## 6.0 CONCLUSIONS

Based on sample analytical results, and field observations, ACC has concluded the following:

- Reported TPHg, TEPH as motor oil, benzene and ethylbenzene concentrations in soil are indicative of a typical service station release scenario with impacts in soil beneath the product dispensers and under or adjacent to the UST basin;
- Soils at the Site are primarily fine-grained clays with low estimated permeability which limit or prevent potential vertical, downward migration of dissolved-phase petroleum hydrocarbons into groundwater, and also minimize potential vertical, upward migration of vapor-phase petroleum hydrocarbons in soil gas;
- □ Additional site characterization is warranted to determine if impacted groundwater is present at the Site and to determine if impacted groundwater is migrating off site;
- □ Information summarized in this report does should be forwarded by the current property owner to Alameda County Environmental Health and an unauthorized release from should be completed.

#### 7.0 **RECOMMENDATIONS**

Based on conclusions of this investigation, ACC recommends the following:

- □ Re-submitting the soil samples with concentrations that exceed ESLs as separate samples to evaluate the vertical extent and amount of impact.
- □ Re-mobilize at the site to collect groundwater samples to determine if impacted groundwater is present at the Site and to determine if impacted groundwater is migrating off site.

#### 8.0 LIMITATIONS

The service performed by ACC has been conducted in a manner consistent with the levels of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area. No other warranty, expressed or implied, is made.

The conclusions presented in this report are professional opinions based on the indicated data described in this report and applicable regulations and guidelines currently in place. They are intended only for the purpose, site, and project indicated. Opinions and recommendations presented herein apply to site conditions existing at the time of our study.

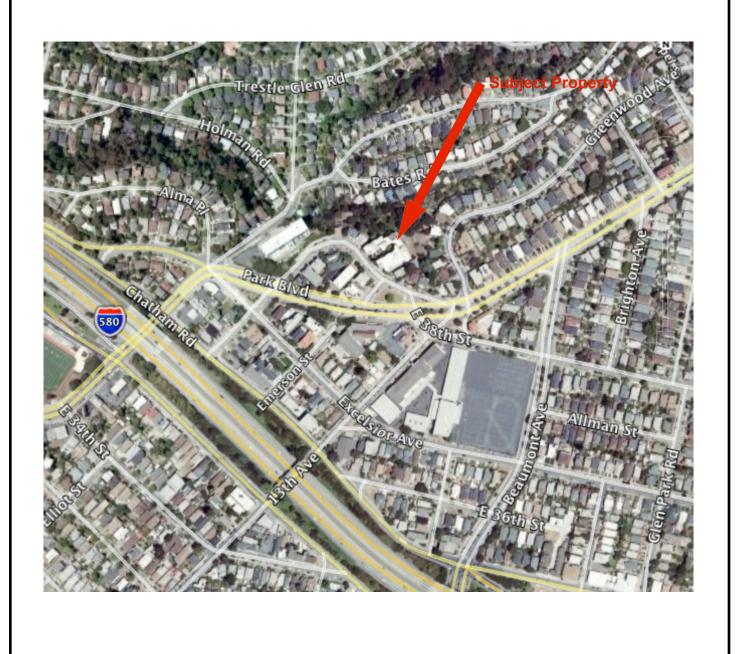
ACC has included analytical results from a state-certified laboratory, which performs analyses according to procedures suggested by the U.S. Environmental Protection Agency and the State of California. ACC is not responsible for laboratory errors in procedure or result reporting.

#### TABLE 1 Soil Sample Analytical Summary Table (12-2-08) 3761 Park Boulevard Way ACC Project Number: 6783-013.01

				-		stituents &			-	
Boring ID & Depth (feet bgs)	Sampling Date	Matrix	TPHg	TEPH-d	TEPH-mo	MTBE	Benzene	Toluene	Ethylbenzene	Xylene
SB-1 - (6.5-7.0) & (17-18)	2-Dec-08	Soil	260	34	55	< 0.98	< 0.98	< 0.98	4.7	8.5
SB-2 - (5-6) & (9.5-10.5)	2-Dec-08	Soil	280	90	340	< 0.98	< 0.98	< 0.98	< 0.98	< 2.0
SB-4 - (4-5) & (10-12)	2-Dec-08	Soil	0.33	73	550	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
**ESLs - Residential	Shallow Soil ( <u>&lt; </u> 3 m)	Soil (mg/kg)	100	100	370	8.4	0.12	9.3	2.3	11
(unrestricted site usage)	Deep Soil (>3 m)	Soil (mg/kg)	180	180	5000	8.4	2	9.3	4.7	11
**ESLs - Commercial site	Shallow Soil ( <u>&lt; </u> 3 m)	Soil (mg/kg)	180	180	2500	8.4	0.270	9.3	4.7	11
usage	Deep Soil (>3 m)	Soil (mg/kg)	180	180	5000	8.4	2.0	9.3	4.7	11
Non Drinking Wate	er Source	Water (µg/l)	210	210	210	1800	46	130	43	100
ESLs - Drinking Wa	ter Source	Water (µg/l)	100	100	100	5	1	40	30	20

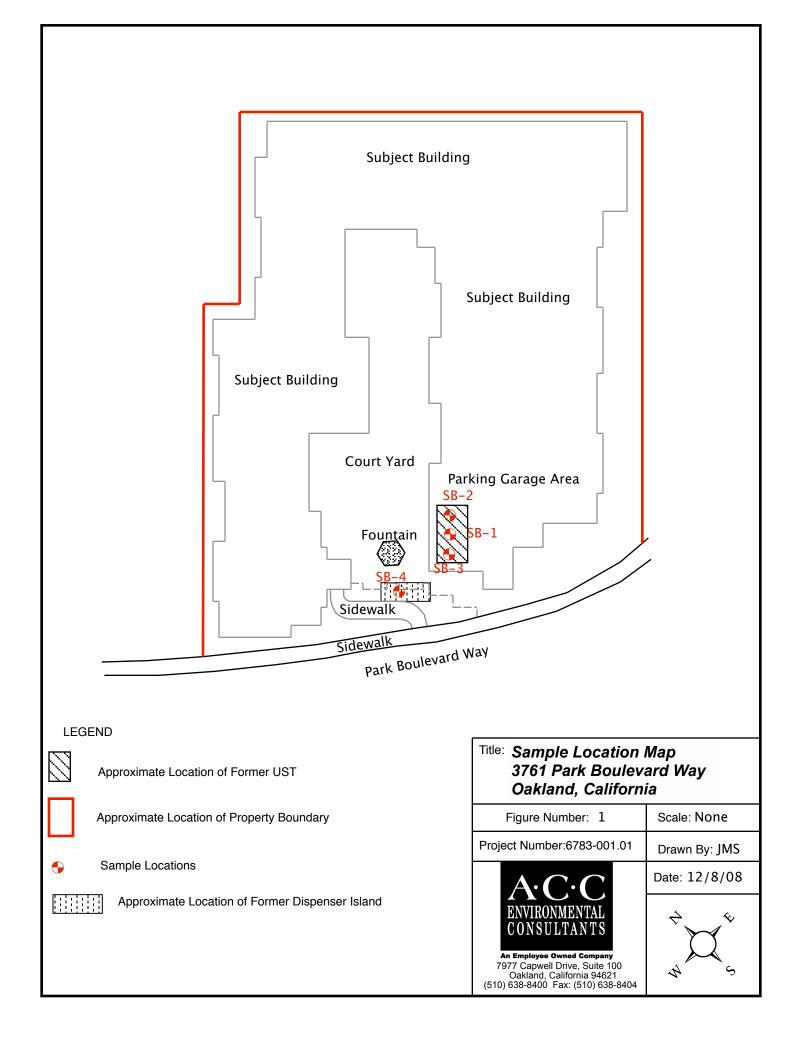
Notes

\*\*ESLs = Bay Area Regional Water Quality Control Board Environmental Screening Levels (Interim Final May 2008), where groundwater is NOT a source of Drinking Water



	Title: Location Map 3761 Park Boulevard Way Oakland, California				
	Figure Number: 1 Scale				
007	Project Number: 6783-013.00	Drawn By: JMS			
	A·C·C ENVIRONMENTAL	Date: 10/10/08			
	CONSULTANTS 7977 Capwell Drive, Suite 100 Oakland, California 94621 (510) 638-8400 Fax: (510) 638-8404	W - E S			

Source: Google Earth, 2007





# **ANALYTICAL REPORT**

Job Number: 720-17141-1 SDG Number: 6783-001.01 Job Description: Park Village

For: ACC Environmental Consultants 7977 Capwell Drive Suite 100 Oakland, CA 94621 Attention: Julia Siudyla

melissa Brever

Approved for release. Melissa Brewer Project Manager I 12/5/2008 4:04 PM

Melissa Brewer Project Manager I melissa.brewer@ testamericainc.com 12/05/2008

#### Comments

No additional comments.

#### Receipt

All samples were received in good condition within temperature requirements.

#### GC/MS VOA

No analytical or quality issues were noted.

#### GC VOA

No analytical or quality issues were noted.

#### GC Semi VOA

Method 8015B: Due to the high concentration of C10-C28, the matrix spike / matrix spike duplicate (MS/MSD) for batch 44521could not be evaluated for accuracy and precision. The associated laboratory control standard (LCS) met acceptance criteria.

No other analytical or quality issues were noted.

#### **Organic Prep**

No analytical or quality issues were noted.

# **EXECUTIVE SUMMARY - Detections**

Client: ACC Environmental Consultants

Job Number: 720-17141-1 Sdg Number: 6783-001.01

Lab Sample ID Client Sample ID Analyte	Result / Qualifier	Reporting Limit	Units	Method
720-17141-3 SB-1 (6.5-7.5 FT.), (1	7-18 FT)			
Gasoline Range Organics (GRO)-C5-C12	260	49	mg/Kg	8260B/CA LUFTMS
Ethylbenzene	4.7	0.98	mg/Kg	8260B/CA LUFTMS
Xylenes, Total	8.5	2.0	mg/Kg	8260B/CA_LUFTMS
Diesel Range Organics [C10-C28]	34	0.99	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]	55	49	mg/Kg	8015B
720-17141-6 SB-2 (5-6 FT), (9.5-10	).5 FT)			
Gasoline Range Organics (GRO)-C5-C12	280	49	mg/Kg	8260B/CA_LUFTMS
Diesel Range Organics [C10-C28]	90	0.99	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]	340	50	mg/Kg	8015B
720-17141-9 SB-4 (4-5 FT), (10-12	FT)			
Gasoline Range Organics (GRO)-C5-C12	0.33	0.25	mg/Kg	8260B/CA LUFTMS
Diesel Range Organics [C10-C28]	73	4.9	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]	550	250	mg/Kg	8015B

## **METHOD SUMMARY**

#### Client: ACC Environmental Consultants

#### Job Number: 720-17141-1 Sdg Number: 6783-001.01

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds by GC/MS	TAL SF	SW846 8260	B/CA_LUFTMS
Purge and Trap	TAL SF		SW846 5030B
Diesel Range Organics (DRO) (GC)	TAL SF	SW846 8015	iВ
Ultrasonic Extraction	TAL SF		SW846 3550B

Lab References:

TAL SF = TestAmerica San Francisco

#### Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## SAMPLE SUMMARY

#### Client: ACC Environmental Consultants

Job Number: 720-17141-1 Sdg Number: 6783-001.01

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-17141-3	SB-1 (6.5-7.5 ft.), (17-18 ft)	Solid	12/02/2008 1015	12/02/2008 1405
720-17141-6	SB-2 (5-6 ft), (9.5-10.5 ft)	Solid	12/02/2008 1045	12/02/2008 1405
720-17141-9	SB-4 (4-5 ft), (10-12 ft)	Solid	12/02/2008 1155	12/02/2008 1405

Client: ACC Er	vironmental Consultant	Job Number: 720-17141-1	
Client Sample ID	: SB-1 (6.5-7.5 ft.), (17	′-18 ft)	Sdg Number: 6783-001.01
Lab Sample ID: Client Matrix:	720-17141-3 Solid		Date Sampled:12/02/20081015Date Received:12/02/20081405
	8260B/CA	LUFTMS Volatile Organic Cor	npounds by GC/MS
Method: Preparation: Dilution: Date Analyzed: Date Prepared:	8260B/CA_LUFTMS 5030B-Medium 200 12/03/2008 0651 12/02/2008 1600	Analysis Batch: 720-44549 Prep Batch: 720-44594	Instrument ID: Saturn 2100 Lab File ID: d:\data\200812\120208\sa-s Initial Weight/Volume: 5.08 g Final Weight/Volume: 10 mL
Analyte	DryWt Co	prrected: N Result (mg/Kg)	Qualifier RL
Gasoline Range C	Organics (GRO)-C5-C12	260	49
Benzene	-	ND	0.98
Toluene		ND	0.98
Ethylbenzene		4.7	0.98
Xylenes, Total		8.5	2.0
MTBE		ND	0.98
Surrogate		%Rec	Acceptance Limits
Toluene-d8 (Surr)		90	70 - 130
1,2-Dichloroethan	e-d4 (Surr)	107	70 - 130

				Analytical Bata
Client: ACC Er	vironmental Consultant		ob Number: 720-17141-1 Sdg Number: 6783-001.01	
Client Sample ID	: SB-2 (5-6 ft), (9.5-10	.5 ft)		
Lab Sample ID: Client Matrix:	720-17141-6 Solid		Date Sample Date Receive	
	8260B/CA	LUFTMS Volatile Organic Con	npounds by GC/MS	
Method: Preparation: Dilution: Date Analyzed: Date Prepared:	8260B/CA_LUFTMS 5030B-Medium 200 12/03/2008 0718 12/02/2008 1600	Analysis Batch: 720-44549 Prep Batch: 720-44594	Instrument ID: Lab File ID: Initial Weight/Volu Final Weight/Volu	-
Analyte	DryWt Co	prrected: N Result (mg/Kg)	Qualifier	RL
Gasoline Range C	Organics (GRO)-C5-C12	280		49
Benzene	5	ND		0.98
Toluene		ND		0.98
Ethylbenzene		ND		0.98
Xylenes, Total		ND		2.0
MTBE		ND		0.98
Surrogate		%Rec	Acc	eptance Limits
Toluene-d8 (Surr)		91	70	- 130
1,2-Dichloroethan	e-d4 (Surr)	103	70	- 130

Client: ACC En	vironmental Consultants		lumber: 720-17141-1	
Client Sample ID:	SB-4 (4-5 ft), (10-12 ft	)	Sugi	Number: 6783-001.01
Lab Sample ID: Client Matrix:	720-17141-9 Solid		Date Sampled: Date Received:	12/02/2008 1155 12/02/2008 1405
	8260B/CA_I	UFTMS Volatile Organic Cor	npounds by GC/MS	
Method: Preparation: Dilution: Date Analyzed: Date Prepared:	8260B/CA_LUFTMS 5030B 1.0 12/03/2008 1239 12/03/2008 0800	Analysis Batch: 720-44607 Prep Batch: 720-44606		an 3900E ata\200812\120308\sa-s 5.05 g 10 mL
Analyte	DryWt Cor	rected: N Result (mg/Kg)	Qualifier	RL
Gasoline Range O	rganics (GRO)-C5-C12	0.33		0.25
Benzene Toluene		ND ND		0.0050 0.0050
Ethylbenzene		ND		0.0050
Xylenes, Total		ND		0.0099
MTBE		ND		0.0050
Surrogate		%Rec	Accepta	nce Limits
Toluene-d8 (Surr)		90	74 - 11	8
1,2-Dichloroethane	e-d4 (Surr)	101	54 - 13	4

Client: ACC Er	nvironmental Consultar	Job Number: 720-17141-1 Sda Number: 6783-001-01		
Client Sample ID	: SB-1 (6.5-7.5 ft.), (1	7-18 ft)	Sdg Number: 6783-001.01	
Lab Sample ID: Client Matrix:	720-17141-3 Solid		Date Sampled: 12/02/2008 1015 Date Received: 12/02/2008 1405	
	1	8015B Diesel Range Organics (I	DRO) (GC)	
Method: Preparation: Dilution: Date Analyzed: Date Prepared:	8015B 3550B 1.0 12/04/2008 0125 12/02/2008 1448	Analysis Batch: 720-44600 Prep Batch: 720-44521	Instrument ID: HP DRO5 Lab File ID: N/A Initial Weight/Volume: 30.41 g Final Weight/Volume: 5 mL Injection Volume: Column ID: PRIMARY	
Analyte	DryWt C	corrected: N Result (mg/Kg)	Qualifier RL	
Diesel Range Organics [C10-C28]		34	0.99	
Motor Oil Range Organics [C24-C36]		55	49	
Surrogate		%Rec	Acceptance Limits	
p-Terphenyl		74	40 - 119	

Client: ACC Er	vironmental Consult	Job Number: 720-17141-1	
Client Sample ID	: SB-2 (5-6 ft), (9.5	-10.5 ft)	Sdg Number: 6783-001.01
Lab Sample ID: Client Matrix:	720-17141-6 Solid		Date Sampled: 12/02/2008 1045 Date Received: 12/02/2008 1405
		8015B Diesel Range Organics (I	DRO) (GC)
Method: Preparation: Dilution: Date Analyzed: Date Prepared:	8015B 3550B 1.0 12/04/2008 0152 12/02/2008 1448	Analysis Batch: 720-44600 Prep Batch: 720-44521	Instrument ID: HP DRO5 Lab File ID: N/A Initial Weight/Volume: 30.29 g Final Weight/Volume: 5 mL Injection Volume: Column ID: PRIMARY
AnalyteDryWtDiesel Range Organics [C10-C28]Motor Oil Range Organics [C24-C36]		Corrected: N Result (mg/Kg) 90 340	Qualifier RL 0.99 50
Surrogate p-Terphenyl		%Rec 71	Acceptance Limits 40 - 119

Client: ACC En	vironmental Consult	ants		Job Number: 720-17141-1 Sdg Number: 6783-001.01
Client Sample ID	: SB-4 (4-5 ft), (10	-12 ft)		
Lab Sample ID:	720-17141-9		Date S	ampled: 12/02/2008 1155
Client Matrix:	Solid		Date R	eceived: 12/02/2008 1405
		8015B Diesel Range Organics (	DRO) (GC)	
Method:	8015B	Analysis Batch: 720-44600	Instrument	ID: HP DRO5
Preparation:	3550B	Prep Batch: 720-44521	Lab File ID:	N/A
Dilution:	5.0		Initial Weig	ht/Volume: 30.31 g
Date Analyzed:	12/04/2008 0004		Final Weigh	nt/Volume: 5 mL
Date Prepared:	12/02/2008 1448		Injection Vo	blume:
			Column ID:	PRIMARY
Analyte	DryW	t Corrected: N Result (mg/Kg)	Qualifier	RL
Diesel Range Orga	anics [C10-C28]	73		4.9
Motor Oil Range C	organics [C24-C36]	550		250
Surrogate		%Rec		Acceptance Limits
p-Terphenyl		0	D	40 - 119

# DATA REPORTING QUALIFIERS

Client: ACC Environmental Consultants

Job Number: 720-17141-1 Sdg Number: 6783-001.01

Lab Section	Qualifier	Description
GC Semi VOA		
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

Client: ACC Environmental Consultants

Job Number: 720-17141-1 Sdg Number: 6783-001.01

## **QC Association Summary**

		Report			
Lab Sample ID	Client Sample ID	Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:720-44	549				
LCS 720-44594/2-A	Lab Control Spike	Т	Solid	8260B/CA_LUFT	720-44594
LCSD 720-44594/3-A	Lab Control Spike Duplicate	Т	Solid	8260B/CA_LUFT	720-44594
MB 720-44594/1-A	Method Blank	Т	Solid	8260B/CA_LUFT	720-44594
720-17141-3	SB-1 (6.5-7.5 ft.), (17-18 ft)	Т	Solid	8260B/CA_LUFT	720-44594
720-17141-6	SB-2 (5-6 ft), (9.5-10.5 ft)	Т	Solid	8260B/CA_LUFT	720-44594
Prep Batch: 720-44594					
LCS 720-44594/2-A	Lab Control Spike	Т	Solid	5030B	
LCSD 720-44594/3-A	Lab Control Spike Duplicate	Т	Solid	5030B	
MB 720-44594/1-A	Method Blank	Т	Solid	5030B	
720-17141-3	SB-1 (6.5-7.5 ft.), (17-18 ft)	Т	Solid	5030B	
720-17141-6	SB-2 (5-6 ft), (9.5-10.5 ft)	Т	Solid	5030B	
Prep Batch: 720-44606					
LCS 720-44606/2-A	Lab Control Spike	Т	Solid	5030B	
LCSD 720-44606/3-A	Lab Control Spike Duplicate	Т	Solid	5030B	
MB 720-44606/1-A	Method Blank	Т	Solid	5030B	
720-17141-9	SB-4 (4-5 ft), (10-12 ft)	Т	Solid	5030B	
Analysis Batch:720-44	607				
LCS 720-44606/2-A	Lab Control Spike	Т	Solid	8260B/CA LUFT	720-44606
LCSD 720-44606/3-A	Lab Control Spike Duplicate	Т	Solid	8260B/CA_LUFT	720-44606
MB 720-44606/1-A	Method Blank	Ť	Solid	8260B/CA_LUFT	720-44606
720-17141-9	SB-4 (4-5 ft), (10-12 ft)	Ť	Solid	8260B/CA_LUFT	720-44606
0 0		•			0 . 1000

#### Report Basis

T = Total

## Client: ACC Environmental Consultants

Job Number: 720-17141-1 Sdg Number: 6783-001.01

## **QC Association Summary**

	Report			
Client Sample ID	Basis	Client Matrix	Method	Prep Batch
Lab Control Spike	Т	Solid	3550B	
Lab Control Spike Duplicate	Т	Solid	3550B	
Method Blank	Т	Solid	3550B	
SB-1 (6.5-7.5 ft.), (17-18 ft)	Т	Solid	3550B	
SB-2 (5-6 ft), (9.5-10.5 ft)	Т	Solid	3550B	
SB-4 (4-5 ft), (10-12 ft)	Т	Solid	3550B	
600				
Lab Control Spike	Т	Solid	8015B	720-44521
Lab Control Spike Duplicate	Т	Solid	8015B	720-44521
Method Blank	Т	Solid	8015B	720-44521
SB-1 (6.5-7.5 ft.), (17-18 ft)	Т	Solid	8015B	720-44521
SB-2 (5-6 ft), (9.5-10.5 ft)	Т	Solid	8015B	720-44521
SB-4 (4-5 ft), (10-12 ft)	Т	Solid	8015B	720-44521
	Lab Control Spike Lab Control Spike Duplicate Method Blank SB-1 (6.5-7.5 ft.), (17-18 ft) SB-2 (5-6 ft), (9.5-10.5 ft) SB-4 (4-5 ft), (10-12 ft) 600 Lab Control Spike Lab Control Spike Duplicate Method Blank SB-1 (6.5-7.5 ft.), (17-18 ft) SB-2 (5-6 ft), (9.5-10.5 ft)	Client Sample IDBasisLab Control SpikeTLab Control Spike DuplicateTMethod BlankTSB-1 (6.5-7.5 ft.), (17-18 ft)TSB-2 (5-6 ft), (9.5-10.5 ft)TSB-4 (4-5 ft), (10-12 ft)T600Lab Control SpikeTLab Control Spike DuplicateTMethod BlankTSB-1 (6.5-7.5 ft.), (17-18 ft)TSB-1 (6.5-7.5 ft.), (17-18 ft)TSB-2 (5-6 ft), (9.5-10.5 ft)T	Lab Control SpikeTSolidLab Control Spike DuplicateTSolidMethod BlankTSolidSB-1 (6.5-7.5 ft.), (17-18 ft)TSolidSB-2 (5-6 ft), (9.5-10.5 ft)TSolidSB-4 (4-5 ft), (10-12 ft)TSolidControl SpikeLab Control SpikeTLab Control SpikeTSolidMethod BlankTSolidSB-1 (6.5-7.5 ft.), (17-18 ft)TSolidSB-2 (5-6 ft), (9.5-10.5 ft)TSolid	Client Sample ID         Basis         Client Matrix         Method           Lab Control Spike         T         Solid         3550B           Lab Control Spike Duplicate         T         Solid         3550B           Method Blank         T         Solid         3550B           SB-1 (6.5-7.5 ft.), (17-18 ft)         T         Solid         3550B           SB-2 (5-6 ft), (9.5-10.5 ft)         T         Solid         3550B           SB-4 (4-5 ft), (10-12 ft)         T         Solid         3550B           600         Lab Control Spike         T         Solid         8015B           Lab Control Spike         T         Solid         8015B           Bank         T         Solid         8015B           SB-1 (6.5-7.5 ft.), (17-18 ft)         T         Solid         8015B           SB-1 (6.5-7.5 ft.), (17-18 ft)         T         Solid         8015B           SB-1 (6.5-7.5 ft.), (17-18 ft)         T         Solid         8015B           SB-2 (5-6 ft), (9.5-10.5 ft)         T         Solid         8015B

#### Report Basis

T = Total

## **Quality Control Results**

Job Number: 720-17141-1 Sdg Number: 6783-001.01

#### Method: 8260B/CA\_LUFTMS Preparation: 5030B

Lab Sample ID:MB 720-44594/1-AAnalysis Batch:720-44549Instrument ID:Saturn 2100Client Matrix:SolidPrep Batch:720-44594Lab File ID:d:\data\200812\120208\mbDilution:200Units:mg/KgInitial Weight/Volume: 5 gDate Analyzed:12/02/2008 0855Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Gasoline Range Organics (GRO)-C5-C12	ND		50
Benzene	ND		1.0
Toluene	ND		1.0
Ethylbenzene	ND		1.0
Xylenes, Total	ND		2.0
MTBE	ND		1.0
Surrogate	% Rec	Acceptance Lim	its
Toluene-d8 (Surr)	100	70 - 130	
1,2-Dichloroethane-d4 (Surr)	108	70 - 130	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: ACC Environmental Consultants

Method Blank - Batch: 720-44594

Date Prepared: 12/02/2008 0800

Calculations are performed before rounding to avoid round-off errors in calculated results.

12/05/2008

# **Quality Control Results**

Job Number: 720-17141-1 Sdg Number: 6783-001.01

#### Method: 8260B/CA\_LUFTMS Preparation: 5030B

LCS Lab Sample I Client Matrix: Dilution: Date Analyzed: Date Prepared:	D: LCS 720-44594/2-A Solid 200 12/02/2008 1257 12/02/2008 0800	Analysis Batch: 720-44549 Prep Batch: 720-44594 Units: mg/Kg	Instrument ID: Saturn 2100 Lab File ID: d:\data\200812\120208\ls-s Initial Weight/Volume: 5 g Final Weight/Volume: 10 mL
LCSD Lab Sample Client Matrix: Dilution: Date Analyzed: Date Prepared:	e ID: LCSD 720-44594/3-A Solid 200 12/02/2008 1203 12/02/2008 0800	Analysis Batch: 720-44549 Prep Batch: 720-44594 Units: mg/Kg	Instrument ID: Saturn 2100 Lab File ID: d:\data\200812\120208\ld-sc Initial Weight/Volume: 5 g Final Weight/Volume: 10 mL

	9	6 Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	114	109	74 - 121	5	20		
Toluene	114	110	86 - 121	4	20		
MTBE	124	114	84 - 127	9	20		
Surrogate	L	CS % Rec	LCSD %	Rec	Acce	ptance Limits	3
Toluene-d8 (Surr)	1	07	116		7	70 - 130	
1,2-Dichloroethane-d4 (Surr)	1	21	121		7	70 - 130	

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#### Client: ACC Environmental Consultants

Lab Control Spike Duplicate Recovery Report - Batch: 720-44594

Lab Control Spike/

## **Quality Control Results**

Job Number: 720-17141-1 Sdg Number: 6783-001.01

#### Method: 8260B/CA\_LUFTMS Preparation: 5030B

Lab Sample ID:MB 720-44606/1-AAnalysis Batch:720-44607Instrument ID:Varian 3900EClient Matrix:SolidPrep Batch:720-44606Lab File ID:e:\data\200812\120308\mbDilution:1.0Units:mg/KgInitial Weight/Volume: 5 gDate Analyzed:12/03/2008 1108Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Gasoline Range Organics (GRO)-C5-C12	ND		0.25
Benzene	ND		0.0050
Toluene	ND		0.0050
Ethylbenzene	ND		0.0050
Xylenes, Total	ND		0.010
MTBE	ND		0.0050
Surrogate	% Rec	Acceptance I	_imits
Toluene-d8 (Surr)	80	74 - 118	
1,2-Dichloroethane-d4 (Surr)	95	54 - 134	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: ACC Environmental Consultants

Method Blank - Batch: 720-44606

Date Prepared: 12/03/2008 0800

Calculations are performed before rounding to avoid round-off errors in calculated results.

# **Quality Control Results**

Job Number: 720-17141-1 Sdg Number: 6783-001.01

#### Method: 8260B/CA\_LUFTMS Preparation: 5030B

LCS Lab Sample I Client Matrix: Dilution: Date Analyzed: Date Prepared:	D: LCS 720-44606/2-A Solid 1.0 12/03/2008 1139 12/03/2008 0800	Analysis Batch: 720-44607 Prep Batch: 720-44606 Units: mg/Kg	Instrument ID: Varian 3900E Lab File ID: e:\data\200812\120308\Is-s Initial Weight/Volume: 5 g Final Weight/Volume: 10 mL
LCSD Lab Sample Client Matrix: Dilution: Date Analyzed: Date Prepared:	e ID: LCSD 720-44606/3-A Solid 1.0 12/03/2008 1202 12/03/2008 0800	Analysis Batch: 720-44607 Prep Batch: 720-44606 Units: mg/Kg	Instrument ID: Varian 3900E Lab File ID: e:\data\200812\120308\ld-sc Initial Weight/Volume: 5 g Final Weight/Volume: 10 mL

		<u>% Rec.</u>			
Analyte	LCS	LCSD	Limit	RPD	RPD Limit LCS Qual LCSD Qual
Gasoline Range Organics (GRO)-C5-C12	58	64	43 - 95	11	20
Benzene	78	77	66 - 128	2	20
Toluene	80	79	76 - 128	0	20
МТВЕ	74	82	59 - 145	10	20
Surrogate		LCS % Rec	LCSD %	Rec	Acceptance Limits
Toluene-d8 (Surr)		87	84		74 - 118
1,2-Dichloroethane-d4 (Surr)		109	108		54 - 134

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#### Client: ACC Environmental Consultants

Lab Control Spike Duplicate Recovery Report - Batch: 720-44606

Lab Control Spike/

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: ACC Environmental Consultants

Method Blank - Batch: 720-44521

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raye	19	OT.	<u> </u>	

# **Quality Control Results**

Job Number: 720-17141-1 Sdg Number: 6783-001.01

#### Method: 8015B Preparation: 3550B

Diesel Range Org	anics [C10-C28]	77	83	50 - 130	) 9	30		
Analyte		LCS	<u>6 Rec.</u> LCSD	Limit	RP	D RPD Limit	LCS Qual	LCSD Qual
LCSD Lab Sample Client Matrix: Dilution: Date Analyzed: Date Prepared:	E ID: LCSD 720-44521/3-A Solid 1.0 12/03/2008 0942 12/02/2008 1139	Prep Units:	sis Batch: 7 3atch: 720- mg/Kg			Instrument ID: Lab File ID: N/. Initial Weight/Volu Final Weight/Volu Injection Volume: Column ID:	ume: 30.10 me: 5 mL	-
LCS Lab Sample I Client Matrix: Dilution: Date Analyzed: Date Prepared:	D: LCS 720-44521/2-A Solid 1.0 12/03/2008 0915 12/02/2008 1139	Prep	sis Batch: 7 Batch: 720- mg/Kg			Instrument ID: H Lab File ID: N/A Initial Weight/Volu Final Weight/Volu Injection Volume: Column ID:	ume: 30.1 me: 5 n	ηL
Lab Control Sp	ike/ ike Duplicate Recover	y Report	- Batch: 7	20-44521		Method: 8015 Preparation: 3		
p-Terphenyl			92			40 - 119		
Motor Oil Range C Surrogate	organics [C24-C36]		ND % Rec		50 Acceptance Limits			
Diesel Range Orga			ND				1.0	
Analyte			Result		Qual		RL	
Client Matrix: So Dilution: 1. Date Analyzed: 12 Date Prepared: 12	2/03/2008 1009	Prep Ba Units:	atch: 720-4 mg/Kg	4521		Lab File ID: N Initial Weight/Vo Final Weight/Vol Injection Volume Column ID:	lume: 5 mL	
Lab Sample ID: M		-	s Batch: 72			Instrument ID: H		

Diesei Range Organics [C10-C28]	11	83	50 - 130 9	30
Surrogate		LCS % Rec	LCSD % Rec	Acceptance Limits
p-Terphenyl		90	90	40 - 119

PELEADER IN ENVIRONMENTAL TESTING	TAMERICA San Francisco Chain of Custody 220 Quarry Lane ● Pleasanton CA 94566-4756 Phoner (925) 484-1919 (▲ Eax: (925) 600-3002	Reference #: <u>//36/8</u>	
eport To	120-11141	Page of _	<u></u>
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	X Dissel     X Olises     X Olises     Other       7uel Tests EFA 8260B: 1.J Gas DB     B       7uel Tests EFA 8260B: 1.J Gas DB     B       7uel Tests EFA 8260B: 1.J Gas DB     B       7uel Tests EFA 8260B     B       7uel Tests     B       7uel Test     B       7uel Test     B       7uel Test     B       7uel Test     C       7uel Test     B       7uel Test     B <tr< th=""><th>Jow Lever Metals oy E7A 200.86020       (ICP-MS):       Image: Constraint Chromitin       Image: Constraint Chromit</th><th></th></tr<>	Jow Lever Metals oy E7A 200.86020       (ICP-MS):       Image: Constraint Chromitin       Image: Constraint Chromit	
bject Name.     # of Containers:       Y Village.     Head Space:       bject#:     Head Space:       183-001.01     Temp:       #:     Temp:       10.72     Lbcs	Reliaguished by:     2) Relinguished by:       Insture     71:05       Time     Signature       Inted Name     Date       Printed Name     Company		Date
5     72h     48h     24h     Other.     1) Re       port:     29 Routine     Lievel 3     Lievel 4     Cleballo     Signa       scial Instructions / Comments:     Comments     Cleballo     50	Peceived by Dature Date Date Date Date Date Date Printed Name	Company       3) Received by:       Time       Signature       Date       Printed Name	me Date

# Login Sample Receipt Check List

#### Client: ACC Environmental Consultants

#### Login Number: 17141 Creator: Mullen, Joan List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Job Number: 720-17141-1 SDG Number: 6783-001.01

SDG Number: 6783-001.01

List Source: TestAmerica San Francisco

Additional Observations	PID (ppm)	SAMPLE	SAMPLE INTERVAL	depth below ground surface (ft)	EQUIPMENT: Geoprobe Hydraulic Sampling Device OPERATED BY: Environmental Control Associates LOGGED BY: Julia Siudyla LOCATION: 3761 Park Boulevard Way, Oakland, CA WORK DATE: 12/2/08 BORING: SB-1
Strong Gasoline Odor	0 18.8 127 499 6469 78 86 100 180	SB-1 (6.5 - 7.0) SB-1 (17- 18)		- 0 $- 2$ $- 4$ $- 6$ $- 8$ $- 10$ $- 12$ $- 14$ $- 16$ $- 18$ $- 20$ $- 22$ $- 24$ $- 26$ $- 28$	Asphalt pavement         Sandy Clay (CL), Oive Grey, slightly to mod.         plastic, medium stiff to soft, with fine to med         grained sand, damp, no odor or discoloration         noted (interpreted as fill)         Sandy Clay (CL),Dark Brown, slightly to mod.         plastic, medium stiff to soft, with fine to med         grained sand, damp, gasoline odor and dark grey         to black discoloration         Clay (CH),Greenish Grey, mod. to highly         plastic, medium stiff, slight gasoline odor, no         discoloration noted
ACC Environmental Consultants, Inc. 7977 Capwell Drive, Suite 100 Oakland, California 94621 (510)638-8400 FAX: (510)638-8404		6	oject Nun 783-001 ate: 12/2		

Additional Observations	PID (ppm)	SAMPLE	SAMPLE INTERVAL	depth below ground surface (ft)	EQUIPMENT: Geoprobe Hydraulic Sampling Device OPERATED BY: Environmental Control Associates LOGGED BY: Julia Siudyla LOCATION: 3761 Park Boulevard Way, Oakland, CA WORK DATE: 12/2/08 BORING: SB-2
Gasoline Odor	16.4 80 180 196 126 135 93 25 0	SB-2 (5-6) SB-2 (9.5- 10.0)		- 0 2	Asphalt pavement Sandy Clay (CL), Brown, slightly to mod. plastic, medium stiff to soft, with fine to med grained sand, damp, no odor or discoloration noted (interpreted as fill) Sandy Clay (CL), Greenish Grey to Dark Grey, slightly to mod.plastic, medium stiff to soft, with fine to med grained sand, damp, gasoline odor and slight discoloration Clay (CH), Dark Grey, mod. to highly plastic, medium stiff, gasoline odor, no discoloration noted TOTAL DEPTH OF BORING: 16 feet bgs
ACC Environmental Consultants, Inc. 7977 Capwell Drive, Suite 100 Oakland, California 94621 (510)638-8400 FAX: (510)638-8404		6	oject Nun 783-001 ate: 12/2	.01   Title LOG OF BORING SB-2	

Additional Observations	PID (ppm)	SAMPLE	SAMPLE INTERVAL	depth below ground surface (ft)	OPE LOG LOC WOR BOR	IPMENT: Geoprobe Hydraulic Sampling Device RATED BY: Environmental Control Associates GED BY: Julia Siudyla ATION: 3761 Park Boulevard Way, Oakland, CA &K DATE: 12/2/08 ING: SB-3
	0	No Sample Collected		— 0 — — 2 —		Asphalt pavement Sandy Clay (CL), Oive Grey, slightly to mod. plastic, medium stiff to soft, with fine to med grained sand, damp, no odor or discoloration noted (interpreted as fill)
				<u> </u>		Refusal Encountered at 2.5 feet bgs
						TOTAL DEPTH OF BORING: 2.5 feet bgs
				6 –		
	     	     		- 8 -		
	     	     		-10 -		
	,     	     		- 12 -		
	     	     		- 14 -		
	   	     		- 16 -		
	,     	,     		- 18 -		
	     	     		20 -		
	     	     		- 22 -		
	     	     		- 24 -		
	   	   		- 26 -		
	     	     		- 28 -		
ACC Environmental Consultants, Inc. 7977 Capwell Drive, Suite 100			- oject Nun 783-001		Title LOG OF BORING SB-3	
Oakland, Californi (510)638-8400 FAX: (5			Da	ate: 12/2	/08	

Additional Observations	PID (ppm)	SAMPLE	SAMPLE INTERVAL	depth below ground surface (ft)	
	0 0 0 1210 1614 1100	SB-4 (4-5) SB-4 (10-12)		- 0 $-- 2$ $-- 4$ $-- 6$ $-- 10$ $-- 12$ $-- 14$ $-- 16$ $-- 18$ $-- 20$ $-- 22$ $-- 24$ $-- 26$ $-- 28$ $-$	Sandy Clay (CL), Brown, slightly to mod.         plastic, medium stiff to soft, with fine to med         grained sand, damp, no odor or discoloration         noted (interpreted as fill)         Sandy Clay (CL), Light Brown, slightly to mod.         plastic, medium stiff to soft,         with fine to med grained sand, slight odor or         discoloration         Clay (CH),Dark Grey, mod. to highly         plastic, medium stiff, gasoline odor, no         discoloration noted
ACC Environmental Consultants, Inc. 7977 Capwell Drive, Suite 100 Oakland, California 94621 (510)638-8400 FAX: (510)638-8404		6	oject Nun 783-001 ate: 12/2	LO1 ITTIE LOG OF BORING SB-4	