PO-360



## TOXICHEM Management Systems, Inc.

**Environmental & Occupational Health Services** 

11 Kenton Avenue San Carlos, California 94070 (650) 551-0112 / Fax (650) 551-0116

March 16, 2005 Project EQ-76.

Robert Schultz Alameda County Health Care Services Agency 1131 Harbor Bay Parkway Alameda, CA 94502-6577 Industrial Hygiene - Exposure Assessment
Quantitative Risk Assessment
Compliance Audits
Real Property Environmental Assessments
Remedial Investigations
Air, Soil, and Groundwater Sampling
Remedial Engineering and Construction
Regulatory Compliance and Negotiation
Litigation Support Services

MAR 2 / 2005 County

REPORTS

Re: Work Plan for Waste Oil Tank Investigation

Shell Branded Service Station 4226 First Street, Pleasanton, California Incident No. 98995840, SAP No. 135782

Dear Mr. Schultz:

On behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell), Toxichem Management Systems, Inc. (TOXICHEM) has prepared this work plan to perform additional site assessment activities at the site referenced above (Figure 1). The proposed scope of work is designed to assess soil and groundwater conditions in the immediate vicinity of the waste oil tank. The following presents the site background, recent waste oil tank findings and proposed scope of work.

#### **BACKGROUND**

Site Description: The subject site is a Shell-branded service station located at the southern corner of First Street and Vineyard Avenue in a mixed commercial and residential area of Pleasanton, California. Three 10,000 gallon gasoline underground storage tanks (USTs) and one 550 gallon waste oil UST are located at the site. Based on previous investigations briefly discussed below, the site is underlain by silts to 15 and 20 feet below ground surface (bgs). Interbedded gravelly sand, sandy silt and sandy and clayey gravels underlie the silt to the total depth explored of 100 feet bgs. Clayey silt was encountered at varying depths between 40 and 59 feet bgs. Groundwater flow direction is generally to the north with static water currently between 31 and 38 feet bgs.

1985, Subsurface Investigation: In 1985 Emcon Associates of San Jose advanced five borings between 20 and 30 feet bgs adjacent to the gasoline USTs and collected soil samples. One soil boring was converted into a groundwater monitoring well to a depth of 30 feet (Well S-1, Figure 2). The maximum concentration detected was 1,300 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPH-g) in SB-4 at 15 feet bgs. No benzene was detected in the soil samples collected during this investigation. No groundwater was encountered in the monitoring well.

1986 Underground Storage Tank Removal: In 1986 Blaine Tech Services of San Jose collected soil samples beneath each end of the four removed gasoline USTs. The maximum concentration of TPH-g detected in the samples was 240 mg/kg. Three 10,000 gallon double-walled fiberglass tanks were installed at a location closer to the dispenser islands (Figure

2). A soil sample was also collected from the waste oil tank excavation; no oil was detected in this sample.

March 1990, Subsurface Investigation: In March 1990, Hart Crowser, Inc. of San Francisco advanced three soil borings between 30 and 50 feet deep in the vicinity of the former gasoline USTs and collected soil samples. They also abandoned monitoring well S-1 by drilling it out and they continued drilling past the depth of the monitoring well to a total depth of 45 feet bgs to collect soil samples. Soil samples from all four borings were analyzed for TPH-g and BTEX compounds. Concentrations of 380 mg/kg and 290 mg/kg TPH-g were detected in the samples from the well abandonment boring at 30 and 35 feet bgs, respectively. TPH-g concentrations in the other soil samples were only as high as 18 mg/kg. In April 1990, Hart Crowser drilled two more soil borings at the site to a total depth of 51.5 feet bgs and collected soil samples. A maximum concentration of 820 mg/kg TPH-g was detected at a depth of 35 feet bgs. No TPH-g was detected in the other soil boring. A small amount of groundwater was observed at 49.5 feet bgs in one boring.

September, 1995, Dispenser and Piping Replacement: In September 1995, Weiss Associates of Emeryville collected soil samples from beneath the removed product piping and dispensers during replacement activities by Paradiso Mechanical of San Leandro. Approximately 20 cubic yards of soil were overexcavated to a maximum depth of 8.5 feet bgs at the direction of the Pleasanton Fire Department. A maximum remaining concentration of 120 mg/kg TPH-g was detected in soil samples collected at this overexcacvated southernmost former product dispenser location (Sample DP-3 at 8 feet bgs).

July 1998, Facility Upgrade: In July 1998, Cambria inspected the waste oil tank remote fill piping during its removal by Gettler-Ryan of Dublin. No field indications of hydrocarbons were observed during the site visit, therefore, no further investigation was required.

April 1999, Subsurface Investigation: In April 1999 Cambria advanced two soil borings (SB-6 and SB-7) to depths of 58 and 100 feet bgs, respectively. One of the borings (Boring SB-6) was converted to Monitoring Well MW-1 with screened interval extending from 37 to 57 feet bgs. During drilling, groundwater was encountered at 42.5 feet bgs, but was not evident in the boring until the hole was left open overnight. The only detection of TPHg was in sample SB-7 at 40 feet bgs at 83 mg/kg. The only detection of benzene was in sample SB-6/MW-1 at 45 feet bgs at 0.1 mg/kg. No MtBE was detected in any soil sample collected. TPH-g was detected in grab groundwater in Borings SB-6/MW-1 and SB-7 at concentrations of 10,000 and 750 micrograms per liter (μg/L). Benzene was detected grab groundwater samples in Borings SB-6 and SB-7 at concentrations of 4,500 μg/L and 20 μg/L, respectively. No MtBE was detected in groundwater from either boring.

January 2000, Subsurface Investigation: In January 2000, Cambria advanced two borings to a maximum depth of 47 feet bgs and installed Monitoring Wells MW-2 and MW-3 with screened intervals extending from 24-36 and 20-35 feet bgs, respectively. No hydrocarbons or MtBE was detected in the eleven soil samples analyzed during the investigation. The wells were then integrated into the site quarterly groundwater monitoring program.

January 2005, Site Upgrade and Backfill Well Abandonment: On January 13, 2005, Town and Country Contractors, Inc. of Rancho Cordova destroyed four UST backfill wells according to the provisions of the Zone 7 Water Agency by infilling with pea gravel and cutting off the top two feet of casing. A concrete slab was then poured over the entire UST complex upon completion of the enhanced vapor recovery tank-top upgrade activities.

#### RECENT WASTE OIL TANK FINDINGS

The following presents recent details, work performed and the findings regarding the existing waste oil tank.

On January 18, 2005 it was discovered that a liquid was poured into a second port present on the waste oil tank which goes directly into the surrounding pea gravel of the tank. Two of Shell's contractors, Service Station Systems and Able Maintenance, removed as much pea gravel as possible and containerized the material within a drum on-site, totaling approximately 18-gallons of pea gravel. The port was then sealed by Able Maintenance utilizing epoxy so future dumping cannot happen. On January 19, 2005 an Unauthorized Release Report was submitted by the operator to Paul Smith of the Livermore-Pleasanton Fire Department. The quantity and type of the liquid is unknown.

Based on emailed communication between yourself, Paul Smith of the Livermore-Pleasanton Fire Department and Karen Petryna of Shell the first course of action was determined to assess the nature of the material by profiling the removed pea gravel. Sampling the pea gravel around the tank was not feasible since the material had already been removed to the maximum extent possible and the access port sealed with epoxy preventing any future inadvertent incidents.

On February 16, 2005 TOXICHEM collected a 6-part representative composite sample of the removed pea gravel and submitted on ice accompanied by chain of custody to STL Laboratories in Pleasanton. The pea gravel was analyzed for waste oil parameters including:

- TPH-g, BTEX compounds, MtBE, tert-butyl alcohol (TBA), di-isopropyl ether (DIPE), ethyl tertiary-butyl ether (ETBE), tert-amyl methyl ether (TAME), 1,2-DCA and EDB and for chlorinated hydrocarbons by EPA Method 8260B.
- For TPH as diesel (TPH-d) by EPA Method 8015M, TPH as oil and grease (TPH-o&g) by EPA Method 1664A and for PCBs by EPA Method 8082.
- For Semi-volatile organic compounds (SVOCs including PCP, PNA and creosol compounds) by EPA Method 8270.
- For cadmium, chromium, lead, nickel, and zinc by EPA Method 6010B.

The results are presented in Tables 1 and 2 and certified analytical results included in Attachment A. All the above constituents analyzed were non-detect with the following exceptions:

- Total petroleum hydrocarbons were detected in the composite sample at concentrations of 1.4 mg/kg TPH-g, 1,400 mg/kg TPH-d and 10,000 mg/kg TPH-o&g. The laboratory noted that the concentration reported as TPH-d was of the late diesel range and did not match their laboratory diesel standard.
- Phenanthrene (the only SVOC compound detected) was reported at a concentration of 0.42 mg/kg.
- Minor concentrations of four of the five metals were detected (Table 2).
- All concentrations of detected constituents were below their respective Residential Environmental Screening Levels (Regional Water Quality Control Board Environmental Screening Levels, revised February, 2005) with the exception of TPH-d and TPH-o&g (Tables 1 and 2).

#### PROPOSED SCOPE OF WORK

The proposed scope of work is designed to assess native soil and groundwater conditions in the immediate vicinity of the waste oil tank based on the above findings. It is likely that used motor oil was inadvertently poured down the wrong fill port, resulting in the discharge to the pea gravel.

Therefore, TOXICHEM proposes one hydraulic push boring be advanced adjacent to the east of the existing waste oil tank. The proposed boring location is shown on Figure 2. Field and laboratory procedures are presented in Attachment A. The scope of work proposed is as follows.

- Obtain applicable soil boring permit.
- Prepare a site-specific Health and Safety Plan.
- Provide notification for underground utility service clearance prior to boring advancement. Due to the proximity to the waste oil tank, utilize an air knife or hand auger to 10 feet bgs to clear utilities prior to boring advancement utilizing the hydraulic push rig.
- Advance the boring to approximately 35 to 40 feet bgs into first encountered groundwater.
- Collect soil samples for logging at minimum 5-foot depth intervals.
- Perform field analysis for organic vapor concentrations on selected soil samples using a photo-ionization detector (PID).
- Submit selected soil and groundwater samples from the boring to a state certified laboratory for chemical analysis if field observations or PID readings warrant. It is anticipated that at least three soil samples will be selected from the boring at approximately 10, 20 and 30 feet bgs and one grab groundwater sample will be obtained from first encountered water. The submitted soil and groundwater samples will be analyzed for TPH-g, TPH-d, BTEX compounds and MtBE by EPA Method 8260. Additionally the samples will be analyzed for TPH-o&g by EPA Method 1664A.
- Prepare a technical report presenting the findings of the investigation.

If you have any questions regarding this work plan, please contact me at (650)551-0112. Sincerely,

Toxichem Management Systems, Inc.

Ross Tinline, P.G. Senior Geologist

Attachment: Figure 1 - Well Survey Map

Figure 2 - Site Map

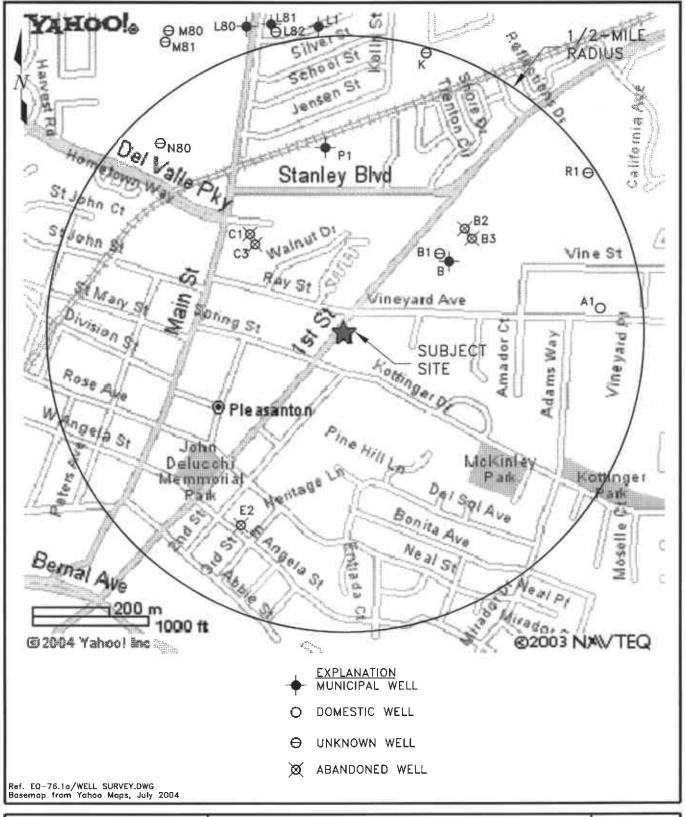
Table 1 - Soil Analytical Data (Total Petroleum Hydrocarbons, Volatile and

Semi-Volatile Organic Compounds)

Table 2 - Soil Analytical Data (Total Metals)

### Attachment A - Field Procedures for Hydraulic Push Borings and Certified Analytical Results

cc: Karen Petryna, Shell Oil Products US, 20945 S. Wilmington, Carson, CA 90810 Aura Sibley, Shell Oil Products US, 1635 Pacheco Blvd, Martinez, CA 94553 Paul Smith, Livermore-Pleasanton Fire Department, 3560 Nevada Street Pleasanton, California 94566





## LEGEND MONITORING WELL LOCATION AND DESIGNATION MW-1 -DESTROYED WELL S-1 黨 TB-1 **★** ABANDONED TANK BACKFILL WELL LOCATION SB-1 ● SOIL BORING LOCATION WO-1 ( PROPOSED BORING LOCATION AND DESIGNATION VINEYARD AVENUE **SB-7 ●**SB-5 ♠ MW-1 ● S-B Former SB-4 planter UST pit residential SB-1 MW-2 WO-1 station TB-1 building **TB-2** W/O house/office TB-4 UST USTs SB-20 TB-3 8 1 7 413 6 I 5 211 FIRST STREET SB-3 ò Scale (ft) BASEMAP FROM CAMBRIA ENVIRONMENTAL TECHNOLOGY, Inc.



TOXICHEM
Management
Systems, Inc.
Environmental & Occupational Health Services

Shell-Branded Service Station 4226 First Street Pleasanton, California

SITE MAP

FIGURE: 2 PROJECT: EQ-76

#### Table 1

#### Soil Analytical Data

#### Total Petroleum Hydrocarbons, Volatile and Semi-Volatile Organic Compounds Shell Branded Service Station

#### 4226 First Street, Pleasanton, California

Sample Designation	Sample Type or Depth (feet bgs)	Date Sampled	TPH-g (mg/kg)	TPH-d (mg/kg)	TPH-o&g (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MtBE (mg/kg)	TBA (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	1,2-DCA (mg/kg)	EDB (mg/kg)	VOC (mg/kg)	SVOC (mg/kg)	PCBs (mg/kg)
D-1	Composite	02/16/05	1.4	1400 *	10,000	<0.005	<0.005	<0.005	<0.01	<0.005	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	NA	ND (0.42)**	<0.500
Soil Screening Leve Residential ESL (Gro Commercial ESL (Gro	undwater Protecti			100 100	500 1,000	0.044 0.044	2.9 2.9	3.3 3.3	2.3 2.3	0.023 0.023	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA (11) NA (11)	6.3 (0.22) 6.3 (0.74)

TPH-g = Total petroleum hydrocarbons as gasoline (EPA Method 8260B)

TPH-d = Total petroleum hydrocarbons as diesel fuel (EPA Method 8015M)

TPH-o&g = Total petroleum as oil and grease (EPA Method 1664A)

MtBE = Methyl tert-butyl ether (EPA Method 8260B)

TBA = Tert-butyl alcohol (EPA Method 8260B)

DIPE = Di-isopropyl Ether (EPA Method 8260B)

ETBE = Ethyl tert-butyl ether (EPA Method 8260B)

TAME = tert-Amyl methyl ether (EPA Method 8260B)

VOC = Volatile Organic Compounds including 1,2-DCA and EDB (EPA Method 8260B)

SVOC = Semi voliatile organic compounds (EPA Method 8270C)

PCB = Polychlorinated biphenyls (EPA Method 8082)

mg/kg = Milligrams per kilogram

bgs = feet below ground surface of the bottom of the sample

\* = Hydrocarbon reported is in the late diesel range, and does not match the laboratory diesel standard.

\*\* = All SVOCs non detect except Phenanthrene (concentration in parentheses)

\*\*\* = SFRWQCB ESL for surface soil (<3m) where groundwater is a potential drinking water

### Table 2 Soil Analytical Data Total Metals by EPA 6010B Shell Branded Service Station 4226 First Street Pleasanton, California

Sample Designation	Depth (feet bgs)	Date Sampled	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
D-1	Composite	02/16/05	<0.5	13	6.8	27	100
Soil Screening Levels* Residential ESL Commercial ESL			1.70 7.4	58 58	150 750	150 150	600 600

mg/kg = Milligrams per kilogram
\* = SFRWQCB ESL for surface soil (<3m) where groundwater is a potential drinking water

## ATTACHMENT A

# FIELD PROCEDURES FOR HYDRAULIC PUSH BORINGS AND CERTIFIED ANALYTICAL RESULTS

#### ATTACHMENT A

#### FIELD PROCEDURES FOR HYDRAULIC PUSH BORINGS

Hydraulic push or Geoprobe borings involve direct push of a 2-inch diameter coring device fitted with acetate liners. Prior to boring advancement, the location will be cleared for underground utilities by calling Underground Services Alert and by utilizing a locator service. Additionally, the upper five to ten feet of the boring will be hand augered or air knifed.

The soil boring will be advanced using 2-inch diameter hollow-stem rods fitted with acetate liners. Soil samples will be collected continuously for logging and field organic vapor analysis by advancing the hollow-stem rods into undisturbed soil. The sampler will be driven with a pneumatic hammer and hydraulic pressure. Boring logs will be completed in the field by a geologist using the Unified Soil Classification System and standard geologic techniques. Collected soil samples will be field analyzed according to the head space method for volatile organic compounds (VOCs) using a PID. Visual inspection, and results of the PID tests will be used to determine soil samples for laboratory analysis. Soil samples for laboratory analysis will be retained in the acetate liners, capped with Teflon® and plastic end caps and sealed in zip-lock plastic bags. The "Grab" groundwater sample will be collected from the boring by driving a hydropunch type sampler, or are retrieved from the bore-hole using a precleaned bailer lowered to the appropriate depth for sample collection. Based on previous findings, it may be necessary to install a temporary PVC screened casing in the boring and allow the groundwater to seep into the boring with time (perhaps overnight). Samples will be labeled and placed in a cooler with ice (crushed or dry ice) for transport to a California State-certified laboratory accompanied by chain-of-custody documentation. All down-hole drilling equipment will be steam-cleaned prior to drilling. Upon completion of sampling activities the boreholes will be backfilled with neat cement slurry through the rods or tremmie pipe as they are removed to the existing grade.

The soil and groundwater samples submitted to the laboratory will be analyzed for the presence of TPH-g, TPH-d, BTEX compounds and MtBE by EPA Method 8260B. Additionally the samples will be analyzed for TPH-o&g by EPA Method 1664A. All analyses will be performed by a state-certified chemical analytical laboratory.



## Toxichem Management Systems, Inc-San Jose

March 02, 2005

11 Kenton Drive San Carlos, CA 94070

Attn.:

Ross Tinline

Project#: EQ-76.1A

Project: Shell Sap Number 702530

Site:

4226 First Street, Pleasanton

Dear Mr. Tinline

Attached is our report for your samples received on 02/16/2005 11:43 This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 04/02/2005 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions,

You can also contact me via email. My email address is: mbrewer@stl-inc.com Sincerely,

melissa Brewer

Melissa Brewer

Project Manager



# Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### Samples Reported

Sample Name	Date Sampled	Matrix	Lab#
D1	02/16/2005 10:30	Soil	1



# Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

Prep(s):

5030B

Test(s):

8260B

Sample ID: D1

Lab ID:

2005-02-0510 - 1

Sampled:

02/16/2005 10:30

Extracted:

2/20/2005 15:59

Matrix.

Soil

QC Batch#: 2005/02/20-1A.66

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	1.4	1.0	mg/Kg	1.00	02/20/2005 15:59	
Benzene	ND	0.0050	mg/Kg	1.00	02/20/2005 15:59	
Toluene	ND	0.0050	mg/Kg	1.00	02/20/2005 15:59	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	02/20/2005 15:59	
Total xylenes	ND	0.0050	mg/Kg	1.00	02/20/2005 15:59	
tert-Butyl alcohol (TBA)	ND	0.010	mg/Kg	1.00	02/20/2005 15:59	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	1.00	02/20/2005 15:59	
Di-isopropyl Ether (DIPE)	ND	0.010	mg/Kg	1.00	02/20/2005 15:59	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	mg/Kg	1.00	02/20/2005 15:59	
tert-Amyl methyl ether (TAME)	ND	0.0050	mg/Kg	1.00	02/20/2005 15:59	
1.2-DCA	ND	0.0050	mg/Kg	1.00	02/20/2005 15:59	
EDB	ND	0.0050	mg/Kg	1.00	02/20/2005 15:59	
Surrogate(s)					1	
1,2-Dichloroethane-d4	134.9	76-124	%	1.00	02/20/2005 15:59	S4
Toluene-d8	78.7	75-116	%	1.00	02/20/2005 15:59	



## Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### **Batch QC Report**

Prep(s): 5030B Method Blank

Soil

Test(s): 8260B QC Batch # 2005/02/20-1A.66

MB: 2005/02/20-1A.66-025

Date Extracted: 02/20/2005 08:25

Compound	Conc.	RL	Unit	An <u>alyzed</u>	Flag
Gasoline [Shell]	ND	1.0	mg/Kg	02/20/2005 08:25	
tert-Butyl alcohol (TBA)	ND	0.010	mg/Kg	02/20/2005 08:25	
Methyl tert-butyl ether (MTBE)	ND	0.0050	mg/Kg	02/20/2005 08:25	
Di-isopropyl Ether (DIPE)	ND	0.010	mg/Kg	02/20/2005 08:25	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	mg/Kg	02/20/2005 08:25	
tert-Amyl methyl ether (TAME)	ND	0.0050	mg/Kg	02/20/2005 08:25	1
1.2-DCA	ND	0.0050	mg/Kg	02/20/2005 08:25	
EDB	ND	0.0050	mg/Kg	02/20/2005 08:25	
Benzene	ND	0.0050	mg/Kg	02/20/2005 08:25	
Toluene	ND	0.0050	mg/Kg	02/20/2005 08:25	
Ethyl benzene	ND	0.0050	mg/Kg	02/20/2005 08:25	
Total xylenes	ND	0.0050	mg/Kg	02/20/2005 08:25	
Surrogates(s)	- [		1		
1,2-Dichloroethane-d4	104.8	76-124	%	02/20/2005 08:25	
Toluene-d8	101.4	75-116	%	02/20/2005 08:25	



### Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

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Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### **Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Laboratory Control Spike** 

Soil

QC Batch # 2005/02/20-1A.66

LCS

2005/02/20-1A.66-003

Extracted: 02/20/2005

Analyzed: 02/20/2005 08:03

LCSD

Compound	Conc.	mg/Kg	Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
Compound	LCS	LCSD_		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE) Benzene Toluene	0.0452 0.0403 0.0477		0.05 0.05 0.05	90.4 80.6 95.4			65-165 69-129 70-130	20 20 20		
Surrogates(s) 1,2-Dichloroethane-d4 Toluene-d8	512 514		500 500	102.4 102.8			76-124 75-116			



## Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### **Batch QC Report**

Test(s): 8260B Prep(s): 5030B

QC Batch # 2005/02/20-1A.66 Matrix Spike (MS/MSD) Soil

Lab ID: 2005-02-0308 - 001 MS/MSD

02/20/2005 10:22 Analyzed: Extracted: 02/20/2005 MS:

2005/02/20-1A.66-022 Dilution: 1.00

02/20/2005 10:45 MSD: 2005/02/20-1A.66-045 Extracted: 02/20/2005 Analyzed:

1.00 Dilution:

Compound	Conc.	m	g/Kg	Spk.Leve	R	есочегу	%	Limits	%	Fl	ags
Compound	MS	MSD	Sample	mg/Kg	MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	0.0480	0.0497	ND	0.05	96.0	99.6	3.7	65-165	20		
Benzene	0.0441	0.0434	ND	0.05	88.2	87.0	1.4	69-129	20		
Toluene	0.0545	0.0517	ND	0.05	109.0	103.6	5.1	70-130	20		
Surrogate(s)											
1,2-Dichloroethane-d4	532	520	1	500	106.4	103.9		76-124			
Toluene-d8	490	494		500	97.9	98.8		75-116			



# Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### **Legend and Notes**

#### **Result Flag**

**S4** 

Surrogate recovery was higher than QC limit due to matrix interference.



### Semi-volatile analysis by GC/MS - EPA8270C

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### Samples Reported

Sample Name	Date Sampled	Matrix	Lab#
D1	02/16/2005 10:30	Soil	1



### Semi-volatile analysis by GC/MS - EPA8270C

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

Prep(s): 3550B/8270C

3330010270

Test(s):

8270C

QC Batch#: 2005/02/18-02.11

Sample ID: D1

02/16/2005 10:30

Lab ID:

2005-02-0510 - 1

Sampled: Matrix:

Soil

Extracted:

2/18/2005 12:11

Analysis Flag: L3 (See Legend and Note Section)

Compound	Conc.	RL.	Unit	Dilution	Analyzed	Flag
2-Methylphenol	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	,
4-Methylphenol	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Naphthalene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Acenaphthylene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Acenaphthene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Fluorene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Pentachlorophenol	ND	1.7	mg/Kg	5.00	02/18/2005 19:32	
Phenanthrene	0.42	0.34	mg/Kg	5.00	02/18/2005 19:32	
Anthracene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Fluoranthene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Pyrene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Benzo(a)anthracene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Chrysene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Benzo(b)fluoranthene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Benzo(k)fluoranthene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Benzo(a)pyrene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Indeno(1,2,3-c,d)pyrene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Dibenzo(a,h)anthracene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Benzo(g,h,i)perylene	ND	0.34	mg/Kg	5.00	02/18/2005 19:32	
Surrogate(s)						
Nitrobenzene-d5	86.2	23-120	%	5.00	02/18/2005 19:32	
2-Fluorobiphenyl	87.2	30-115	%	5.00	02/18/2005 19:32	
p-Terphenyl-d14	NA	18-137	%	5.00	02/18/2005 19:32	S6
2-Fluorophenol	69.3	25-121	%	5.00	02/18/2005 19:32	
Phenol-d5	69.8	24-113	%	5.00	02/18/2005 19:32	
2,4,6-Tribromophenol	97.2	19-122	%	5.00	02/18/2005 19:32	



## Semi-volatile analysis by GC/MS - EPA8270C

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### **Batch QC Report**

Prep(s): 3550B/8270C

Method Blank

MB: 2005/02/18-02.11-001

Soil

Test(s): 8270C QC Batch # 2005/02/18-02.11

Date Extracted: 02/18/2005 12:11

Compound	Conc.	RL	Unit	Analyzed	Flag
Phenol	ND	0.067	mg/Kg	02/18/2005 15:27	
2-Chlorophenol	ND	0.067	mg/Kg	02/18/2005 15:27	
1,4-Dichlorobenzene	ND	0.067	mg/Kg	02/18/2005 15:27	
2-Methylphenol	ND	0.067	mg/Kg	02/18/2005 15:27	
4-Methylphenol	ND	0.067	mg/Kg	02/18/2005 15:27	
N-Nitroso-di-n-propylamine	ND	0.067	mg/Kg	02/18/2005 15:27	
1,2,4-Trichlorobenzene	ND	0.067	mg/Kg	02/18/2005 15:27	
Naphthalene	ND	0.067	mg/Kg	02/18/2005 15:27	
4-Chloro-3-methylphenol	ND	0.17	mg/Kg	02/18/2005 15:27	
Acenaphthylene	ND	0.067	mg/Kg	02/18/2005 15:27	
Acenaphthene	ND	0.067	mg/Kg	02/18/2005 15:27	
4-Nitrophenol	ND	0.33	mg/Kg	02/18/2005 15:27	
2,4-Dinitrotoluene	ND	0.067	mg/Kg	02/18/2005 15:27	
Fluorene	ND	0.067	mg/Kg	02/18/2005 15:27	
Pentachlorophenol	ND	0.33	mg/Kg	02/18/2005 15:27	
Phenanthrene	ND	0.067	mg/Kg	02/18/2005 15:27	
Anthracene	ND	0.067	mg/Kg	02/18/2005 15:27	
Fluoranthene	ND	0.067	mg/Kg	02/18/2005 15:27	
Pyrene	ND	0.067	mg/Kg	02/18/2005 15:27	
Benzo(a)anthracene	ND	0.067	mg/Kg	02/18/2005 15:27	
Chrysene	ND	0.067	mg/Kg	02/18/2005 15:27	
Benzo(b)fluoranthene	ND	0.067	mg/Kg	02/18/2005 15:27	1
Benzo(k)fluoranthene	ND	0.067	mg/Kg	02/18/2005 15:27	
Benzo(a)pyrene	ND	0.067	mg/Kg	02/18/2005 15:27	
Indeno(1,2,3-c,d)pyrene	ND	0.067	mg/Kg	02/18/2005 15:27	
Dibenzo(a,h)anthracene	ND	0.067	mg/Kg	02/18/2005 15:27	
Benzo(g,h,i)perylene	ND	0.067	mg/Kg	02/18/2005 15:27	
Surrogates(s)					
Nitrobenzene-d5	85.4	23-120	%	02/18/2005 15:27	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566 Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496



### Semi-volatile analysis by GC/MS - EPA8270C

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### **Batch QC Report**

Prep(s): 3550B/8270C

MB: 2005/02/18-02.11-001

**Method Blank** 

Soil

Test(s): 8270C

QC Batch # 2005/02/18-02.11

Date Extracted: 02/18/2005 12:11

Compound	Conc.	RL	Unit	Analyzed	Flag
2-Fluorobiphenyl	87.7	30-115	%	02/18/2005 15:27	
p-Terphenyl-d14	82.6	18-137	%	02/18/2005 15:27	
2-Fluorophenol	83.3	25-121	%	02/18/2005 15:27	
Phenol-d5	78.7	24-113	%	02/18/2005 15:27	
2,4,6-Tribromophenol	91.3	19-122	%	02/18/2005 15:27	



## Semi-volatile analysis by GC/MS - EPA8270C

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

LCS

LCSD

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### **Batch QC Report**

Prep(s): 3550B/8270C

Test(s): 8270C

#### **Laboratory Control Spike**

2005/02/18-02.11-002 2005/02/18-02.11-003

Soil

QC Batch # 2005/02/18-02.11

Extracted: 02/18/2005 Extracted: 02/18/2005 Analyzed: 02/18/2005 15:54 Analyzed: 02/18/2005 16:21

Compound	Conc.	mg/Kg	Exp.Conc.	Reco	ery %	RPD	Ctrl.Lim	nits %	Fla	igs
Compound	LCS_	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Phenol	1.21	1.36	2.00	60.5	68.3	12.1	20-90	35		
2-Chlorophenol	1.26	1.47	2.00	63.0	73.9	15.9	27-123	35		
1,4-Dichlorobenzene	0.670	0.760	0.998	67.1	76.2	12.7	28-104	30		
N-Nitroso-di-n-propylamine	0.610	0.840	0.998	61.1	84.3	31.9	25-114	39		[
1,2,4-Trichlorobenzene	0.890	0.870	0.998	89.2	87.3	2.2	38-107	35		İ
4-Chloro-3-methylphenol	1.85	1.55	2.00	92.5	77.9	17.1	26-103	33		
Acenaphthene	0.800	0.860	0.998	80.2	86.3	7.3	49-102	30		
4-Nitrophenol	1.70	1.58	2.00	85.0	79.4	6.8	17-109	35		
2,4-Dinitrotoluene	0.850	0.800	0.998	85.2	80.2	6.0	39-139	38		
Pentachlorophenoi	1.63	1.53	2.00	81.5	76.9	5.8	11-114	35		1
Pyrene	0.700	0.730	0.998	70.1	73.2	4.3	25-117	35		
Surrogates(s)										
Nitrobenzene-d5	18.7	18.9	25	74.8	75.6	1	23-120	ļ		
2-Fluorobiphenyl	17.1	18.3	25	68.4	73.2		30-115			1
p-Terphenyl-d14	18.5	19.6	25	74.0	78.4		18-137			
2-Fluorophenol	31.8	38.0	50	63.6	76.0		25-121			
Phenol-d5	34.2	40.1	50	68.4	80.2	-	24-113		Ì	
2,4,6-Tribromophenol	42.5	45.4	50	85.0	90.8		19-122			



## Semi-volatile analysis by GC/MS - EPA8270C

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

### **Legend and Notes**

#### **Analysis Flag**

L3

Reporting limits raised due to reduced sample size.

#### **Result Flag**

**S6** 

Surrogate recoveries lower than acceptance limits. Matrix interference suspected



### Halogenated Volatile Organic Compounds by 8021B/8260B

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### Samples Reported

Sample Name	Date Sampled	Matrix	Lab#
D1	02/16/2005 10:30	Soil	1



### Halogenated Volatile Organic Compounds by 8021B/8260B

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

Prep(s): 5030B/5035

Sample ID: D1

Test(s):

8260B

02/16/2005 10:30

Lab ID:

2005-02-0510 - 1

Sampled: Matrix:

Soil

Extracted:

2/21/2005 16:09

QC Batch#: 2005/02/21-1A.06

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	. ND	10	ug/Kg	1.00	02/21/2005 16:09	
Vinyl chloride	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Chloroethane	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Trichlorofluoromethane	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
1,1-Dichloroethene	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Methylene chloride	ND	10	ug/Kg	1.00	02/21/2005 16:09	
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
1,1-Dichloroethane	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Chloroform	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Carbon tetrachloride	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
1,2-Dichloroethane	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Trichloroethene	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
1,2-Dichloropropane	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Bromodichloromethane	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Tetrachloroethene	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Dibromochloromethane	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Chlorobenzene	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Bromoform	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Trichlorotrifluoroethane	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Chloromethane	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566 Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496



### Halogenated Volatile Organic Compounds by 8021B/8260B

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

Prep(s): 5030B/

5030B/5035

Test(s):

8260B

Sample ID: D1

02/16/2005 10:30

Lab ID:

2005-02-0510 - 1

Sampled: Matrix:

Soil

Extracted:

2/21/2005 16:09

QC Batch#: 2005/02/21-1A.06

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Bromomethane	ND	5.0	ug/Kg	1.00	02/21/2005 16:09	
Surrogate(s)						
4-Bromofluorobenzene	107.8	74-121	%	1.00	02/21/2005 16:09	
1,2-Dichloroethane-d4	110.8	70-121	%	1.00	02/21/2005 16:09	
Toluene-d8	93.5	81-117	%	1.00	02/21/2005 16:09	



### Halogenated Volatile Organic Compounds by 8021B/8260B

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### **Batch QC Report**

Prep(s): 5030B/5035

Method Blank

MB: 2005/02/21-1A.06-003

Soil

Test(s): 8260B QC Batch # 2005/02/21-1A.06

Date Extracted: 02/21/2005 13:02

Compound	Conc.	RL	Unit	Analyzed	Flag
Bromodichloromethane	ND	5.0	ug/Kg	02/21/2005 13:02	
Bromoform	ND	5.0	ug/Kg	02/21/2005 13:02	
Bromomethane	ND	5.0	ug/Kg	02/21/2005 13:02	
Carbon tetrachloride	ND	5.0	ug/Kg	02/21/2005 13:02	
Chlorobenzene	ND	5.0	ug/Kg	02/21/2005 13:02	
Chloroethane	ND	5.0	ug/Kg	02/21/2005 13:02	
Chloroform	ND	5.0	ug/Kg	02/21/2005 13:02	
Chloromethane	ND	5.0	ug/Kg	02/21/2005 13:02	
Dibromochloromethane	ND	5.0	ug/Kg	02/21/2005 13:02	
1,2-Dichlorobenzene	ND	5.0	ug/Kg	02/21/2005 13:02	
1,3-Dichlorobenzene	ND	5.0	ug/Kg	02/21/2005 13:02	
1,4-Dichlorobenzene	ND	5.0	ug/Kg	02/21/2005 13:02	
Dichlorodifluoromethane	ND	10.0	ug/Kg	02/21/2005 13:02	
1,1-Dichloroethane	ND	5.0	ug/Kg	02/21/2005 13:02	
1,2-Dichloroethane	ND	5.0	ug/Kg	02/21/2005 13:02	
1,1-Dichloroethene	ND	5.0	ug/Kg	02/21/2005 13:02	
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	02/21/2005 13:02	
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	02/21/2005 13:02	
1,2-Dichloropropane	ND	5.0	ug/Kg	02/21/2005 13:02	
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	02/21/2005 13:02	
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	02/21/2005 13:02	
Methylene chloride	ND	10.0	ug/Kg	02/21/2005 13:02	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	02/21/2005 13:02	
Tetrachloroethene	ND	5.0	ug/Kg	02/21/2005 13:02	
1,1,1-Trichloroethane	ND	5.0	ug/Kg	02/21/2005 13:02	
1,1,2-Trichloroethane	ND	5.0	ug/Kg	02/21/2005 13:02	
Trichloroethene	ND	5.0	ug/Kg	02/21/2005 13:02	
Trichlorofluoromethane	ND	5.0	ug/Kg	02/21/2005 13:02	
Trichlorotrifluoroethane	ND	5.0	ug/Kg	02/21/2005 13:02	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566 Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496



### Halogenated Volatile Organic Compounds by 8021B/8260B

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### **Batch QC Report**

Prep(s): 5030B/5035

MB: 2005/02/21-1A.06-003

**Method Blank** 

Soil

Test(s): 8260B

QC Batch # 2005/02/21-1A.06

Date Extracted: 02/21/2005 13:02

Compound	Conc.	RL	Unit	Analyzed	Flag
Vinyl chloride	ND	5.0	ug/Kg	02/21/2005 13:02	
4-Bromofluorobenzene	102.6	74-121	%	02/21/2005 13:02	
1,2-Dichloroethane-d4	100.8	70-121	%	02/21/2005 13:02	
Toluene-d8	97.0	81-117	%	02/21/2005 13:02	



## Halogenated Volatile Organic Compounds by 8021B/8260B

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### **Batch QC Report**

Prep(s): 5030B/5035

Test(s): 8260B

**Laboratory Control Spike** 

Soil

QC Batch # 2005/02/21-1A.06

LCS

2005/02/21-1A.06-002

Extracted: 02/21/2005

Analyzed: 02/21/2005 12:27

LCSD

Compound	Conc.	ug/Kg	Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
Compound	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Chlorobenzene 1,1-Dichloroethene Trichloroethene	89.9 88.9 87.3		100 100 100	89.9 88.9 87.3			61-121 65-125 74-134		:	
Surrogates(s) 4-Bromofluorobenzene 1,2-Dichloroethane-d4 Toluene-d8	502 493 476		500 500 500	100.4 98.6 95.2			74-121 70-121 81-117	1 1		

Severn Trent Laboratories, Inc.



### Halogenated Volatile Organic Compounds by 8021B/8260B

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### **Batch QC Report**

Prep(s): 5030B/5035

Test(s): 8260B

Matrix Spike (MS / MSD)

Soil

QC Batch # 2005/02/21-1A.06

MS/MSD

Lab ID: 2005-02-0605 - 001

MS:

2005/02/21-1A.06-005

Extracted: 02/21/2005

Analyzed:

02/21/2005 14:24

Dilution:

1.00

MSD:

2005/02/21-1A.06-006

Extracted: 02/21/2005

Analyzed:

02/21/2005 14:59

Dilution:

1.00

Compound	Conc.	ι	ıg/Kg	Spk.Level		Recovery %		Limits %		Flags	
o o mpo a mo	MS	MSD	Sample	ug/Kg	мѕ	MSD	RPD	Rec.	RPD	MS	MSD
Chlorobenzene	86.6	87.1	ND	96.5251	89.7	93.2	3.8	61-121	20		
1,1-Dichloroethene	89.6	86.9	ND	96.5251	92.8	93.0	0.2	65-125	20		
Trichloroethene	85.1	84.8	ND	96.5251	88.2	90.7	2.8	74-134	20		
Surrogate(s)											
4-Bromofluorobenzene	522	524	ĺ	500	104.3	104.8		74-121			
1,2-Dichloroethane-d4	525	524		500	105.0	104.7		70-121			
Toluene-d8	482	484		500	96.4	96.9		81-117			



#### **LUFT 5 Metals**

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### Samples Reported

Sample Name	Date Sampled	Matrix	Lab#
D1	02/16/2005 10:30	Soil	1



### **LUFT 5 Metals**

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

Prep(s):

3050B

Test(s):

6010B

Sample ID: D1

Lab ID:

2005-02-0510 - 1

Sampled:

02/16/2005 10:30

Extracted:

2/18/2005 13:15

Matrix:

Soil

QC Batch#: 2005/02/18-04.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Cadmium	ND	0.50	mg/Kg	1.00	02/19/2005 14:19	
Chromium	13	1.0	mg/Kg	1.00	02/19/2005 14:19	
Lead	6.8	1.0	mg/Kg	1.00	02/19/2005 14:19	
Nickel	27	1.0	mg/Kg	1.00	02/19/2005 14:19	
Zinc	100	1.0	mg/Kg	1.00	02/19/2005 14:19	



### **LUFT 5 Metals**

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### **Batch QC Report**

Prep(s): 3050B Method Blank

MB: 2005/02/18-04.15-001

Soil

Test(s): 6010B

QC Batch # 2005/02/18-04.15

Date Extracted: 02/18/2005 13:15

Compound	Conc.	RL	Unit	Analyzed	Flag
Cadmium	ND	0.50	mg/Kg	02/19/2005 12:43	
Chromium	ND	1.0	mg/Kg	02/19/2005 12:43	
Lead	ND	1.0	mg/Kg	02/19/2005 12:43	
Nickel	ND	1.0	mg/Kg	02/19/2005 12:43	
Zinc	ND	1.0	mg/Kg	02/19/2005 12:43	



#### **LUFT 5 Metals**

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### **Batch QC Report**

Prep(s): 3050B

LCS

Test(s): 6010B

**Laboratory Control Spike** 

2005/02/18-04.15-002

Soil

QC Batch # 2005/02/18-04.15

Extracted: 02/18/2005

Analyzed: 02/19/2005 12:46 Analyzed: 02/19/2005 12:53

LCSD 2005/02/18-04.15-003 Extracted: 02/18/2005

Compound	Conc.	mg/Kg	Exp.Conc.	Recov	/ery %	RPD	Ctrl.Lim	nits %	Fla	ags :
Johnpound	LCS ·	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Cadmium	98.5	100	100.0	98.5	100.0	1.5	80-120	20	!	
Chromium	100	102	100.0	100.0	102.0	2.0	80-120	20		
Lead	97.2	98.7	100.0	97.2	98.7	1.5	80-120	20		
Nickel	98.9	101	100.0	98.9	101.0	2.1	80-120	20		
Zinc	98.9	99.1	100.0	98.9	99.1	0.2	80-120	20		



#### **PCBs**

Toxichem Management Systems, Inc-San Jose

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11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

#### Samples Reported

Sample Name	Date Sampled	Matrix	Lab#
D1	02/16/2005 10:30	Soil	1



### **PCBs**

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive

San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

Prep(s):

3550/8082

Test(s):

8082

Sample ID: D1

Lab ID:

2005-02-0510 - 1

Sampled:

02/16/2005 10:30

Extracted:

2/21/2005 10:21

Matrix:

Soil

QC Batch#: 2005/02/21-01.14

Analysis Flag: S2,L5 (See Legend and Note Section)

Compound	Conc.	RL.	Unit	Dilution	Analyzed	Flag
Aroclor 1016	ND	500	ug/Kg	10.00	02/21/2005 16:07	
Aroclor 1221	ND	500	ug/Kg	10.00	02/21/2005 16:07	
Aroclor 1232	ND	500	lug/Kg	10.00	02/21/2005 16:07	
Aroclor 1242	ND	500	ug/Kg	10.00	02/21/2005 16:07	
Aroclor 1248	ND	500	ug/Kg	10.00	02/21/2005 16:07	
Aroclor 1254	ND	500	ug/Kg	10.00	02/21/2005 16:07	
Aroclor 1260	ND	500	ug/Kg	10.00	02/21/2005 16:07	
Surrogate(s)						
2,4,5,6-Tetrachloro-m-xylene	NA	50-125	%	10.00	02/21/2005 16:07	
Decachlorobiphenyl (PCB/8082)	NA	46-142	%	10.00	02/21/2005 16:07	



#### **PCBs**

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

## **Batch QC Report**

Prep(s): 3550/8082 Method Blank

Soil

Test(s): 8082 QC Batch # 2005/02/21-01.14

301

Date Extracted: 02/21/2005 10:21

MB: 2005/02/21-01.14-001

Compound	Conc.	RL	Unit	Analyzed	Flag
Aroclor 1016	ND	50	ug/Kg	02/21/2005 14:16	
Aroclor 1221	ND	50	ug/Kg	02/21/2005 14:16	
Aroclor 1232	ND	50	ug/Kg	02/21/2005 14:16	
Aroclor 1242	ND	50	ug/Kg	02/21/2005 14:16	ļ
Aroclor 1248	ND	50	ug/Kg	02/21/2005 14:16	
Aroclor 1254	ND	50	ug/Kg	02/21/2005 14:16	
Aroclor 1260	ND	50	ug/Kg	02/21/2005 14:16	
Surrogates(s)					
2,4,5,6-Tetrachloro-m-xylene	84.3	50-125	%	02/21/2005 14:16	
Decachlorobiphenyl (PCB/8082)	86.8	46-142	%	02/21/2005 14:16	]



#### **PCBs**

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

### **Batch QC Report**

Prep(s): 3550/8082

Test(s): 8082

## **Laboratory Control Spike**

2005/02/21-01.14-002

Soil

QC Batch # 2005/02/21-01.14

LCS LCSD 2005/02/21-01.14-003 Extracted: 02/21/2005 Extracted: 02/21/2005 Analyzed: 02/21/2005 14:36 Analyzed: 02/21/2005 14:55

Compound	Conc.	ug/Kg	Exp.Conc.	Reco	very %	RPD	Ctrl.Lin	nits %	Fla	ags
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Araclor 1016 Araclor 1260	61.7 63.8	64.9 67.1	66.5 66.5	92.8 95.9	97.4 100.8	4.8 5.0	65-135 65-135	30 30		
Surrogates(s) 2,4,5,6-Tetrachloro-m-xylene Decachlorobiphenyl	43.1 43.7	44.7 44.1	50 50	86.3 87.4	89.4 88.2		50-125 46-142	0		



#### **PCBs**

Toxichem Management Systems, Inc-San Jose

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11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

## Legend and Notes

## **Analysis Flag**

L5

Reporting limits elevated due to matrix interference.

S2

Surrogate(s) diluted out.



# Oil & Grease (Petroleum) by EPA 1664A

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

## Samples Reported

Sample Name	Date Sampled	Matrix	Lab#
D1	02/16/2005 10:30	Soil	1



# Oil & Grease (Petroleum) by EPA 1664A

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

Prep(s): 1664A

Sample ID: D1

02/16/2005 10:30

Matrix:

Sampled:

Soil

Test(s): 1664A

Lab ID:

2005-02-0510 - 1

Extracted:

2/22/2005 00:00

QC Batch#: 2005/02/22-03.23

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Oil & Grease (Petroleum)	10000	50	mg/Kg	1.00	02/23/2005	



## Oil & Grease (Petroleum) by EPA 1664A

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

## **Batch QC Report**

Prep(s): 1664A Method Blank

Soil

Test(s): 1664A

QC Batch # 2005/02/22-03.23

MB: 2005/02/22-03.23-001

Date Extracted: 02/22/2005

Compound	Conc.	RL	Unit	Analyzed	Flag	١
Oil & Grease (Petroleum)	ND	50	mg/Kg	02/23/2005		l



## Oil & Grease (Petroleum) by EPA 1664A

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

## **Batch QC Report**

Prep(s): 1664A

Test(s): 1664A

#### **Laboratory Control Spike**

Soil

QC Batch # 2005/02/22-03.23

LCS

2005/02/22-03.23-002

Extracted: 02/22/2005

Analyzed: 02/23/2005

LCSD

2005/02/22-03.23-003

Extracted: 02/22/2005

Analyzed: 02/23/2005

Compound	Conc.	mg/Kg	Kg Exp.Conc. Reco		Recovery %		. Recovery % RPI		Recovery %		Recovery %		RPD Ctrl.Limits %		Flags	
33	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD						
Oil & Grease (Petroleum)	367	375	400	91.8	93.8	2.2	66-114	24								



# Diesel (C9-C24)

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

## Samples Reported

Sample Name	Date Sampled	Matrix	Lab#
D1	02/16/2005 10:30	Soil	1



# Diesel (C9-C24)

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

Prep(s): 3550/8015M

D: B4

Test(s):

8015M

Sample ID: D1

02/16/2005 10:30

Lab ID:

2005-02-0510 - 1

Sampled: Matrix:

Soil

Extracted: 2/17/2005 14:00

QC Batch#: 2005/02/17-6C.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	1400	50	mg/Kg	50.00	02/21/2005 15:41	ldr
Surrogate(s)						
o-Terphenyl	NA	60-130	%	50.00	02/21/2005 15:41	S3

03/01/2005 17:07



# Diesel (C9-C24)

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

### **Batch QC Report**

Prep(s): 3550/8015M

MB: 2005/02/17-6C.10-001

**Method Blank** 

Soil

Test(s): 8015M

QC Batch # 2005/02/17-6C.10

Date Extracted: 02/17/2005 14:00

Compound	Conc.	RL	Unit	Analyzed	Flag
Diesel	ND	1	mg/Kg	02/18/2005 12:04	
Surrogates(s) o-Terphenyl	73.9	60-130	%	02/18/2005 12:04	



## Diesel (C9-C24)

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

LCS

LCSD

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

### **Batch QC Report**

Prep(s): 3550/8015M

Test(s): 8015M

### **Laboratory Control Spike**

2005/02/17-6C.10-002 2005/02/17-6C.10-003 Soil

QC Batch # 2005/02/17-6C.10

Extracted: 02/17/2005 Extracted: 02/17/2005 Analyzed: 02/18/2005 11:37 Analyzed: 02/18/2005 11:10

Compound	Conc. mg/Kg Exp.Conc. Recovery %		RPD	Ctrl.Lin	nits %	Fla	ags			
Compound	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Diesel	34.5	33.1	41.6	82.9	79.6	4.1	60-130	25		
Surrogates(s) o-Terphenyl	16.7	16.7	20.0	83.6	83.7		60-130			



## Diesel (C9-C24)

Toxichem Management Systems, Inc-San Jose

Attn.: Ross Tinline

11 Kenton Drive San Carlos, CA 94070

Phone: (650) 551-0112 Fax: (650) 551-0116

Project: EQ-76.1A

Shell Sap Number 702530

Received: 02/16/2005 11:43

Site: 4226 First Street, Pleasanton

### **Legend and Notes**

### Result Flag

ldr

Hydrocarbon reported is in the late Diesel range, and does not match our Diesel standard

**S3** 

Surrogate recovery not reportable due to required dilution.

### Brewer, Melissa

From: Ross Tinline [rosst@toxichem.com]

Sent: Wednesday, February 23, 2005 1:51 PM

To: Brewer, Melissa

Subject: RE: Verification/question 4226 First Street, Pleasanton: 2005-02-0510

#### Melissa.

The updated substitute protocol will be fine for oil and grease due to the Freon use. And the creosol is ok for creosote.

Thank you,

Ross

From: Brewer, Melissa [mailto:MBrewer@stj-inc.com]

Sent: Tuesday, February 22, 2005 5:46 PM

To: Ross Tinline

Subject: Verification/question 4226 First Street, Pleasanton: 2005-02-0510

From: Melissa Brewer <mbrewer@stl-inc.com>

Project#: EQ-76.1A

Project Name: Shell Sap Number 702530

This email includes reports for the following tests:

- Cover Letter

File: STLSF2005020510-ChainofCustody-COC0000432697.PDF

- Project Verification Sheet

File: STLSF2005020510-ProjectVerificationSheet-PVS0000435084.PDF

Could you send me an e-mail saying that substituting EPA 1664 for EPA 418.1 is OK for Oil & Grease? 418.1 cannot be used anymore because it uses Freon. Also I believe that I already mentioned to you that we are substituting the Creosol compounds for Creosote. They are breakdown products of Creosote.

Thanks.

Please let me know if you have any questions.

Melissa Brewer Project Manager

STL San Francisco 1220 Quarry Lane Pleasanton, CA 94566-4756 Phone: (925) 484-1919 Fax: (925) 484-1096

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Confidentiality Notice: The information contained in this message is intended only for the use of the addressee, and may be confidential and/or privileged. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately.

SHELL Chain Of Custody Record 101925 DATE 2-16-05 STL-San Francisco Shell Project Manager to be invoiced: INCIDENT NUMBER (SAE ONLY) 2005-02-0510 O SCIENCE A ENGINEERING 1220 Quarry Lane TECHNICAL SERVICES SAP or CRMT NUMBER (TS/CRMT) Pleasanton, CA 94568 Aura Sibley O CEMT HOUSTON 2 (925) 484-1919 (925) 484-1096 fax 0 5 SITE ADDRESS (Street and City) 4226 First Street, Pleasanton Toxichem Management Systems, Inc. T0600101259 DE CELIMENTE ES MANAGENES PAR O DANSPEAC CONTRACT PARTY PARTY 11 Kenton Avenue, San Carlos, California, 84070 PROJECT COMPLET FRANCISCO POP RESIDENCE Ross Tinline 650,561,0112 rosst/@toxichem.com EQ-76.1A Ross Tinline LAB USE ONLY Timline TO PPHONE 650.551.0112 650,551,0116 tessi@foxichem.com TORRESCOND THE (SUSPESS CAYS) **REQUESTED ANALYSIS** 12 IODAYS DISDAYS DISDAYS DIRECTORS DISPARANCE DI SESSIONI SE POSCESSIONI SE POSC ☐ LA FRACCE REPORT FORMAT ☐ LAT AGENCY: (8260) GOME NAME CONFIRMATION, INCHEST HIGHEST per SCHOOLS FIELD NOTES: Creosote (8270) SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF CODES MOT RESORD III (8015m) 3 D Chlorenaled Hydrocarbons Comminer/Preservative or PID Readings. Oil and Grease (418.1) or Laboratory Notes  $\Box$ ø PH . Extractable Some Wolatiles by Test for Disposal PCB, PCP, PKA. 5 Oxygenates EDS and EDG ø ä Methanol POCS By I LUFTS SAMPLING 120, 04 TENTERATURE OF RECEIPT C LASA: Field Sample Identification DATE | TIME X X X X X X X Х Six Point Field Composite Color Va Please Homogenize Before collecting Sample Aliquote Medical chief by the process Nacesind by Magaziure:

His i della Remanua

CHETRIBUTERS (Male -- No. 1) of supply Chapter to fine any population of the con-