ALAMEDA COUNTY

HEALTH CARE SERVICES





DAVID J. KEARS, Agency Director

August 12, 2009

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

Robert Newman EBMUD 375 11th St MS 704 Oakland CA, 94607

Subject: Fuel Leak Case No. RO0002979 and GeoTracker Global ID T0600100662, East Bay Municipal Utility District Water Pollution Control Plant, 2020 Wake Avenue, Oakland, California

Dear Mr. Newman:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Residual pollution remaining in soil beneath the site includes total oil and grease at a concentration of 110 mg/kg.
- Maximum concentrations of total oil and grease at a concentration up to 45,000 μg/L remains in groundwater beneath the site.

If you have any questions, please call Paresh Khatri at (510) 777-2478. Thank you.

Sincerely,

Donna L. Drogos, P.E.

LOP and Toxics Program Manager

Enclosures:

- 1. Remedial Action Completion Certificate
- 2. Case Closure Summary

cc:

Ms. Cherie McCaulou (w/enc)
SF- Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Closure Unit (w/enc)
State Water Resources Control Board
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Paresh Khatri (w/orig enc), D. Drogos (w/enc)

HEALTH CARE SERVICES

AGENCY



DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES ENVIRONMENTAL PROTECTION

ENVIRONMENTAL PROTECTION 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 (510) 567-6700 FAX (510) 537-9335

August 12, 2009

Robert Newman EBMUD 375 11th St MS 704 Oakland CA, 94607

REMEDIAL ACTION COMPLETION CERTIFICATE

Subject: Fuel Leak Case No. RO0002979 and GeoTracker Global ID T0600100662, East Bay Municipal

Utility District Water Pollution Control Plant, 2020 Wake Avenue, Oakland, California

Dear Mr. Newman:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25299.37 of the Health and Safety Code.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Ariu Levi

Alameda County Environmental Health

CASE CLOSURE SUMMARY LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM

I. AGENCY INFORMATION

Date: September 29, 2008

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 777-2478
Responsible Staff Person: Paresh Khatri	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: East Bay Mur	nicipal Utility District Water Pollution Co	ntrol Plant	
Site Facility Address: 2020 Wake	e Avenue, Oakland, California		
RB Case No.: 01-0718	Local Case No.:	LOP Ca	se No.: RO0002979
URF Filing Date: 11/23/1993	Global ID No.: T0600100662 APN: O-305-2-3)-305-2-3
Responsible Parties	Addresses		Phone Numbers
Robert Newman Senior Environmental Health and Safety Specialist	375 11 th St MS 704 Oakland CA, 94607		(510) 287-0509
and Safety Specialist	Oakland CA, 94607		

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	1x2,000-gallon	Slop oil	Removed	11/17/1992
2	1x15,000-gallon	Diesel	Removed	03/1993
	Piping		Removed	11/17/1992

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Site characterization complete? Yes Date Approved By Oversight Agency:					
Monitoring wells installed? Yes	Number: 3	Proper screened interval? Yes			
Highest GW Depth Below Ground Surface: 14.5 bgs (PGS-01, 6/30/1993)	ft Lowest Depth: 14.5 ft bgs (PGS-01, 6/30/1993)	Flow Direction: Assumed West to Northwesterly			

Summary of Production Wells in Vicinity: A well survey was not conducted at this site. Non-detect concentrations of contaminants have been reported in site groundwater monitoring wells. Considering the non-migratory residual concentrations of dissolved phase petroleum hydrocarbons in the groundwater that is confined to the primary source areas at the Site, no water wells, deeper drinking water aquifers, surface water or other sensitive receptors are likely to be impacted.

Are drinking water wells affected? No	Aquifer Name: East Bay Plain Groundwater Basin
Is surface water affected? No	Nearest SW Name: San Francisco Bay is approximately 250 feet west of the site.
Off-Site Beneficial Use Impacts (Addresses/Loc	ations): None
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health & & Oakland Fire Department, Fire Prevention Bureau

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL							
Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date				
Tank	One 2,000-gallon One 15,000-gallon	Disposal to Erickson, Inc. 255 Parr Blvd., Richmond, CA 94801 / Unknown Location	11/17/1992 / 03/1993				
Piping	Unknown	Disposal to Erickson, Inc./ unknown location	11/17/1992 / 03/1993				
Free Product	NA						
Soil							
Groundwater	1,000-gallons	Disposed to Gibson Oil 475 Seaport Blvd., Redwood City, CA 94604	11/18/1992				

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP

(Please see Attachments for additional information on contaminant locations and concentrations)

<u> </u>	Soil ((ppm)	Water	(ppb)
Contaminant	Before	After	Before	After
TPH (Gas)	<1.0	<1.0	<50	<200
	(SOP-P4, 11/17/1992)	(SOP-P4, 11/17/1992)	(SOP-GW, 11/23/1992)	(PGS-01, 09/01/1993)
TPH (Diesel)	<1.0	<1.0	<50	<200
	(SOP-P4, 11/17/1992)	(SOP-P4, 11/17/1992)	(SOP-GW, 11/23/1992)	(PGS-01, 09/01/1993)
TPH (Motor Oil)	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed
TOG	110	110	45,000	45,000
	(SOP-P4, 11/17/1992)	(SOP-P4, 11/17/1992)	(SOP-GW, 11/23/1992)	(SOP-GW, 11/23/1992)
Benzene	<0.005	<0.005	<0.5	<0.2
	(SOP-P4, 11/17/1992)	(SOP-P4, 11/17/1992)	(SOP-GW, 11/23/1992)	(PGS-01, 09/01/1993)
Toluene	<0.005	<0.005	<0.5	<0.2
	(SOP-P4, 11/17/1992)	(SOP-P4, 11/17/1992)	(SOP-GW, 11/23/1992)	(PGS-01, 09/01/1993)
Ethylbenzene	<0.005	<0.005	<0.5	<0.2
	(SOP-P4, 11/17/1992)	(SOP-P4, 11/17/1992)	(SOP-GW, 11/23/1992)	(PGS-01, 09/01/1993)
Xylenes	<0.005	<0.005	<1.5	<0.2
	(SOP-P4, 11/17/1992)	(SOP-P4, 11/17/1992)	(SOP-GW, 11/23/1992)	(PGS-01, 09/01/1993)
МТВЕ	Not Analyzed ⁵	Not Analyzed4	Not Analyzed ³	Not Analyzed ²
Lead	47 ¹ (SOP-P4, 11/17/1992)	47 ¹ (SOP-P4, 11/17/1992)	Not Analyzed	Not Analyzed
Naphthalene	Not Analyzed	Not Analyzed	Not Analyzed	<1.0 (PGS-02, 02/19/1993)

NA Not Analyzed

¹ All other Pb concentrations on-site ranged from 19 to 47 mg/kg.

²Other VOCs (groundwater μg/L after cleanup): NA μg/L MtBE, NA μg/L TBA, NA μg/L DIPE, NA μg/L ETBE, NA μg/L TAME, <0.9 μg/L EDB, <1.0 μg/L 1.2-DCA, NA μg/L EtOH

Other VOCs (groundwater ppb before cleanup): NA μg/L MtBE, NA μg/L TBA, NA μg/L TAME, <NA μg/L ETBE, NA μg/L DIPE

Other VOCs (Soil mg/kg after cleanup): NA mg/kg TBA, NA mg/kg DIPE, NA mg/kg ETBE, NA mg/kg TAME, NA mg/kg

Other VOCs (Soil mg/kg before cleanup): NA mg/kg MtBE, NA mg/kg TBA, NA mg/kg TAME, NA mg/kg DIPE, NA mg/kg EtOH

Site History and Description of Corrective Actions:

East Bay Municipal Utility District owned and operated two single-walled underground storage tanks consisting of one 2,000-gallon fiberglass slop oil UST and one 15,000-gallon diesel UST at the Water Pollution Control Plant Power Generation Station located at 2020 Wake Avenue in Oakland, California. Three groundwater monitoring wells were originally installed in 1988 to monitor UST integrity.

On November 17, 1992, one 2,000-gallon slop oil UST was excavated and removed from the site. The UST was transported under Hazardous Waste Manifest #92201999 to Erickson, Inc. in Richmond, California. During the shoring operation, one of the sheet piles hit and broke a pipe and fitting that was connected to the tank, which had not been removed. Due to the broken water line that was not shown on the plans, the UST filled up with water, which raised the residual product in the tank to the top and subsequently overflowed into the excavation pit. Also during the UST removal, the tank split in two releasing approximately 30 gallons of residual product into the excavation. A vacuum truck operation was set up to remove the majority of the sludge from the pit. A dewatering system was then set up and the water from the broken water line and additional sludge not removed by the vacuum truck was contained in a temporary tank to allow separation of sludge and water for subsequent disposal.

Four soil samples were collected and analyzed for TPH-g, TPH-d, TOG, BTEX, and VOCs following the UST removal. TPH-g, TPH-d, BTEX, or VOCs were not detected above the laboratory detection limits of <1.0 mg/kg, <1.0 mg/kg, <0.005 mg/kg, and <0.005 mg/kg, respectively. However, TOG and lead were detected at 110 mg/kg and 47 mg/kg, respectively, in soil sample SOP-P4. According to the US EPA, complex combinations of hydrocarbons are recovered in a dilute

solution from a wastewater treatment plant. It consists of hydrocarbons having carbon numbers predominantly in the range of C5 through C12. Therefore, the gasoline range analysis appears appropriate for the slop oil UST.

One groundwater sample SOP-GW was collected from the UST pit. TPH-g, TPH-d, BTEX, VOCs, and metals were not detected above the laboratory detection limits of <50 μ g/L TPH-g, <50 μ g/L TPH-d, <0.5 μ g/L BTEX, and <0.5 μ g/L VOCs. However, TOG was detected at 45,000 μ g/L. This concentration can most likely be attributed to the release of the residual product during the slop oil UST removal.

In March 1993, monitoring wells PGS-02 and PGS-03 were decommissioned in preparation for the 15,000-gallon diesel UST removal. No additional information regarding this UST removal was available at ACEH or EBMUD. As discussed above, three groundwater monitoring wells were installed as part of tank integrity monitoring. One monitoring well PGS-01 is located approximately 10 feet in the presumed down-gradient direction of the former slop oil UST and was sampled quarterly for one year to verify groundwater impact. No detectable concentrations of TPH-g, TPH-d, or BTEX have been found in any of the samples collected from the three wells from January 1988 to March 1993 indicating that a significant release of slop oil or diesel fuel has not occurred at the site.

To facilitate power generation station expansion, monitoring well PGS-01 will be decommissioned within a few weeks.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes

Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a significant risk to human health based upon current land use and conditions.

Site Management Requirements: City of Oakland Building Department has been notified that should excavation or development of the property be proposed that may encounter impacted soil or groundwater, Alameda County Environmental Health must be notified as required by Government Code Section 65850.2.2. The current property owner/developer must submit a soil and groundwater management plan for review prior to any construction activities. Please note that case closure for the fuel leak site is granted for commercial land use. If a change in land use to residential or other conservative scenario occurs at this property, Alameda County Environmental Health must be notified and the case needs to be re-evaluated.

Should corrective action be reviewed if land use changes? Yes

Was a deed restriction or deed notification filed? No Date Recorded: -
Monitoring Wells Decommissioned: No Number Decommissioned: 2 Number Retained: 1

List Enforcement Actions Taken: None

List Enforcement Actions Rescinded: --

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:

Currently, residual soil contamination of TOG at concentrations of 110 mg/kg was left in place in the former slop oil UST pit. The residual contamination does not appear to pose a significant risk to the current commercial use of the site or to groundwater resources in the area. Additionally, groundwater sample analytical results, did not detect TPH-g, TPH-d, BTEX, or VOCs above the Residential Land-use Groundwater Screening Levels with the exception of 45,000 µg/L TOG.

Residual concentrations of TOG were was detected in a grab groundwater sample collected from the slop oil tank pit at a concentration of up to 45,000 µg/L, which exceeds the ESLs where groundwater is a potential drinking water source. The concentrations of TOG are expected to decrease over time as a result of biodegradation and natural attenuation processes. Please note that EDB and EDC were not analyzed in soil, but were below laboratory detection limits in groundwater.

Conclusion:

Alameda County Environmental Health staff consider that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment based upon the information available in our files to date. No further investigation or cleanup is necessary. ACEH staff recommend case closure for this site based on the current commercial use of the site. If a change in land use to residential or other conservative scenario occurs at this property, Alameda County Environmental Health must be notified and the case needs to be re-evaluate.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Paresh Khatri	Title: Hazardous Materials Specialist
Signature: Powella:	Date: September 17, 2008
Approved by: Danna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature:	Date: 09/23/08

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB:
Signature: Ch. Wclaul	Date: 1/16/09

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH:	Date of Well Decommissioning Report:					
All Monitoring Wells Decommissioned:	Number Decommissioned:	Number Retained:				
Reason Wells Retained: No monitoring wells Additional requirements for submittal of ground	·	9				
ACEH Concurrence - Signature:	,	Date:				

Attachments:

- Tables 1 & 2 (Comparison of residual contamination to applicable ESLs).
- Site Vicinity Map.
- UST and Monitoring Well Location Map.
- Soil & GW Analyses Data from UST Removal.
- 5. 2rd & 3rd Quarter 1993 Groundwater Monitoring Data.

This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.

Environmental Impacts in Soil

EBMUD Pump Station

2020 Wake Avenue, Oakland, California

Table 1. Comparison of Maximum Residual Soil Concentrations at the Site to Relevant Cleanup Standards (mg/kg)

	TPH-g (mg/kg)	TPH-d (mg/kg)	TOG ⁴ (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl Benzene (mg/kg)	Xylenes (mg/kg)	MtBE (mg/kg)	Naphthalene (mg/kg)
Maximum Residual Soil Concentrations at Site in milligrams per kilogram	<1.0	<1.0	110	<0.005	<0.005	<0.005	<0.005	NA	NA
RWQCB, Region 2 ESLs ¹	83 ³	83 ³	370²	0.044 ³	2.9 ³	2.3 ² .	2.3 ³	0.023 ³	1.3 ²

NA: Not Analyzed

¹ Environmental Screening Levels (ESLs); Shallow Soil Screening Level for residential land use where potentially impacted groundwater is current or potential drinking water resource. Shallow soils defined as soils situated <3 meters below the ground surface.

² Lowest ESL value based on direct exposure scenario.

³ Lowest ESL value based on groundwater protection (soil leaching).

⁴ Total Oil and Grease ESL value is based on TPH (Residual Fuels).

Environmental Impacts in Groundwater

EBMUD Pump Station

2020 Wake Avenue, Oakland, California

Table 2. Comparison of Maximum Residual Groundwater Concentrations at the Site to Relevant Cleanup Standards (µg/L)

	TPH-g (µg/L)	TPH-d (µg/L)	TOG ⁷ (μg/L)	Benzene (µg/L)	Toluene (μg/L)	Ethyl Benzene (µg/L)	Xylenes (μg/L)	MTBE (μg/L)	Naphthalene (μg/L)
Maximum Residual Groundwater Concentrations at Site	<200	<200	<45,000	<0.2	<0.2	<0.2	<0.2	NA	<1.0
RWQCB Region 2 ESLs ²	100 ¹ 100 ² 210 ³ 210 ⁶	100 ¹ 100 ² 210 ³ 210 ⁶	100 ¹ 100 ² 210 ³ 210 ⁶	1.0 ¹ 170 ² 1.0 ³ 540 ⁴ 46 ⁶	40 ¹ 40 ² 150 ³ 380,000 ⁴ 130 ⁶	30 ¹ 30 ² 300 ³ 170,000 ⁴ 43 ⁶	20 ¹ 20 ² 1,800 ³ 160,000 ⁴ 100 ⁶	5 ¹ 5 ² 13 ³ 24,000 ⁴ 8,000 ⁶	17 ¹ 21 ² 17 ³ 3,200 ⁴ 24 ⁶
ASTM Tier 1 Standard Human Health RBSL (Benzene)				11,000 ⁴ 23.8 ⁵	32,800	77,500			

¹ Environmental Screening Levels (ESLs) for impacted subsurface groundwater less than 10 feet, where groundwater IS a current or potential drinking water resource

² Final Groundwater Screening Level, based on ceiling value (taste and odor threshold)

³ Groundwater Screening Level, based on drinking water toxicity

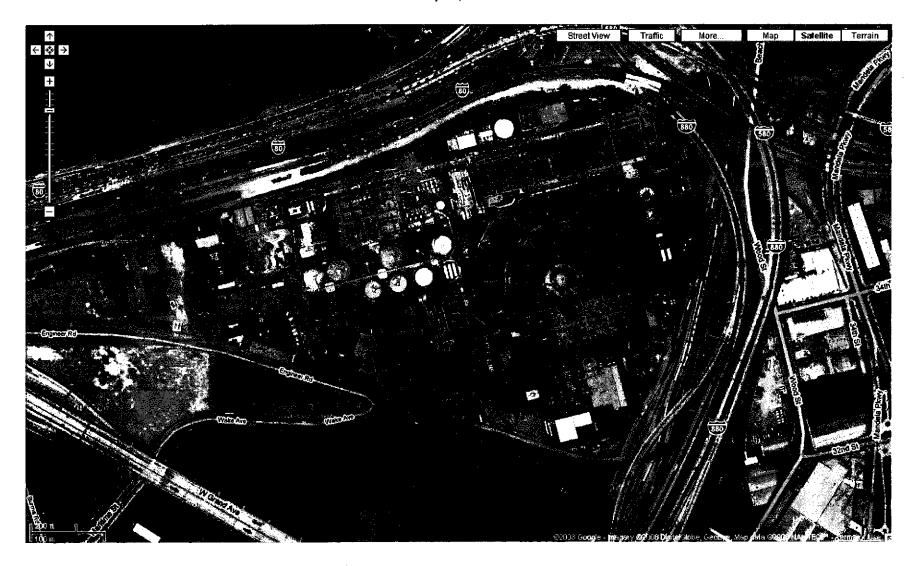
⁴ Groundwater Volatilization to indoor air (residential) Level

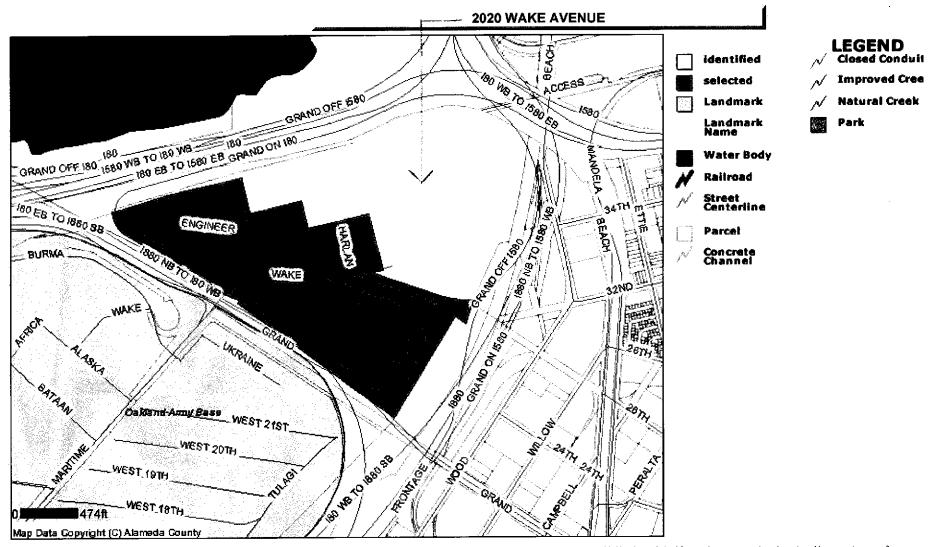
⁵ Groundwater Vapor Intrusion from groundwater to buildings (residential, chronic hazard quotient = 1)

⁶ Final Groundwater Screening Level, based on Aquatic Habitat

⁷ Total Oil and Grease ESL value is based on TPH (Residual Fuels)

July 31, 2008

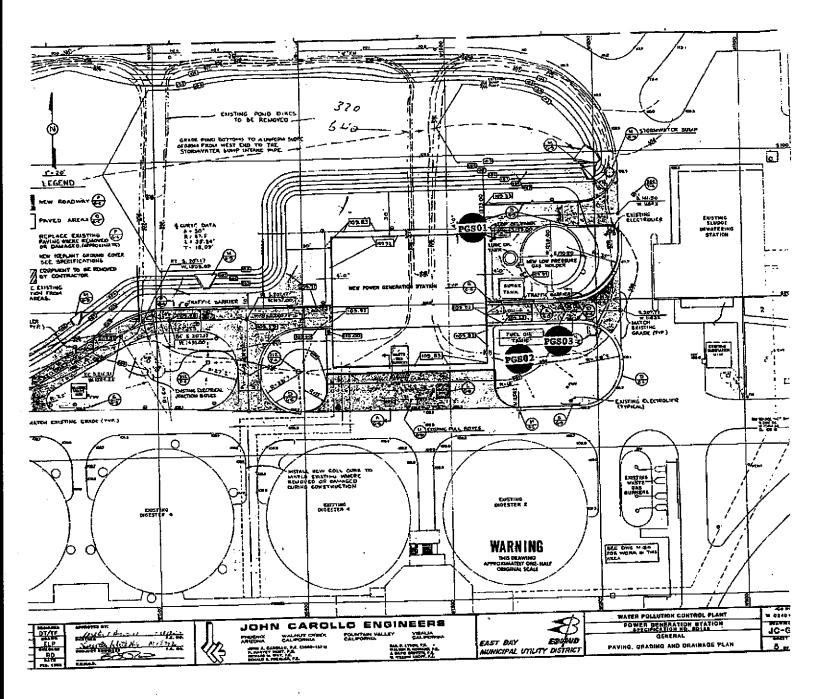






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Disclaimer: The data, information, and maps provided herein are derived from various sources and are dynamic and in an ongoing state of maintenance, correction and update, and are subject to verification by the user and/or Alameda County. The mapped data depicted herein does not constitute a legal survey. The County of Alameda makes no warranty, representation or guarantee as to the content, accuracy, timeliness or completeness of any of the information implied herein. The County of Alameda explicitly disclaims any representation and warranties, including, without limitation, the implied warranties of merchantability and fitness for a particular purpose.



Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 24, 1992

1192156 ChromaLab File No.:

ENGINEERING-SCIENCE, INC. BERKELEY

Attn: H. Pietropaoli

Foursdfil samples for Gasoline and BTEX analysis RE:

EBMUD WASTE WATR TREATMENT PLANT, Oakland Project Name:

Project Number: NC372.01

Date Submitted: Nov. 17, 1992 Date Sampled: Nov. 17, 1992

Date Analyzed: Nov. 23, 1992

RESULTS:

Sample I.D.	Gasoline (mg/Kg)	Benzene (µq/Kq)	Toluene	Ethyl Benzene (ug/Kg)	Total Xylenes (µg/Kg)
SOP-P1	N.D.	N.D.	N.D.	N.D.	N.D.
SOP-P2	N.D.	N.D.	N.D.	N.D.	N.D.
SOP-P3	N.D.	N.D.	N.D.	N.D.	N.D.
SOP-P4	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	94%	115%	1148	96%	97*
		98%	99%	97\$	98%
— — — — — — — — — — — — — — — — — — —	1.0	5.0	5.0	5.0	5.0
DETECTION LIMIT METHOD OF ANALYSIS	5030/8015		8020	8020	8020

ChromaLab, Inc.

Billy Mhach

Analytical Chemist

Eric Tam

Laboratory Director

do

Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 23, 1992

ChromaLab File No.: 1192156

ENGINEERING-SCIENCE, INC. BERKELEY

Attn: H. Pietropaoli

RE: Four soil samples for Oil & Grease analysis

Project Name: EBMUD WASTE WATR TREATMENT PLANT, Oakland

Project Number: NC372.01

Date Sampled: Nov. 17, 1992 Date

Date Submitted: Nov. 17, 1992

Date Analyzed: Nov. 20, 1992

RESULTS:

Sample I.D.	Oil & Grease (mg/Kg)	
SOP-P1	N.D.	
SOP-P2	N.D.	
SOP-P3	N.D.	
SOP-P4	110	
BLANK	N.D.	
DETECTION LIMIT	50	
METHOD OF ANALYSIS	STD METHOD 5520 E & F	

ChromaLab, Inc.

Carolyn M. House

Analyst

Eric Tam

Laboratory Director

CC

Environmental Laboratory. (1094)

November 24, 1992

1192156 ChromaLab File #

ENGINEERING-SCIENCE, INC. BERKELEY Attn: H. Pietropaoli

Project Name: EBMUD WASTE WATR TREATMENT PLANT, Oakland #NC372.01

Date Sampled: Nov. 17, 1992

Date Submitted: Nov. 17, 1992

Date of Analysis: Nov. 23, 1992

Sample I.D.: SOP-P1

Method of Analysis: EPA 8010 Matrix: Soil

Reporting Limit: 5.0 µg/Kg

Dilution Factor: None

COMPOUND NAME	uq/Kq	Spike Recovery
CHLOROMETHANE	N.D.	
VINYL CHLORIDE	N.D.	
BROMOMETHANE	N.D.	
CHLOROETHANE	N.D.	
TRICHLOROFLUOROMETHANE	N.D.	
1.1-DICHLOROETHENE	N.D.	113% 112%
METHYLENE CHLORIDE	N.D.	===
1,2-DICHLOROETHENE (TRANS)	N.D.	
1,2-DICHLOROETHENE (CIS)	N.D.	
1,1-DICHLOROETHANE	N.D.	
CHLOROFORM	N.D.	
1,1,1-TRICHLOROETHANE	N.D.	
CARBON TETRACHLORIDE	N.D.	
1,2-DICHLOROETHANE	N.D.	
TRICHLOROETHENE	N.D.	98% 105%
1,2-DICHLOROPROPANE	N.D.	
BROMODICHLOROMETHANE	N.D.	·
2-CHLOROETHYLVINYLETHER	N.D.	
TRANS-1,3-DICHLOROPROPENE	N.D.	
CIS-1,3-DICHLOROPROPENE	N.D.	
1,1,2-TRICHLOROETHANE	N.D.	
TETRACHLOROETHENE	N.D.	99% 99%
DIBROMOCHLOROMETHANE	N.D.	
CHLOROBENZENE	N.D.	
BROMOFORM	N.D.	
1,1,2,2-TETRACHLOROETHANE	N.D.	95% 103%
1,3-DICHLOROBENZENE	N.D.	
1,4-DICHLOROBENZENE	N.D.	
1,2-DICHLOROBENZENE	N.D.	

ChromaLab, Inc.

Charles Woolley

Analytical Chemist

Eric Tam

Laboratory Director

5 DAYS TURNAROUND

Environmental Laboratory (1094)

November 24, 1992

ChromaLab File # 1192156

ENGINEERING-SCIENCE, INC. BERKELEY Attn: H. Pietropaoli

Project Name: EBMUD WASTE WATR TREATMENT PLANT, Oakland #NC372.01

Date Sampled: Nov. 17, 1992
Date Submitted: Nov. 17, 1992

Date of Analysis: Nov. 23, 1992

Sample I.D.: SOP-P2

Method of Analysis: EPA 8010

Matrix: Soil

Reporting Limit: 5.0 μ g/Kg

Dilution Factor: None

COMPOUND NAME	μα/Kα	Spike Recovery
CHLOROMETHANE	N.D.	
VINYL CHLORIDE	N.D.	
BROMOMETHANE	N.D.	
CHLOROETHANE	N.D.	
TRICHLOROFLUOROMETHANE	N.D.	
1,1-DICHLOROETHENE	N.D.	113% 112%
METHYLENE CHLORIDE	N.D.	
1,2-DICHLOROETHENE (TRANS)	N.D.	
1,2-DICHLOROETHENE (CIS)	N.D.	
1,1-DICHLOROETHANE	N.D.	
CHLOROFORM	N.D.	
1,1,1-TRICHLOROETHANE	N.D.	
CARBON TETRACHLORIDE	N.D.	
1,2-DICHLOROETHANE	N.D.	
TRICHLOROETHENE	N.D.	98% 105%
1,2-DICHLOROPROPANE	N.D.	apar atia dila
BROMODICHLOROMETHANE	N.D.	
2-CHLOROETHYLVINYLETHER	N.D.	
TRANS-1,3-DICHLOROPROPENE	N.D.	
CIS-1,3-DICHLOROPROPENE	N.D.	
1,1,2-TRICHLOROETHANE	N.D.	
TETRACHLOROETHENE	N.D.	99% 99%
DIBROMOCHLOROMETHANE	N.D.	***
CHLOROBENZENE	N.D.	
BROMOFORM	N.D.	
1,1,2,2-TETRACHLOROETHANE	N.D.	95% 103%
1,3-DICHLOROBENZENE	N.D.	
1,4-DICHLOROBENZENE	N.D.	
1,2-DICHLOROBENZENE	N.D.	

ChromaLab, Inc.

Charles Woolley

Analytical Chemist

Charle M. Volley

Eric Tam

Laboratory Director

CC

November 24, 1992

Environmental Laboratory (1094)

ChromaLab File # 1192156

5 DAYS TURNAROUND

ENGINEERING-SCIENCE, INC. BERKELEY Attn: H. Pietropaoli

Project Name: EBMUD WASTE WATR TREATMENT PLANT, Oakland #NC372.01 Method of Analysis: EPA 8010

Date Sampled: Nov. 17, 1992

Date Submitted: Nov. 17, 1992 Matrix: Soil

Date of Analysis: Nov. 23, 1992

Sample I.D.: SOP-P3

Reporting Limit: 5.0 µg/Kg

Dilution Factor: None

COMPOUND NAME	μq/Kg	Spike Recovery
CHLOROMETHANE	N.D.	
VINYL CHLORIDE	N.D.	
BROMOMETHANE	N.D.	
CHLOROETHANE	N.D.	
TRICHLOROFLUOROMETHANE	N.D.	-
1,1-DICHLOROETHENE	N.D.	113% 112%
METHYLENE CHLORIDE	N.D.	~~~
1,2-DICHLOROETHENE (TRANS)	N.D.	
1,2-DICHLOROETHENE (CIS)	N.D.	
1,1-DICHLOROETHANE	N.D.	
CHLOROFORM	N.D.	
1,1,1-TRICHLOROETHANE	N.D.	
CARBON TETRACHLORIDE	N.D.	**************************************
1,2-DICHLOROETHANE	N.D.	
TRICHLOROETHENE	N.D.	98% 105%
1,2-DICHLOROPROPANE	N.D.	
BROMODICHLOROMETHANE	N.D.	
2-CHLOROETHYLVINYLETHER	N.D.	
TRANS-1,3-DICHLOROPROPENE	N.D.	
CIS-1,3-DICHLOROPROPENE	N.D.	
1,1,2-TRICHLOROETHANE	N.D.	
TETRACHLOROETHENE	N.D.	99% 99%
DIBROMOCHLOROMETHANE	N.D.	
CHLOROBENZENE	N.D.	
BROMOFORM	N.D.	
1,1,2,2-TETRACHLOROETHANE	N.D.	95% 103%
1,3-DICHLOROBENZENE	N.D.	
1,4-DICHLOROBENZENE	N.D.	
1,2-DICHLOROBENZENE	N.D.	-

ChromaLab, Inc.

Charles Woolley Analytical Chemist

Éric Tam

Laboratory Director

CĊ

Environmental Laboratory (1094)

November 24, 1992

Chromalab File # 1192156

ENGINEERING-SCIENCE, INC. BERKELEY Attn: H. Pietropaoli

Project Name: EBMUD WASTE WATR TREATMENT PLANT, Oakland #NC372.01 Method of Analysis: EPA 8010

Date Sampled: Nov. 17, 1992

Soil

Date Submitted: Nov. 17, 1992 Matrix:

5 DAYS TURNAROUND

Date of Analysis: Nov. 23, 1992

Reporting Limit: 5.0 µg/Kg Dilution Factor: None

Sample I.D.: SOP-P4

Spike Recovery COMPOUND NAME μq/Kq CHLOROMETHANE N.D. VINYL CHLORIDE N.D. BROMOMETHANE N.D. N.D. CHLOROETHANE TRICHLOROFLUOROMETHANE N.D. 113% 112% 1,1-DICHLOROETHENE N.D. METHYLENE CHLORIDE N.D. 1,2-DICHLOROETHENE (TRANS) N.D. 1,2-DICHLOROETHENE (CIS) N.D. 1,1-DICHLOROETHANE N.D. CHLOROFORM N.D. 1,1,1-TRICHLOROETHANE N.D. CARBON TETRACHLORIDE N.D. N.D. 1,2-DICHLOROETHANE 98% 105% TRICHLOROETHENE N.D. 1,2-DICHLOROPROPANE N.D. BROMODICHLOROMETHANE N.D. 2-CHLOROETHYLVINYLETHER N.D. TRANS-1,3-DICHLOROPROPENE N.D. CIS-1,3-DICHLOROPROPENE N.D. 1,1,2-TRICHLOROETHANE N.D. 99% 99% TETRACHLOROETHENE N.D. DIBROMOCHLOROMETHANE N.D. CHLOROBENZENE N.D. BROMOFORM N.D. 95% 103% 1,1,2,2-TETRACHLOROETHANE N.D. 1,3-DICHLOROBENZENE N.D. 1,4-DICHLOROBENZENE N.D. 1.2-DICHLOROBENZENE N.D.

ChromaLab, Inc.

Challe & Worlling Charles Woolley Analytical Chemist

Eric Tam

Laboratory Director

CC

Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 24, 1992

ChromaLab File No.: 1192156

ENGINEERING-SCIENCE, INC. BERKELEY

Attn: H. Pietropaoli

RE: Four soil samples for Diesel analysis

Project Name: EBMUD WASTE WATR TREATMENT PLANT, Oakland

Project Number: NC372.01

Date Submitted: Nov. 17, 1992 Date Sampled: Nov. 17, 1992 Date Extracted: Nov. 19, 1992

Date Analyzed: Nov. 20, 1992

RESULTS:

Sample I.D.	<u>Diesel (mg/Kg)</u>
SOP-P1	N.D.
SOP-P2	N.D.
SOP-P3	N.D.
SOP-P4	N.D.
BLANK	N.D.
SPIKE RECOVERY	105%
DUP SPIKE RECOVERY	93%
DETECTION LIMIT	1.0
METHOD OF ANALYSIS	3550/8015

ChromaLab Inc.,

Yiu Tam

Analytical Chemist

Eric Tam

Laboratory Director

CC

Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 19, 1992

ChromaLab File No.: 1192156

ENGINEERING-SCIENCE, INC. BERKELEY

Attn: H. Pietropaoli

RE: Four soil samples for LUFT (5) Metals analysis

Project Name: EBMUD WASTE WATER TREATMENT PLANT, Oakland

Project Number: NC372.01

Date Sampled: Nov. 17, 1992

Date Submitted: Nov. 17, 1992

Date Analyzed: Nov. 19, 1992

RESULTS:

Sample I.D.	Cadmium (mg/Kg)	Chromium (mg/Kg)	Lead (mg/Kg)	Nickel (mg/Kg)	Zinc (mg/Kg)
	- <u>-</u> - 				
SOP-P1	0.91	25	24	21	52
SOP-P2	1.3	26	26	23 .	56
SOP-P3	.73	26	19	24	53
SOP-P4	.73	31	47	23	77
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
DETECTION LIMIT	0.05	0.50	0.50	0.50	0.50
METHOD OF	3050/	3050/	3050/	3050/	3050/
ANALYSIS	6010	6010	6010	6010	6010

ChromaLab, Inc.

Jack | Kelly

Analytical Chemist

Ketand A. Maren

Refaat Mankarious Inorganic Supervisor

do

Account No.: Lab Number: 92 12 21 14! Sample Type: Grab		PGS01	
DIESEL	<	200.000	ug/L
GASOLINE	<	100.000	ug/L
BENZENE	<	.500	ug/L
CHLOROBENZENE	<	.900	
1,2-DICHLOROBENZENE	<	.300	ug/L
1,3-DICHLOROBENZENE	<	.700	ug/L
1,4-DICHLOROBENZENE	<	.400	ug/L
ETHYLBENZENE	<	1.000	ug/L
TOLUENE	· <	1.000	ug/L
XYLENES	·	1.000	ug/L

Account No.: Station Name: PGS02 Lab Number: 92 12 21 146 Side Sewer : Sample Type: Grab DIESEL < 200.000 ug/L GASOLINE < 100.000 uq/L ACROLEIN < 5.000 uq/L ACRYLONITRILE < 5.000 uq/L BENZENE .500 ug/L BROMODICHLOROMETHANE-GC/MS < .400 uq/L BROMOFORM-GC/MS < .600 ug/L BROMOMETHANE < 1.000 uq/L CARBON TETRACHLORIDE < .800 ug/L CHLOROBENZENE .900 uq/L CHLOROETHANE < .800 uq/L 2-CHLOROETHYLVINYL ETHER < 1.000 ug/L CHLOROFORM < .300 uq/L CHLOROMETHANE < 1.000 ug/L DIBROMOCHLOROMETHANE < .500 uq/L 1,2-DICHLOROBENZENE < .300 ug/L 1,3-DICHLOROBENZENE < .700 uq/L 1,4-DICHLOROBENZENE < .400 ug/L 1.1-DICHLOROETHANE < .400 uq/L 1,2-DICHLOROETHANE < 1.000 uq/L 1,1-DICHLOROETHENE < 1.000 uq/L TRANS-1, 2-DICHLOROETHENE < .600 uq/L 1.2-DICHLOROPROPANE 1.000 ug/L CIS-1,2-DICHLOROPROPENE < 1.000 uq/L TRANS-1,3-DICHLOROPROPENE .900 ug/L ETHYL BENZENE 1.000 ug/L METHYLENE CHLORIDE 1.200 ug/L 1,1,2,2-TETRACHLOROETHANE < .700 uq/L TETRACHLOROETHENE < 1.000 ug/L TOLUENE < 1.000 uq/L 1,1,1-TRICHLOROETHANE 1.000 ug/L 1,1,2-TRICHLOROETHANE .700 ug/L TRICHLOROETHENE < .600 ug/L VINYL CHLORIDE 1.000 uq/L ACETONE < 10.000 ug/L DIBROMOCHLOROPROPANE 1.000 ug/L ETHYLENE DIBROMIDE .900 ug/L METHYLETHYL KETONE < 10.000 ug/L METHYL ISOBUTYL KETONE < 2.000 ug/L STYRENE .800 uq/L TETRAHYDROFURAN 20.000 ug/L FREON 113 .800 uq/L SATURATED HYDROCARBONS < 20.000 uq/L UNSATURATED HYDROCARBONS 20.000 ug/L AROMATIC HYDROCARBONS 20.000 uq/L XYLENES 1.000 ug/L 1,2,4-TRICHLOROBENZENE .800 ug/L FLUOROTRICHLOROMETHANE .800 'ug/L DICHLORODIFLUOROMETHANE .800 uq/L M-CHLOROTOLUENE .700 uq/L DIBROMOMETHANE .900 uq/L 1,3-DICHLOROPROPANE 1.000 ug/L

Account No.: -	Station Name:	PGS02	
Lab Number: 92 12 21 146	Side Sewer :		
Sample Type: Grab			
BROMOCHLOROMETHANE	<	.500	ug/L
1,2,3-TRICHLOROPROPANE	`	1.000	
1,2,3-TRICHLOROBENZENE	`		ug/L
N-PROPYLBENZENE	`	1.000	
1,1,1,2-TETRACHLOROETHANE	₹	.700	-
PENTACHLOROETHANE	<	1.000	
BIS (2-CHLOROISOPROPYL) ETHER	₹	3.000	
SEC-DICHLOROPROPANE	`	1.000	
1,2,4-TRIMETHYLBENZENE	.	1.000	_~
N-BUTYLBENZENE	<	1.000	
NAPHTHALENE	₹	1.000	
HEXACHLOROBUTADIENE	<	.800	J.
P-CHLOROTOLUENE	<	.800	J.
1,3,5-TRIMETHYLBENZENE	<	.990	J.
P-ISOPROPYLTOLUENE	<	1.000	
1,1-DICHLOROPROPANE	<	1.000	~
ISOPROPYLBENZENE	<	1.000	
TERT-BUTYLBENZENE	<	1.000	
SEC-BUTYLBENZENE	<	1.000	
BROMOBENZENE	<	.900	
CIS-1,2-DICHLOROETHENE	<	.600	
O-CHLOROTOLUENE	<	.600	
CARBON DISULFIDE	<	1.000	
1,1-DICHLOROPROPENE	<	.700	
ETHYL ACETATE	<	1.000	
2-HEXANONE	<	1.000	
VINYL ACETATE	<	1.000	
1,3-BUTADIENE	<	1.000	
1,4-DIOXANE	<	1,000.000	
VOLATILE REGULATED ORGANICS		.001	
VOLATILE CHLOR. HYDROCARBONS	•	.001	
VOA TOTAL TOXIC ORGANICS	<	.010	mg/L

EBMUD LAB RESULTS

Account No.: Station Name: PGS03 Lab Number: 92 12 21 147 Sample Type: Grab Side Sewer :

mple Type: Grab			
DIESEL	<	200.000	ug/L
GASOLINE	<	100.000	
ACROLEIN	₹	5.000	-
ACRYLONITRILE	`	5.000	
BENZENE	`	.500	400
BROMODICHLOROMETHANE-GC/MS	`	.400	
BROMOFORM-GC/MS	`	.600	
BROMOMETHANE	ે	1.000	
CARBON TETRACHLORIDE	~	.800	
CHLOROBENZENE	, .	.900	
CHLOROETHANE	`	.800	
2-CHLOROETHYLVINYL ETHER	`	1.000	
CHLOROFORM	`	.300	
CHLOROMETHANE	`	1.000	
DIBROMOCHLOROMETHANE	`	.500	
1,2-DICHLOROBENZENE	`	.300	
1,3-DICHLOROBENZENE	2	.700	, , , , , , , , , , , , , , , , , , ,
1,4-DICHLOROBENZENE	`		ug/L
1,1-DICHLOROETHANE	~	.400	
1,2-DICHLOROETHANE	2	1.000	
1,1-DICHLOROETHENE		1.000	
TRANS-1,2-DICHLOROETHENE	· · · · · · · · · · · · · · · · · · ·	.600	
1,2-DICHLOROPROPANE	<	1.000	
CIS-1,2-DICHLOROPROPENE	~	1.000	
TRANS-1,3-DICHLOROPROPENE		.900	
EIHYL BENZENE	<	1.000	-
METHYLENE CHLORIDE	•	12.000	-
1,1,2,2-TETRACHLOROETHANE	· •	.700	
TETRACHLOROETHENE	`	1.000	-
TOLUENE	`	1.000	
1,1,1-TRICHLOROETHANE	<	1.000	
1,1,2-TRICHLOROETHANE	<	.700	
TRICHLOROETHENE	·	.600	
VINYL CHLORIDE	<		•
ACETONE	•	1.000 30.000	
DIBROMOCHLOROPROPANE	<	1.000	
ETHYLENE DIBROMIDE	`	.900	-
METHYLETHYL KETONE		10.000	ug/L
METHYL ISOBUTYL KETONE	< <	2.000	ug/L
STYRENE	`	.800	7.
TETRAHYDROFURAN	`	20.000	
FREON 113	`	.800	
SATURATED HYDROCARBONS	<	20.000	
UNSATURATED HYDROCARBONS	`	20.000	-
AROMATIC HYDROCARBONS	<		
XYLENES	<	20.000	
1,2,4-TRICHLOROBENZENE	<	1.000	
FLUOROTRI CHLOROMETHANE		.800	
DICHLORODIFLUOROMETHANE	<	.800	
M-CHLOROTOLUENE	<	.800	٠,٠
DIBROMOMETHANE	<	.700	-
1,3-DICHLOROPROPANE	<	.900	
T 1 2 DIT CITTOROLO L'UO L'UO L'UO L'UO L'UO L'UO L'UO L	<	1.000	ug/L

EBMUD LAB RESULTS

Account No.: -Station Name: PGS03 Lab Number: 92 12 21 147 Sample Type: Grab Side Sewer :

mpre lype. Grap		•	
BROMOCHLOROMETHANE	<	.500	ug/L
1,2,3-TRICHLOROPROPANE	<	1.000	
1,2,3-TRICHLOROBENZENE	<i>`</i>	.800	
N-PROPYLBENZENE	<u> </u>	1.000	
1,1,1,2-TETRACHLOROETHANE	〈	.700	
PENTACHLOROETHANE	<	1.000	
BIS (2-CHLOROISOPROPYL) ETHER	< .	3.000	
SEC-DICHLOROPROPANE	<	1.000	
1,2,4-TRIMETHYLBENZENE	<	1.000	
N-BUTYLBENZENE	· <	1.000	ug/L
NAPHTHALENE	<	1.000	ug/L
HEXACHLOROBUTADIENE	<	.800	ug/L
P-CHLOROTOLUENE	<	.800	ug/L
1,3,5-TRIMETHYLBENZENE	<		ug/L
P-ISOPROPYLTOLUENE	<	1,000	
1,1-DICHLOROPROPANE	<	1.000	ug/L
ISOPROPYLBENZENE	<	1.000	ug/L
TERT-BUTYLBENZENE	<	1.000	ug/L
SEC-BUTYLBENZENE	<	1.000	ug/L
BROMOBENZENE	<	.900	
CIS-1,2-DICHLOROETHENE	<		ug/L
O-CHLOROTOLUENE	<	.600	ug/L
CARBON DISULFIDE	<	1.000	ug/L
1,1-DICHLOROPROPENE	<	.700	
ETHYL ACETATE	<	1.000	
2-HEXANONE	<	1.000	ug/L
VINYL ACETATE	< ⋅	1.000	ug/L
1,3-BUTADIENE	. <	1.000	_,,
1,4-DIOXANE	<	1,000.000	
VOLATILE REGULATED ORGANICS	•	.042	
VOLATILE CHLOR. HYDROCARBONS		.012	
VOA TOTAL TOXIC ORGANICS		.012	mg/L

EBMUD LAB RESULTS

Account No.: Station Name: PGS01 Lab Number: 93 02 04 145 Sample Type: Grab Side Sewer :

DIESEL	<	200.000	ug/L
GASOLINE	<	100.000	ug/L
BENZENE	<	.200	ug/L
CHLOROBENZENE	<	.200	ug/L
1,2-dichlorobenzene	<	.200	ug/L
1,3-dichlorobenzene	<	.200	ug/L
1,4-dichlorobenzene	<	.200	ug/L
ETHYLBENZENE	· <	.200	ug/L
TOLUENE	<	.200	ug/L
XYLENES	<	.200	ug/L

Account No.: - Lab Number: 93 02 04 146 Sample Type: Grab	Station Name: Side Sewer :	PGS02	
DIESEL	<	200.000	ug/L
GASOLINE	<	100.000	ug/L
BENZENE	<	.200	ug/L
CHLOROBENZENE	<	.200	ug/L
1,2-DICHLOROBENZENE	Ċ.	.200	ug/L
1,3-DICHLOROBENZENE	<	.200	ug/L
1,4-DICHLOROBENZENE	<	.200	ug/L
ETHYLBENZENE	<	.200	ug/L
TOLUENE	<	.200	uq/L
XYLENES	<	.200	ug/L

.200 ug/L

Account No.: Station Name: PGS01 Lab Number: 93 06 30 161 Side Sewer : Sample Type: Grab 200.000 ug/L DIESEL 100.000 ug/L GASOLINE < .200 ug/L BENZENE .200 ug/L CHLOROBENZENE < .200 ug/L 1,2-DICHLOROBENZENE < .200 ug/L 1,3-DICHLOROBENZENE < .200 ug/L 1,4-DICHLOROBENZENE < ETHYLBENZENE .200 ug/L < TOLUENE .200 ug/L <

XYLENES