

43255 Mission Boulevard, Fremont, CA 94539 (415) 651-1906

FREMONT

COSTA MESA

SACRAMENTO

HOUSTON

June 28, 1988 AGS 018039-2 0628mmey

Ms. Mary Jo Meyers - GAZNES
Alameda County Health Department
80 Swan Way No. 200
Oakland, California 94621

Subject: Laboratory samples from tank pit excavations at

ARCO Service Station No. 374, Telegraph and Alcatraz

Avenues, Oakland, California.

Ms. Meyers:

Enclosed are copies of the laboratory Analysis Reports and Chain of Custody Records for soil samples collected from the tank-pit excavations at the above-referenced site. The approximate locations of the samples are shown on the Generalized Site Plan, Plate P-1. Applied GeoSystems will be preparing a formal report of the tank removal operations in the near future. Please call Kyle Christie of ARCO Products Company at (415) 571-2434 if you have any questions or comments.

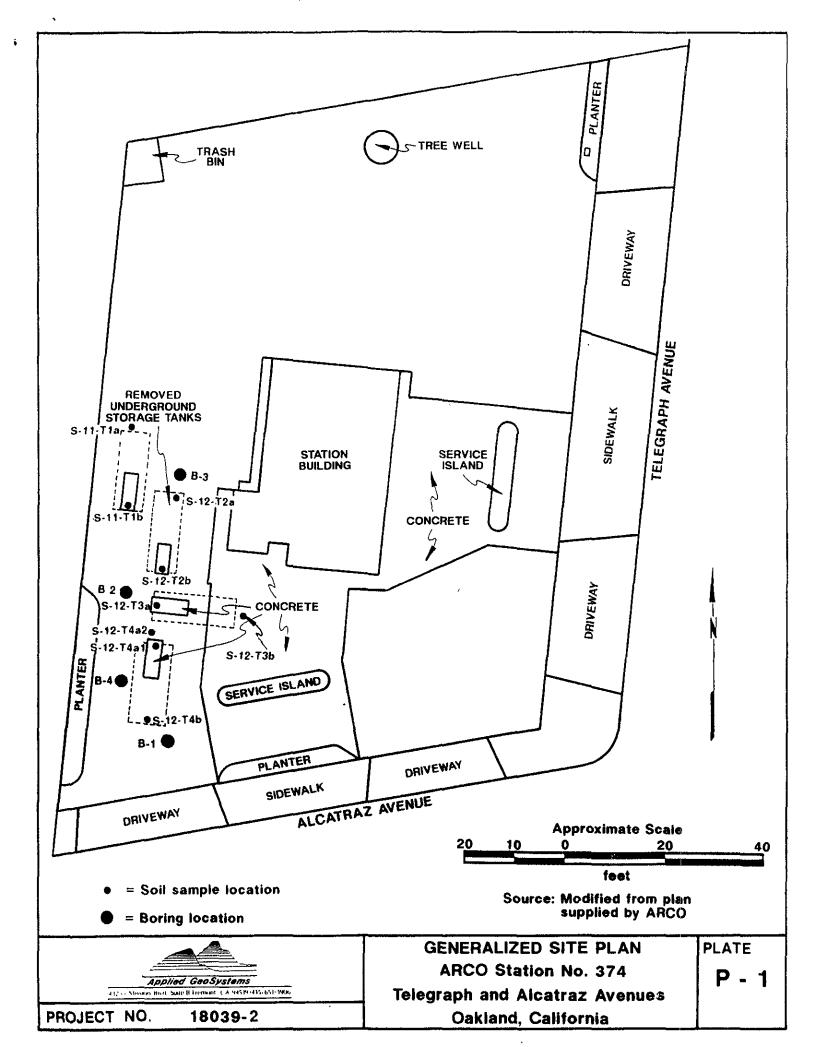
Sincerely,
Applied GeoSystems

William R. Short Project Geologist

Enclosures



HAZARDOUS MATERIALS/ WASTE PROGRAM



CHAIN OF CUSTODY RECORD

SAMPLER Sign	ature): Kilk		Applied	GeoSystems
	51-1906		43255 Mission Blvd Suite B	Fremont, CA 94539 (415) 651-1906
AROPATORY:	oplied Geos	systems	SHIPPING INFORMATIO Shipper Address	
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Sample No.	Identification	Sampled	Requested	Upon Receipt
5-11-714	018039-2	6-7-88	TPH + BTEX	of ited
5-11-716	Ox	OK.	02-	
5-12-T2a			K OX	,
5-12-726			K	
	<u>-</u>			
	-			



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SACRAMENTO

HOUSTON

ANALYSIS REPORT

0212lab.frm

Report Prepared for: Applied GeoSystems 43255 Mission Blvd.

Date Received: Laboratory Number: Project:

06025S01 018039-2

Fremont, CA 94539 Attention: William R. Short

Sample:

S-11-T1A

6-07-88

rt Matrix:

rix: Soil

Parameter	Resi (mg/kg)	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel Benzene Toluene Ethylbenzene Total Xylenes	399 14.7 20.5 20.0 91.9	5 0.5 0.5 0.5 0.5		06-08-88 06-08-88 06-08-88 06-08-88	NR NR

mg/kg = milligrams per kilogram = parts per million (ppm).

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ND = Not detected. Compound(s) may be present at

concentrations below the detection limit.

NR = Analysis not required.

PROCEDURES

TVH/BTEX--Total volatile hydrocarbons (TVH) and benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction according to EPA Method 5030 followed by analysis by a EPA Method 8020/602 (modified for TVH) which uses a gas chromatograph (GC) equipped with a photo-ionization detector (PID) and a flame-ionization detector (FID) in series. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TPH--Total petroleum hydrocarbons (low-to-medium boiling points) are measured by extraction according to EPA Method 5030 followed by analysis by a modified EPA Method 8015 which uses a GC equipped with an FID. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TEH--Total extractable hydrocarbons (high boiling points) are measured by extraction according to EPA Method 3550 for soils or EPA Method 3510 for water followed by a modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Tia Tran, Laboratory Supervisor

6-20-88



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HOUSTON

ANALYSIS REPORT

0212lab.frm

Report Prepared for: Applied GeoSystems 43255 Mission Blvd.

Date Received: Laboratory Number: Project:

06025S02 018039-2

Fremont, CA 94539

Sample: Matrix: S-11-T1B Soil

6-07-88

Attention: William R. Short

Parameter	Resi (mg/kg)	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline	8	2		06-08-88	NR
TEH as Diesel Benzene	2.57	0.05		06-08-88	NR
Toluene	0.39	0.05	:	06-08-88	
Ethylbenzene Total Xylenes	0.74 2.75	0.05 0.05		06-08-88 06-08-88	

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ANALYSIS REPORT

0212lab.frm

Report Prepared for: Applied GeoSystems 43255 Mission Blvd.

Date Received:
Laboratory Number:
Project:
Sample:

6-07-88 06025S03 018039-2

Fremont, CA 94539

Matrix:

S-12-T2A Soil

Attention:	William	R.	Short
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Parameter	Resi (mg/kg)	ilt (mg/L)	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel Benzene Toluene Ethylbenzene Total Xylenes	4 0.35 0.38 0.10 0.70		2 0.05 0.05 0.05 0.05		06-08-88 06-08-88 06-08-88 06-08-88	NR NR

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ANALYSIS REPORT

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Report Prepared for: Applied GeoSystems 43255 Mission Blvd.

Date Received: Laboratory Number: Project:

06025S04 018039-2

6-07-88

Fremont, CA 94539

Sample:

S-12-T2B

Attention: William R. Short

Matrix: Soil

Parameter	Resi (mg/kg)	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel Benzene Toluene Ethylbenzene Total Xylenes	75 0.91 3.61 1.77 11.92	2 0.05 0.05 0.05 0.05		06-08-88 06-08-88 06-08-88 06-08-88	NR NR

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= Analysis not required. NR

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Tia Tran, Laboratory Supervisor

6-20-88

CHAIN OF CUSTODY RECORD

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ANALYSIS REPORT

02121ab.frm

Report Prepared for: Applied GeoSystems 43255 Mission Blvd. Fremont, CA 94539

Attention: William R. Short

Laboratory Number: 06032W01 Project: Sample:

Matrix:

Date Received:

018039-2 W-13-PIT

6-09-88

Water

Parameter	Resi (mg/kg)		Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel Benzene Toluene Ethylbenzene Total Xylenes		3.6 0.738 0.154 0.038 0.566			06-09-88 06-09-88 06-09-88 06-09-88	NR NR

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PROCEDURES

TVH/BTEX--Total volatile hydrocarbons (TVH) and benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction according to EPA Method 5030 followed by analysis by a EPA Method 8020/602 (modified for TVH) which uses a gas chromatograph (GC) equipped with a photo-ionization detector (PID) and a flame-ionization detector (FID) in series. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

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Tia Tran, Laboratory Supervisor

6-20-88



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ANALYSIS REPORT

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Report Prepared for: Applied GeoSystems 43255 Mission Blvd.

Laboratory Number: Project:

Date Received:

06031S01 018039 - 2

Fremont, CA 94539 Attention: William R. Short Sample:

S-12-T3A

6-09-88

Matrix:

Soil

Parameter	Resi (mg/kg)	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel Benzene Toluene Ethylbenzene Total Xylenes	4 2.54 ND 0.13 0.13	2 0.05 0.05 0.05 0.05		06-09-88 06-09-88 06-09-88 06-09-88	NR NR

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PROCEDURES

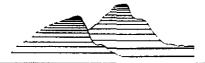
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ANALYSIS REPORT

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Report Prepared for: Applied GeoSystems 43255 Mission Blvd. Fremont, CA 94539

Laboratory Number: Project: Sample:

Date Received:

6-09-88 06031S02 018039-2 S-12-T3B

Attention: William R. Short

Matrix:

Soil

Parameter	Resi (mg/kg)	L.	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel	ND		2		06-09-88	NR NR
Benzene	ND		0.05		06-09-88	
Toluene	ИD		0.05		06-09-88	
Ethylbenzene Total Xylenes	ND ND		0.05 0.05		06-09-88 06-09-88	

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ANALYSIS REPORT

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Report Prepared for: Applied GeoSystems 43255 Mission Blvd.

Laboratory Number: Project:

Date Received:

6-09-88 06031S03 018039-2

Fremont, CA 94539 Attention: William R. Short Sample:

S-12-T4A

Matrix:

Soil

Parameter	Resi (mg/kg)	ılt (mg/L)	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline						NR
TPH as Gasoline TEH as Diesel	1097		20		06-09-88	NR
Benzene	16.3		0.5		06-09-88	
Toluene	81.6		0.5		06-09-88	
Ethylbenzene	34.5		0.5		06-09-88	
Total Xvlenes	188.2		0.5		06-09-88	

mg/kg = milligrams per kilogram = parts per million (ppm).

= milligrams per liter = ppm.

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PROCEDURES

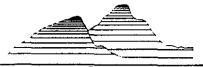
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TPH--Total petroleum hydrocarbons (low-to-medium boiling points) are measured by extraction according to EPA Method 5030 followed by analysis by a modified EPA Method 8015 which uses a GC equipped with an FID. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

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6-20-88



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HOUSTON

06-09-88

ANALYSIS REPORT

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Report Prepared for: Applied GeoSystems 43255 Mission Blvd.

Laboratory Number: Project:

Date Received:

6-09-88 06031S04 018039-2

Fremont, CA 94539

Total Xylenes

Sample: Matrix:

S-12-T4B Soil

Attention: William R. Short

Parameter	Resi (mg/kg)	 Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel		2		06-09-88	NR NR
Benzene Toluene Ethylbenzene	0.76 ND ND	0.05 0.05 0.05		06-09-88 06-09-88 06-09-88	NR

0.05

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ND

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PROCEDURES

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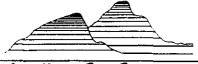
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Tia Tran, Laboratory Supervisor

6-20-88

CHAIN OF CUSTODY RECORD

SAMPLER (signature):				Applied GeoSystems					
Phone 651-1906 LABORATORY:				43255 Mission Blvd Suite B Fremont CA 94539 (415) 651-1906 SHIPPING INFORMATION:					
	·			Address					
	····			Date Shipped	······				
TURNAROUND	TIME: 244r		Service Used						
Project Leader:	Bill She	id		Airbill No.	Cooler No				
Phone No.	651-1906								
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		LABOR	RATOR	Y RESULTS					
Sample No.	Site Identification	Date Sampled		Analyses Requested	Sample Condition Upon Receipt				
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ANALYSIS REPORT

0212lab.frm

Report Prepared for: Applied GeoSystems 43255 Mission Blvd.

Laboratory Number: Project: Sample:

Date Received:

6-10-88 06038S01 018039-2

Fremont, CA 94539

Matrix:

S-12-T4A2 Soil

Attention: William R. Short

Parameter	Rest (mg/kg)	i e	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel	795_		20		06-10-88	NR NR
Benzene	23.1		0.5		06-10-88	
Toluene	67.1		0.5		06-10-88	
Ethylbenzene Total Xylenes	24.9 130.9		0.5 0.5		06-10-88 06-10-88	

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Tia Tran, Laboratory Supervisor

<u>6-21-88</u>