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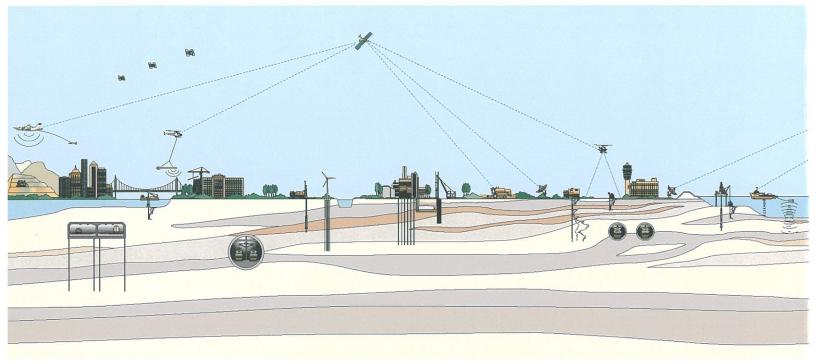


DECEMBER 2006 GROUNDWATER MONITORING 2801 MacARTHUR BOULEVARD OAKLAND, CALIFORNIA StID 23

Prepared for: ALAMEDA COUNTY ENVIRONMENTAL HEALTH

FEBRUARY 2007

Fugro Project No. 838.006





February 13, 2007 Project No. 838.006

Alameda County Environmental Health 1161 Harbor Bay Parkway, Suite 250 Alameda, California 94502

Attention: Mr. Donald Hwang, Hazardous Materials Specialist

Subject: December 2006 Groundwater Monitoring Report, 2801 MacArthur Boulevard, Oakland, California, StID Number 23

Dear Mr. Hwang:

Please find attached Fugro West, Inc.'s, report documenting the December 2006 Groundwater Monitoring Event at 2801 MacArthur Boulevard in Oakland, California (Site). This monitoring event was conducted in general accordance with the Alameda County Environmental Health (ACEH) letter dated July 28, 2005, which requested resumption of groundwater monitoring and the Additional Site Investigation, completed by Fugro and presented in our report dated July 2006. Should you have any questions, comments, or require additional information, please do not hesitate to contact us at (510) 268-0461.

Sincerely,

FUGRO WEST, INC.



Opensi

Obi Nzewi Project Geologist

siann alexander



Jeriann Alexander, P.E., R.E.A. Civil Engineer 40469 (exp. 3/31/07) Registered Environmental Assessor 03130 (exp. 07/07)

ON/JNA:ej

Copies Submitted:

- (1) Addressee
- (1) Aniko Molnar
- (1) Raymond Yu



CONTENTS

		Page
1.0	INTRODUCTION	1
2.0	SITE DESCRIPTION	1
3.0	OVERVIEW OF UST REMOVAL, REMEDIATION, AND INVESTIGATIONS	1
4.0	FIELD ACTIVITIES	3
5.0	RESULTS OF ANALYSIS	4
	5.1 Data Validation	
	5.2 Data Results	4
6.0	NEXT MONITORING EVENT	4
7.0	REFERENCES	5

TABLES

Table

Plate

Groundwater Elevation Data	.1
Summary of Analytical Data - Groundwater Well Samples	.2

PLATES

APPENDICES

APPENDIX A: WELL SAMPLING FORMS, LABORATORY REPORTS AND CHAIN OF CUSTODY DOCUMENTS



LIST OF ACRONYMS AND ABBREVIATIONS

- ACEH Alameda County Environmental Health
- bgs below ground surface
- BTEX benzene, toluene, ethylbenzene, and xylenes
- DCA 1,2-Dichloroethane, also know as EDC
- DIPE Di-isopropyl ether
- EDB 1,2-Dibromoethane
- EDC 1,2-Dichloroethane
- ETBE ethyl tert-butyl ether
- ESLs Environmental Screening Levels
- mg/kg milligrams per kilogram = ppm
- MCL maximum contaminant Levels
- MTBE Methyl tert butyl ether
- OVM organic vapor meter
- ppm parts per million
- QA/QC Quality Assurance/Quality Control
- RWQCB Regional Water Quality Control Board
- RPD Relative Percentage Difference
- TBA tert-butanol
- TAME tert amyl methyl ether
- TPH total petroleum hydrocarbons
- TPHd total petroleum hydrocarbons as diesel fuel
- TPHg total petroleum hydrocarbons as gasoline
- TPHmo total petroleum hydrocarbons as motor oil
- μg/kg micrograms per kilogram
- μg/l micrograms per liter
- ULR Urban Land Redevelopment
- USA Underground Services Alert
- UST underground storage tank
- USCS Unified Soil Classification System



1.0 INTRODUCTION

With this report, Fugro West, Inc., (Fugro) presents the results of the second consecutive semi-annual groundwater-monitoring event conducted at 2801 MacArthur Boulevard in Oakland, California (Site). The Site location is shown on the vicinity map (Plate 1). During this event, Fugro purged and sampled six wells across the Site. Monitoring well locations are presented on Plate 2. Fugro was retained by the APA Fund to conduct this event and prepare a report documenting the findings of the event.

2.0 SITE DESCRIPTION

The Site occupies the western third of the parcel bounded by MacArthur Boulevard to the north, Coolidge Avenue to the west, Georgia Street to the south, and residential properties to the east. Remnants of a former gasoline service station, including the station building and canopy, occupy the Site. Currently, the station building is being used by an auto repair business. The eastern portion of the parcel is occupied by a strip mall shopping center. Asphalt concrete paved parking areas occupy the open portions of the parcel. The parcel is commercially zoned, and surrounding properties are primarily commercial; however, residential structures exist northwest along Coolidge Avenue, south and southwest of the parcel across Georgia Street.

The Site is located within an upland area near the western flank of the Oakland Hills. The topography of the area is characterized by rolling terrace deposits. The Site is underlain by interbedded alluvial soils comprising stiff to very hard sandy clays, clayey and sandy silts, dense clayey sands and gravels.

Historical groundwater depths have ranged from approximately 21 to 41 feet below ground surface (bgs). The groundwater flow direction based on historical data has consistently been to the south and southeast. Based on the most recent groundwater-monitoring event (December 2006), the depth to groundwater ranged from approximately 26 to 35 feet bgs, and the groundwater flow direction was towards the south and southwest. The current data is consistent with the historical range in depth to groundwater and flow directions.

3.0 OVERVIEW OF UST REMOVAL, REMEDIATION, AND INVESTIGATIONS

In May 1989, three underground storage tanks (USTs) and associated fuel dispensing equipment were removed from the Site (Plate 2). Approximately 435 cubic yards of fuel-impacted soils were also subsequently excavated, and removed from the Site and clean fill was replaced into the resulting excavation. Groundwater monitoring performed at the Site between 1990 and 1996 showed that a dissolved gasoline plume had migrated about 150 feet down gradient from the source area. Subsurface Consultants, Inc., (SCI) (a wholly-owned subsidiary of Fugro West, Inc.) performed a Tier 2 Risk Assessment (October 28, 1997), which indicated that the impacted material onsite appeared to pose no significant risk to human health or the environment considering the commercial use of the property.



Following discussions with ACEH regarding their concerns with respect to a lack of data in the area of the former pump islands; SCI prepared a Work Plan (April 7, 1998) to perform an additional subsurface investigation to evaluate soil and soil gas concentrations in the area of the former Boring B-9 and the pump islands. Results of the field investigation presented in the SCI report dated February 1, 1999, suggested that soil impacts in the area of the former waste oil tank had decreased as a result of source removal and ongoing natural degradation; however, residual soils containing elevated concentrations of gasoline and BTEX still remained in place below the former pump island area.

SCI prepared a Corrective Action Plan (CAP) dated August 13, 1999, which was approved by the ACEH in their letter dated August 20, 1999. Remedial actions, including excavation of impacted soils north of the former station building and in the vicinity of the former pump islands, were implemented in November 2000 by WRS Consultants, and observed by Chaney, Walton and McCall LLC. Review of reports documenting remediation suggests the following:

- Approximately 800 cubic yards of impacted soil to a depth of 15 to 18 feet bgs was excavated and removed from the area north of the former station building as shown on Plate 2.
- The resulting excavation was backfilled with clean, imported soil.
- Piezometer P-3 was decommissioned during remediation activities in 2000.

It was subsequently observed that the backfilled area failed to meet the required compaction specifications resulting in subsidence of the former excavation area. In 2001, Geomatrix was retained to observe the re-excavation and re-compaction of imported materials in the excavation area north of the existing building. Geomatrix (January 2, 2002) confirmed that the previous excavation measured approximately 30 feet by 50 feet in plan dimension and extended to a depth of between 15 to 18 feet bgs.

In June 2005, Fugro was retained by The APA Fund to participate in discussions with the ACEH and representatives of The APA Fund regarding Site conditions, regulatory concerns, and future redevelopment plans. In their letter dated July 2005, ACEH requested a Work Plan for supplemental soil and groundwater characterization, including implementation of groundwater monitoring for Site wells.

Fugro prepared a Work Plan to address ACEH requirements for additional site study. In our Work Plan dated October 11, 2005, Fugro proposed the following:

- Locate and rehabilitate existing monitoring wells onsite;
- Decommission monitoring well M-3 located approximately 160 feet east of the former tank area;
- Advance five to eight borings, to facilitate collection of soil and grab groundwater samples, and;
- Conduct two semi-annual groundwater monitoring events;



In their March 31, 2006, letter, ACEH approved Fugro's Work Plan on condition that additional soil samples be collected and analyzed at changes in lithology. Fugro completed the investigation in the summer of 2006. Results of our additional site investigation and first of two scheduled groundwater monitoring were presented in our July 2006 report. We have not received any comments, correspondence or acknowledgement from ACEH following completion of this phase of investigation.

4.0 FIELD ACTIVITIES

Fugro conducted this semi-annual monitoring event on December 19 and 20, 2006. Prior to sampling, the presence of free product was checked and the depth to groundwater was measured in six wells (P-1, P-2, M-1, M-4, M-5, and M-6). Fugro's field geologist noticed hydrocarbon odor during purging and sampling of monitoring well P-2; however, no free product was observed. No free product was observed in any of the remaining wells. Each well was purged of at least 3 well casing volumes while monitoring dissolved oxygen, pH, and conductivity. Each well was allowed to recharge to approximately 80 percent of the measured pre-purge groundwater elevation prior to sample collection. Groundwater samples were collected using clean disposable bailers and decanted into laboratory prepared containers. Samples were stored in an ice-chilled chest pending delivery to the chemical testing laboratory.

The samples for this event were submitted under appropriate chain-of-custody documents to Curtis & Tompkins, Ltd., a laboratory certified by the State of California Department of Health Services for hazardous waste and water testing. A sample from each well was analyzed for the following constituents:

- Total volatile hydrocarbons as gasoline (TVHg), EPA Methods 5030/8015;
- Total extractable hydrocarbons as diesel and motor oil (TEHd and mo), EPA Methods 8015m, using silica gel cleanup;
- Lead scavengers including: dichloroethane (DCA) and dibromoethane (EDB);
- Five fuel oxygenates by EPA Methods 8260 including;
- Methyl tert butyl ether (MTBE), Tert-butanol (TBA), Di-isopropyl ether (DIPE), Ethyl tert butyl ether (ETBE), and Tert amyl methyl ether (TAME); and
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX).

Well sampling forms, chain-of-custody documents, and the analytical test reports are attached in Appendix A. Groundwater elevation data are summarized in Table 1. Analytical test results are summarized in Table 2.

The groundwater flow direction for the December 2006 event is presented in the Rose Diagram on Plate 2. The gradient for this event was 0.053 feet/foot directed towards the south-southwest. Based on the groundwater elevation data presented in Table 1, the groundwater gradient remains generally consistent with previous measurements. Groundwater was encountered at elevations higher in one well (MW-6) and lower in the remaining wells compared to the June 2006 event.



5.0 RESULTS OF ANALYSIS

5.1 Data Validation

Fugro reviewed the analytical data results presented by Curtis and Tompkins (C&T); the chemical testing laboratory. C&T indicated that analysis for BTEX, fuel oxygenates and lead scavengers were conducted two days past the recommended hold time of seven days (for an unpreserved 40 ml volatile organic glass vial). However, C&T indicated that all samples met all remaining internal quality control and quality assurance standards. Fugro reviewed all the laboratory results and noted that analytical results appear to be within historical ranges observed at the site; consequently we believe that the data is valid for this reporting phase.

5.2 Data Results

During this event contaminants of concern were detected in wells at concentrations similar to previous events. TPHg was detected in samples from wells P-1 (1,700 μ g/l), P-2 (41,000 μ g/l), M-1 (2,100 μ g/l), and M-4 (1,800 μ g/l). TPHd was detected in samples from wells P-1 (200 μ g/l), P-2 (4,200 μ g/l), M-1 (220 μ g/l), and M-4 (140 μ g/l). No TPHmo was detected in any of the samples tested. No TPHg, TPHd or TPHmo was detected in well M-5.

Analysis detected benzene concentrations in wells P-1 (70 μ g/l), P-2 (990 μ g/l), and M-4 (430 μ g/l). No benzene was detected in wells M-1, M-5, and M-6. Toluene was detected in samples from wells P-1 (0.7 μ g/l), and P-2 (2,200 μ g/l). No toluene was detected in the remaining wells. Analysis detected ethylbenzene in samples from wells P-1 (2.4 μ g/l), and P-2 (1,700 μ g/l). Total xylenes were detected in samples from wells P-1 (1.4 μ g/l), P-2 (7,700 μ g/l), and M-4 (9.5 μ g/l). No ethylbenzene was detected in well M-4. No ethylbenzene or xylene concentrations were detected in wells M-5 or M-6.

With the exception of 6 μ g/l of MTBE detected in P-1 and 2.2 μ g/l of MTBE detected in well M-1, no MTBE concentrations were detected in any of the remaining samples tested during this event. Analysis detected 82 μ g/l of TBA and 2.5 μ g/l of DIPE in well P-1. None of the remaining fuel oxygenates were detected in well P-1. No fuel oxygenates were detected in any of the remaining samples analyzed. No lead scavengers (EDB or DCA) were detected in any of the samples tested.

6.0 NEXT MONITORING EVENT

The next semi-annual groundwater-monitoring event is scheduled for June 2007. Results of this event will be presented in a stand-alone report to the ACEH.



7.0 REFERENCES

- Chaney, Walton & McCall (LLC), Petroleum Affected Soils Removal and Disposition Report, APA Fund Site Oakland California, dated January 29, 2001.
- Fugro West Inc., Work Plan Additional Site Study, 2801 MacArthur Blvd, Oakland California, dated October 11, 2005.
- Fugro West Inc., Evaluation of Submerged Monitoring Well Screens, 2801 MacArthur Blvd, Oakland California, dated October 11, 2005.
- Geomatrix Consultants, Inc., Results of October 2001 Environmental Soil Sampling, 2801 MacArthur Boulevard Oakland California, dated January 29, 2001.
- Alameda County Environmental Health, Fuel Leak Case No. RO0000001, Dan's Auto Repair, 2801 MacArthur Blvd., Oakland CA 94602, dated July 28, 2005.
- Alameda County Environmental Health, Fuel Leak Case No. RO0000001, Dan's Auto Repair, 2801 MacArthur Blvd., Oakland CA 94602, dated March 31, 2006.

TABLES



Table 1
Groundwater Elevation Data
2801 MacArthur Boulevard
Oakland, California

	TOC ¹		Groundwater	Groundwater
	Elevation		Depth	Elevation
Well	(feet)	Date	(feet)	(feet)
	· · ·			· · ·
M-1	1000	10/24/1990	36.1	963.9
		10/25/1990	36.1	963.9
		11/2/1990	36.4	963.6
		11/6/1990	36.8	963.2
		11/16/1990	36.8	963.2
		11/23/1990	36.9	963.1
		11/28/1990	37.0	963.0
		12/5/1990	37.2	962.8
		3/18/1991	35.8	964.2
		3/29/1991	32.4	967.6
		4/3/1991	31.9	968.1
		4/9/1991	31.6	968.4
		4/16/1991	31.2	968.8
		1/23/1992	35.5	964.5
		3/9/1993	29.1	970.9
		6/1/1993	27.5	972.5
		12/13/1993	33.9	966.1
		3/7/1994	32.3	967.7
		8/23/1994	32.3	967.7
		10/11/1994	34.1	965.9
		4/26/1995	24.4	975.6
		10/27/1995	31.3	968.7
		1/22/1996	31.1	968.9
		4/15/1996	25.6	974.4
		7/10/1996	27.7	972.3
		12/1/1998		Paved Over
		6/22/2006	25.6	974.4
		12/19/2006	31.4	968.6
M-2	999.6	4/30/1991	31.1	968.5
		5/7/1991	31.3	968.3
		1/16/1992	35.1	964.5
		3/9/1993	33.6	966.0
		5/17/1993	27.2	972.4
		6/1/1993	27.6	972.0
		8/17/1993	30.4	969.2
		12/13/1993	34.0	965.6
		3/7/1994	30.1	969.5
		8/23/1994	32.3	967.3
		10/11/1994	34.2	965.4
		4/26/1995	24.4	975.2
		10/27/1995	31.4	968.2
		1/22/1996	31.2	968.4
		4/15/1996	25.6	974.0
		7/10/1996	27.8 30.9	971.8 968.7
			20.0	
		12/1/1998		
		6/23/1998 12/8/1999	27.3 33.7	972.4 965.9



Table 1
Groundwater Elevation Data
2801 MacArthur Boulevard
Oakland, California

Well(feet)DateP-2 $12/8/1999$ cont) $3/24/2003$ $6/21/2006$ $12/19/2006$ P-3999.1 $3/29/1991$ $4/3/1991$ $4/3(1991)$ $4/3(1991)$ $4/3(1991)$ $4/30/1991$ $4/30/1991$ $5/7/1991$ $1/23/1992$ $3/9/1993$ $6/4/1993$ $8/17/1993$ $12/13/1993$ $3/7/1994$ $8/23/1994$ $10/11/1994$ $4/26/1995$ $10/27/1995$ $1/22/1996$ $4/15/1996$ $7/10/1996$ $12/1/1998$	Depth Elevation
cont) 3/24/2003 6/21/2006 12/19/2006 P-3 999.1 3/29/1991 4/3/1991 4/16/1991 4/16/1991 4/18/1991 5/7/1991 1/23/1992 3/9/1993 6/4/1993 8/17/1993 12/13/1993 3/7/1994 8/23/1994 8/23/1994 10/11/1994 10/11/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	(feet) (feet)
cont) 3/24/2003 6/21/2006 12/19/2006 P-3 999.1 3/29/1991 4/3/1991 4/16/1991 4/16/1991 4/18/1991 5/7/1991 1/23/1992 3/9/1993 6/4/1993 8/17/1993 12/13/1993 3/7/1994 8/23/1994 8/23/1994 10/11/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	31.2 966.6
6/21/2006 12/19/2006 P-3 999.1 3/29/1991 4/3/1991 4/9/1991 4/16/1991 4/16/1991 4/18/1991 1/23/1992 3/9/1993 6/4/1993 8/17/1993 12/13/1993 3/7/1994 8/23/1994 8/23/1994 10/11/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	25.8 972.0
12/19/2006 P-3 999.1 3/29/1991 4/3/1991 4/3/1991 4/9/1991 4/3/0/1991 4/30/1991 4/30/1991 5/7/1991 1/23/1992 3/9/1993 6/4/1993 8/17/1993 3/7/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996 7/10/1996	22.7 975.2
P-3 999.1 3/29/1991 4/3/1991 4/9/1991 4/16/1991 4/18/1991 4/30/1991 5/7/1991 1/23/1992 3/9/1993 6/4/1993 8/17/1993 12/13/1993 3/7/1994 8/23/1994 8/23/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	22.7 975.2 26.7 971.1
4/3/1991 4/9/1991 4/16/1991 4/18/1991 4/30/1991 5/7/1991 1/23/1992 3/9/1993 6/4/1993 8/17/1993 12/13/1993 3/7/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 10/27/1996 4/15/1996 7/10/1996	20.7 971.1
4/9/1991 4/16/1991 4/18/1991 4/30/1991 5/7/1991 1/23/1992 3/9/1993 6/4/1993 8/17/1993 12/13/1993 3/7/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	24.7 974.4
4/16/1991 4/18/1991 4/30/1991 5/7/1991 1/23/1992 3/9/1993 6/4/1993 8/17/1993 12/13/1993 3/7/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	25.1 974.0
4/18/1991 4/30/1991 5/7/1991 1/23/1992 3/9/1993 6/4/1993 8/17/1993 12/13/1993 3/7/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	25.9 973.2
4/30/1991 5/7/1991 1/23/1992 3/9/1993 6/4/1993 8/17/1993 12/13/1993 3/7/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	26.2 972.9
5/7/1991 1/23/1992 3/9/1993 6/4/1993 8/17/1993 12/13/1993 3/7/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	26.2 972.9
1/23/1992 3/9/1993 6/4/1993 8/17/1993 12/13/1993 3/7/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	26.8 972.3
3/9/1993 6/4/1993 8/17/1993 12/13/1993 3/7/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	27.4 971.7
6/4/1993 8/17/1993 12/13/1993 3/7/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	32.5 966.6
8/17/1993 12/13/1993 3/7/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	24.8 974.3
12/13/1993 3/7/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	23.9 975.2
3/7/1994 8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	28.5 970.6
8/23/1994 10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	29.3 969.8
10/11/1994 4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	25.0 974.1
4/26/1995 10/27/1995 1/22/1996 4/15/1996 7/10/1996	30.1 969.0
10/27/1995 1/22/1996 4/15/1996 7/10/1996	32.0 967.1
1/22/1996 4/15/1996 7/10/1996	20.5 978.6
4/15/1996 7/10/1996	27.8 971.3
7/10/1996	26.7 972.4
	21.4 977.7
12/1/1998	25.1 974.0
	20.1 5/4.0
6/23/1999	27.2 971.9
12/8/1999	

Note 1 - Elevations relative to site-specific datum. Temporary Bench Mark No. 1, top of concrete at west corner of northernmost pump island. Assumed elevation = 1,000.0 feet.



Table 1
Groundwater Elevation Data
2801 MacArthur Boulevard
Oakland, California

	TOC ¹		Groundwater	Groundwater
	Elevation		Depth	Elevation
Well	(feet)	Date	(feet)	(feet)
M-3	992.8	5/17/1993	22.2	970.6
		6/1/1993	23.3	969.5
		8/17/1993	25.0	967.8
		12/13/1993	25.8	967.0
		3/7/1994	23.1	969.7
		8/23/1994	25.8	967.0
		10/11/1994	27.4	965.4
		4/26/1995	19.6	973.2
		10/27/1995	25.4	967.4
		1/22/1996	24.2	968.6
		4/15/1996	20.9	971.9
		7/10/1996	22.9	969.9
		12/1/1998	23.5	969.3
		12/8/1999	26.3	966.5
		3/24/2003*	23.9	968.9
			Well Abandoned	
M-4	999.6	5/17/1993	33.8	965.8
	000.0	6/1/1993	32.5	967.1
		12/13/1993	36.8	962.8
		3/7/1994	33.0	966.6
		8/23/1994	35.4	964.2
		10/11/1994	37.1	962.5
		4/26/1995	29.8	969.8
		10/27/1995	34.2	965.4
		1/22/1996	30.1	969.5
		4/15/1996	30.1	969.5
		7/10/1996	32.0	967.6
		12/1/1998	34.5	965.1
		6/23/1999	31.8	967.8
		12/8/1999	35.4	964.3
		3/24/2003*	33.4	966.2
		6/21/2006	30.6	969.0
		12/19/2006	35.2	964.5
	000.0	0/00/4004	04.0	001 1
M-5	992.9	8/23/1994	31.8	961.1
		10/11/1994	33.6	959.3
		4/26/1995	20.5	972.4
		10/27/1995	31.5	961.4
		1/22/1996	25.6	967.3
		4/15/1996	21.7	971.2
		7/10/1996	26.8	966.1
		12/1/1998	28.8	964.1
		6/23/1999	26.5	966.4
		12/8/1999	32.1	960.9
		3/24/2003*	25.9	967.0
		6/22/2006 12/19/2006	23.9 28.1	969.0 964.8
		12/19/2000	20.1	904.0



Table 1
Groundwater Elevation Data
2801 MacArthur Boulevard
Oakland, California

	TOC ¹ Elevation		Groundwater Depth	Groundwater Elevation
Well	(feet)	Date	(feet)	(feet)
	007.7	0/00/1001	44.0	050 5
M-6	997.7	8/23/1994	41.2	956.5
		10/11/1994	38.2	959.5
		4/26/1995	27.8	969.9
		10/27/1995	34.9	962.8
		1/22/1996	22.0	975.7
		4/15/1996	28.5	969.2
		7/10/1996	32.6	965.1
		12/1/1998		inaccessible
		6/23/1999	31.7	966.0
		12/8/1999	36.3	961.4
		3/24/2003*	32.9	964.8
		6/22/2006	29.6	968.1
		12/19/2006	28.35	969.4
P-1	999.6	10/24/1990	37.9	961.7
• •	00010	10/25/1990	38.0	961.6
		11/2/1990	38.4	961.2
		11/6/1990	38.7	960.9
		11/16/1990	38.3	961.3
		11/23/1990	38.1	961.5
		11/28/1990	38.3	961.3
		12/5/1990	38.2	961.4
		3/18/1991	37.8	961.8
		3/29/1991	36.9	962.7
		4/3/1991	36.8	962.8
		4/9/1991	36.9	962.8 962.7
		4/16/1991	36.7	962.9
		4/18/1991	36.8	962.9 962.8
		4/10/1991	30.0	902.0



Table 1
Groundwater Elevation Data
2801 MacArthur Boulevard
Oakland, California

	TOC ¹		Groundwater	Groundwater
	Elevation		Depth	Elevation
Well	(feet)	Date	(feet)	(feet)
P-1		5/7/1991	36.2	963.4
ont.)		1/16/1992	36.6	963.0
on.)		3/9/1993	32.8	966.8
		6/1/1993	30.0	969.6
		12/13/1993	33.7	965.9
		3/7/1994	32.6 32.7	967.0
		8/23/1994		966.9
		10/11/1994	33.5	966.1
		4/26/1995	27.6	972.0
		10/27/1995	31.8	967.8
		1/22/1996	33.3	966.3
		4/15/1996	28.2	971.4
		7/10/1996	29.3	970.3
		12/1/1998	31.9	967.7
		12/8/1999	32.7	967.0
		6/21/2006	26.1	973.5
		12/19/2006	33.0	966.6
P-2	997.8	10/24/1990	41.1	956.7
		10/25/1990	40.6	957.2
		11/2/1990	38.4	959.4
		11/6/1990	37.0	960.8
		11/16/1990	37.4	960.4
		11/23/1990	35.9	961.9
		11/28/1990	35.4	962.4
		2/5/1990	35.0	962.8
		3/18/1991	31.4	966.4
		3/29/1991	28.2	969.6
		4/3/1991	26.8	971.0
		4/9/1991	26.5	971.3
		4/16/1991	26.5	971.3
		4/18/1991	26.5	971.3
		4/30/1991	26.7	971.3
		5/7/1991	20.7	970.8
		1/16/1992	33.7	964.1
		3/9/1993	23.6	964.1 974.2
		5/17/1993	23.0	974.2 974.1
			23.7 24.4	974.1 973.4
		6/1/1993 8/17/1993	28.3	
				969.5
		12/13/1993	31.0	966.8
		3/7/1994	25.4	972.4
		8/23/1994	30.3	967.5
		10/11/1994	32.3	965.5
		4/26/1995	19.9	977.9
		10/27/1995	29.6	968.2
		1/22/1996	27.4	970.4
		4/15/1996	21.3	976.5
		7/10/1996	25.0	972.8
		12/1/1998	28.2	969.6
		6/23/1999	24.8	973.0

Table 2 Summary of Analytical Results - Groundwater Well Samples 2801 MacArthur Boulevard Oakland, California

				TPH			BT	EX			Fi	ve Fuel Oxygena	tes		Lead So	avengers
Sample	Sample	Elevation	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl benzene	Total Xylenes	МТВЕ	Di- isopropyl ether (DIPE)	Ethyl tert- butyl ether (ETBE)	Tert-amyl methyl ether (TAME)	Tert -Butanol (TBA)	1-2, Dibromoethane (EDB)	1,2- Dichloroethane (DCA)
	-		-						•		(m)	<i>(m</i>)	<i>(</i>)	<i>(</i> m)	<i>(m</i>)	<i>(m</i>)
Location	Date	(feet)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
P-1	1/16/1992	963.0	6,700			500	4.4	80	40							
	3/9/1993	966.8	5,600			1,100	29	63	120							
	6/21/2006	973.5	3,200	610	90	430	2.6	31	6.4	6.4	1.8	<0.5	<0.5	80	<0.5	<0.5
	12/20/2006	966.6	1,700	200LY	<300	70	0.7	2.4	1.4	6	2.5	<0.5	<0.5	82	<0.5	<0.5
P-2	11/6/1000	960.4	33,000			4,700	2,100	380	630							
P-2	11/6/1990 1/16/1992	960.4 964.1	99,000			4,700	12,000	2,000	16,000							
			,			· · · · · · · · · · · · · · · · · · ·	,	,	,							
	3/9/1993	974.2	70,000			5,900	11,000	2,100	12,000							
	5/17/1993	974.1	87,000			6,600	13,000	2,200	13,000							
	8/17/1993	969.5	80,000			5,800	12,000	2,000	12,000							
	12/13/1993	966.8	100,000			5,600	12,000	2,200	14,000							
	3/7/1994	972.4	77,000			5,100	11,000	2,000	12,000							
	8/23/1994	967.5	70,000			3,800	8,700	1,500	9,900							
	4/27/1995	977.5	44,000			3,600	8,500	1,500	9,300							
	10/30/1995	968.2	66,000			4,600	11,000	2,100	13,600							
	4/17/1996	976.5	58,000			4,800	9,900	1,900	12,900							
	6/23/1999	973.0	57,000			1,800	4,700	1,300	9,300	<25						
	12/9/1999	966.6	32,000			1,500	3,200	700	5,100	<0.5						
	3/24/2003	972.0	54,000			750	3,000	1,200	7,100	<13						
	6/21/2006	975.2	37,000	2,600	75	850	2,100	1,400	6,700	<0.5	<0.5	<0.5	<0.5	<10	<0.5	2.7
	12/20/2006	971.1	41,000	4,200LY	<300	990	2,200	1,700	7,700	<17	<17	<17	<17	<330	<17	<17
P-3	8/17/1993	970.6	900			180	65	10	93							
1-5	10/30/1995	970.0 971.3	2000			650	45	31	156							
	6/23/1999	974.6	14,000			3,300	190	140	756	<10						
	12/9/1999	974.0 967.8	1,500			3,300	52	57	210	<0.5						
	12/9/1999	907.8	1,500			3,700	52		Abandoned	<0.5						
M-1	6/22/2006	974.4	2,800	250	<50	<0.5	<0.5	0.53	1.91	2.3	<0.5	<0.5	<0.5	<10	<0.5	<0.5
	12/20/2006	968.6	2,100	220LY	<300	<0.5	<0.5	<0.5	<1.5	2.2	<0.5	<0.5	<0.5	<10	<0.5	<0.5
M-2	5/7/1991	968.3	16,000			1,300	950	170	890							
=	1/16/1992	964.5	22,000			960	570	370	1,800							
	3/9/1993	966.0	27,000			1,100	970	490	1,400							
	5/17/1993	972.4	17,000			1,200	770	480	1,300							
	8/17/1993	969.2	20.000			1,700	910	540	1,400							
	12/13/1993	909.2 965.6	20,000 51,000			2,200	1,400	700	2,600							
	3/7/1993	969.5	28,000			1,400	900	640	1,800							
	8/23/1994	969.5 967.3	28,000			1,400	900 540	520	1,800							
	4/26/1994	967.3 975.2	21,000			1,800	540 510	520 490	870							
	4/26/1995	975.2 968.2	16,000			1,200	830	490 470	1,120							
	4/17/1995	968.2 974.0	10,000			1,700	830 610	470 380	810							
	4/17/1996 6/23/1999	974.0 972.4	,			1,300	610 19		810 24.8	410						
		-	1,900					32 240		-						
	12/9/1999	965.9	11,000			560	130		265 to Locate Well	<0.5						
Comme	ercial ESLs (Indo	or Air)*	NA	NA	NA	6,400	530,000	170,000	160,000	150,000	NE	NE	NE	NA	770	1,700
		· · ··· /				-,	,000	,	,		· •	· • • •	· •			
	ntial ESLs (Indoo	or Air)**	NA	NA	NA	1,900	530,000	170,000	160,000	45,000	NE	NE	NE	NA	230	490

Ê\$



	Table 2
Summary of	Analytical Results - Groundwater Well Samples
	2801 MacArthur Boulevard
	Oakland, California

				ТРН			BT	EX			Fi	ve Fuel Oxygenat	tes		Lead So	avengers
Sample	Sample	Elevation	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl benzene	Total Xylenes	МТВЕ	Di- isopropyl ether (DIPE)	Ethyl tert- butyl ether (ETBE)	Tert-amyl methyl ether (TAME)	Tert -Butanol (TBA)	1-2, Dibromoethane (EDB)	1,2- Dichloroethane (DCA)
Location	Date	(feet)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
Location	Date	(1001)	(ug/i)	(ugn)	(ugn)	((19/1)	(ug/i)	(ug/l)	(49/1)	(ug/i)	(ug/l)	(ug/i)	(ug/i)	(ug/i)	(ug/i)	(ugn)
M-3	5/17/1993	970.6	<50			<0.5	<0.5	<0.5	<0.5							
	8/17/1993	967.8	<50			<0.5	<0.5	<0.5	<0.5							
	12/13/1993	967.0	<50			<0.5	<0.5	<0.5	<0.5							
	3/7/1994	969.7	<50			<0.5	<0.5	<0.5	<0.5							
	8/23/1994	967.0	<50			<0.5	<0.5	<0.5	<0.5							
	4/27/1995	973.2	<50			<0.5	<0.5	<0.5	<0.5							
	3/24/2003	968.9	<50			<0.5	<0.5	<0.5	<0.5							
								Well	l Abandoned	l					I	
M-4	5/17/1993	965.8	7,500			1,200	230	11	350							
	8/17/1993		13,000			3,000	330	130	700							
	12/13/1993	962.8	11,000			2,700	190	90	360							
	3/7/1994	966.6	3,800			980	33	49	140							
	8/23/1994	964.2	19,000			5,800	200	460	630							
	4/27/1995	969.8	2,300			510	40	69	120							
	11/1/1995	965.4	1,100			470	14	23	26							
	4/17/1996	969.5	550*			330	<2.5	5.9	16.1							
	6/23/1999	967.8	4,000			<0.5	69	190	195	<0.5						
	12/9/1999	964.3	1,500			2,500	32	140	88	<0.5						
	3/24/2003	966.2	6,500			1,900	35	92	58	<7.1						
	6/21/2006	969.0	3,000	260	71	480	9.6	10	17.5	<0.5	1.3	<0.5	<0.5	32	<0.5	<0.5
	12/20/2006	964.5	1,800	140LY	<300	430	<0.5	<3.1	9.5	<3.1	<3.1	<3.1	<3.1	<63	<3.1	<3.1
M-5	8/23/1994	961.1	<50			<0.5	<0.5	<0.5	<0.5							
	4/27/1995	972.4	<50			<0.5	<0.5	<0.5	<0.5							
	11/1/1995	961.4	<50			<0.5	<0.5	<0.5	<0.5							
	4/17/1996	971.2	<50			<0.5	<0.5	<0.5	<0.5							
	6/23/1999	966.4	<50			<0.5	<0.5	<0.5	<0.5	<0.5						
	12/9/1999	960.9	<50			<0.5	<0.5	<0.5	<0.5	<0.5						
	3/24/2006	967.0	<50			<0.5	<0.5	<0.5	<0.5	<0.5						
	6/22/2006	969.0	<50	<50	<50	<0.5	<0.5	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5
	12/20/2006	964.8	<50	<50	<300	<0.5	<0.5	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5
M-6	10/11/1994	959.5	3,600			340	27	65	240							
	4/26/1995	969.9	150			9.3	<0.5	5.6	1.7							
	11/1/1995	962.8	170			0.6	<0.5	<0.5	0.6							
	1/22/1996	975.7	<50			<0.5	< 0.5	< 0.5	<0.5							
	4/17/1996	969.2	<50			<0.5	<0.5	<0.5	1							
	7/12/1996	965.1	<50			<0.5	<0.5	<0.5	<0.5							
	11/7/1996		<50			<0.5	<0.5	<0.5	<0.5							
	6/23/1999	966.0	340			14	<0.5	19	<0.5	<0.5						
	12/9/1999	961.4	120			3.7	<0.5	<0.5	<0.5	<0.5						
	3/24/2003	964.8	<50			<0.5	<0.5	<0.5	<0.5	<0.5						
	6/22/2006	968.1 969.4	67 <50	69 <50	160	<0.5 <0.5	<0.5	<0.5 <0.5	<1.5	<0.5	< 0.5	<0.5 <0.5	< 0.5	<10	< 0.5	<0.5 <0.5
Comme	12/20/2006 rcial ESLs (Indo		<50 NA	<50 NA	< <u>300</u> NA	<0.5 6,400	<0.5 530,000	<0.5 170,000	< <u>1.5</u> 160,000	< <u>0.5</u> 150,000	< <u>0.5</u> NE	<0.5 NE	< <u>0.5</u> NE	<10 NA	<0.5 770	< <u>0.5</u> 1,700
	tial ESLs (Indoo		NA	NA	NA	1,900	530,000	170,000	160,000	45,000	NE	NE	NE	NA	230	490
		,														
Pacidan	tial ULRs (Indoo	r Air)^^^	NE	NE	NE	5,600	>Sol	>Sol	>Sol	>Sol	NE	NE	NE	NE	NE	15,000

 Notes

 TPHg = Total volatile hydrocarbons in the gasoline range.

 TPHd = Total volatile hydrocarbons in the diesel range.

 TPHmo = Total volatile hydrocarbons in the motor oil range.

 MTBE = Methyl tert butyl ether

 ug/l = Micrograms per liter = parts per billion.

 <50 = Analyte not present at a concentration above the stated detection limit.</td>

 * = Sample exhibits a fuel pattern which does not resemble the standard.

 -- = Sample not analyzed for analyte.

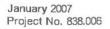
 NE = Not established

 NA = No applicable value, SFRWQCB requires use of soil gas values to determine potential risk

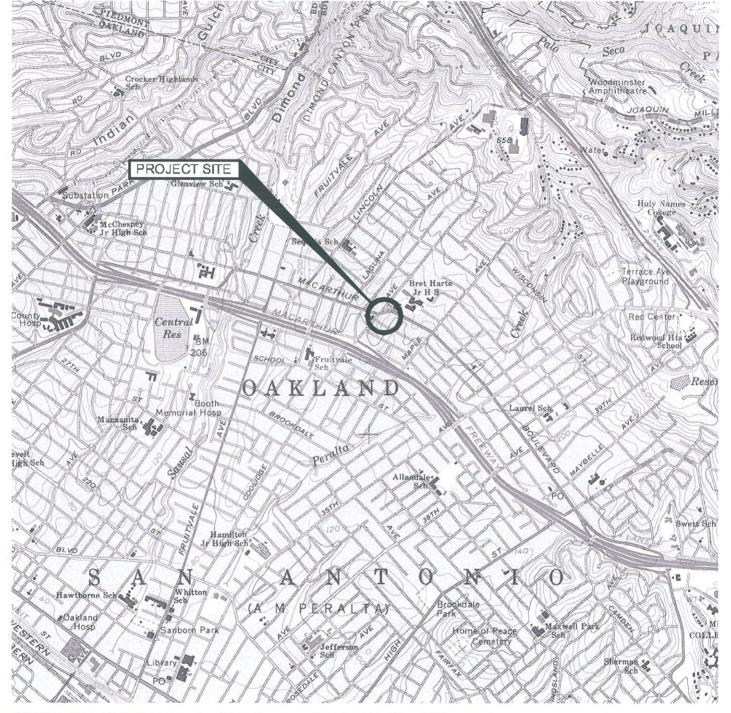
ESL= Environmental Screening Levels Established by The SFRWQCB, February 2005. SFRWQCB = San Francisco Bay Regional Water Quality Control Board * = Table E-1a: Groundwater Screening Levels for Evaluation of Potential Commercial Indoor Air Impacts Interim Final - February 2005 ** = Table E-1a: Groundwater Screening Levels for Evaluation of Potential Residential Indoor Air Impacts Interim Final - February 2005 *** = City of Oakland Urban Land Reuse (ULR) Risk Based Screening Levels for Residential Indoor Air Impact January 2001, Table 7. Oakland Tier 2 Site Specific Target Levels for Clayey Silts >Sol = Value exceeds solubility of chemical in water



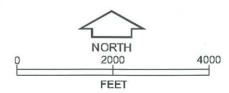
PLATES







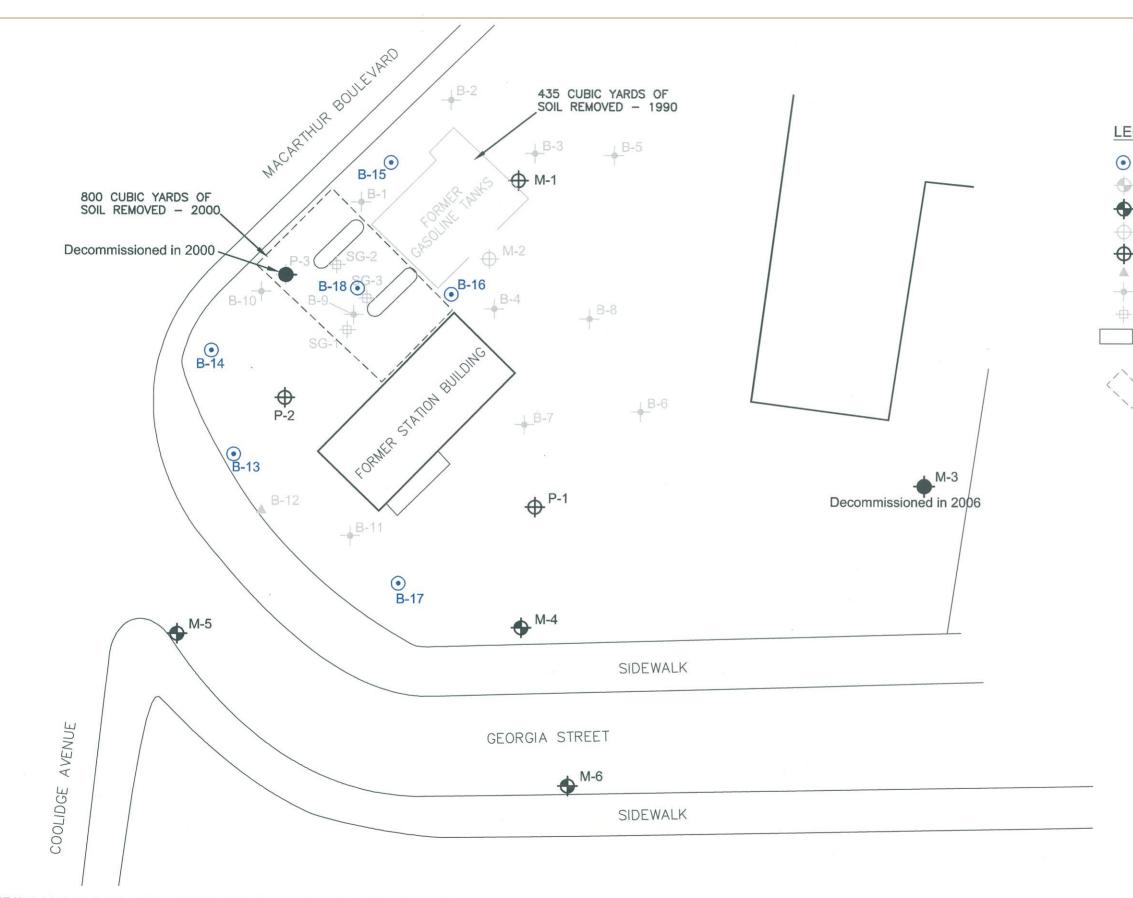
SOURCE: This Vicinity Map is based on Subsurface Consultants, Inc., Plate 1 dated 08/99.



VICINITY MAP 2801 MacArthur Blvd. Oakland, California

PLATE 1

January 2007 Project No. 838.006



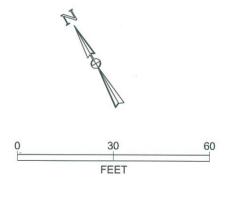
BASE MAP SOURCE: This Site Plan is based on Subsurface Consultants, Inc., Plate 3 dated 08/99.

-25



EGEND	Explanation:
)	Approximate Location Of Fugro Boring (2006)
\rightarrow	Monitoring Well by SCI
\rightarrow	Monitoring Well Sampled (2006)
)	Monitoring Well by Others
}	Monitoring Well by Others Sampled (2006)
L	Test Boring by SCI
)—	Test Boring by Others
}-	Soil Vapor and Soil Sampling Location by SCI
	Former Tank Excavation (1989)

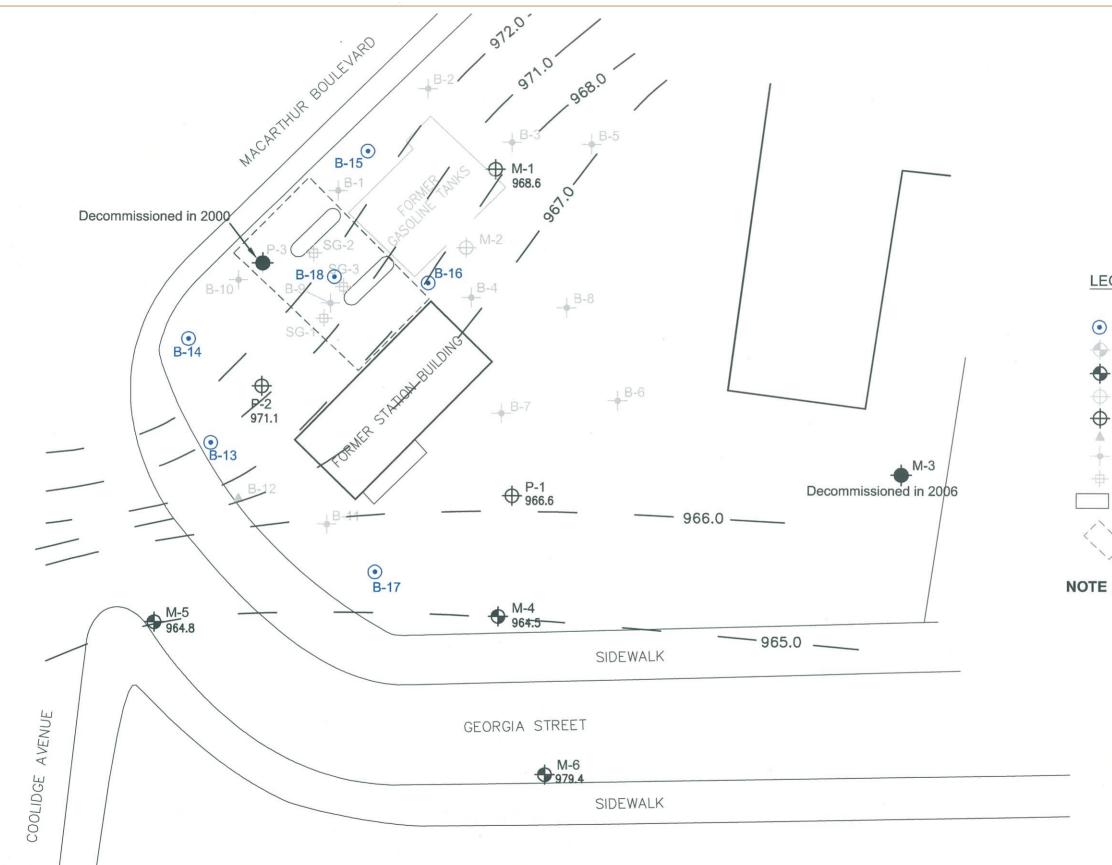
CAP Excavation Area



SITE PLAN 2801 MacArthur Blvd. Oakland, California

PLATE 2

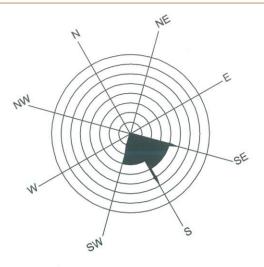
January 2007 Project No. 838.006



BASE MAP SOURCE: This Site Plan is based on Subsurface Consultants, Inc., Plate 3 dated 08/99.

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LEGEND

- Explanation:
- Approximate Location Of Fugro Boring (Summer 2006)
- Monitoring Well by SCI
- Monitoring Well Sampled (Fall 2006)
- Monitoring Well by Others
- Monitoring Well by Others Sampled (Fall 2006)
- Test Boring by SCI
- Test Boring by Others
- Soil Vapor and Soil Sampling Location by SCI
- Former Tank Excavation (1989)

CAP Excavation Area

NOTE: GROUNDWATER ELEVATIONS BASED ON SURVEY FROM ASSUMED DATUM (CORNER OF NORTHERN PUMP ISLAND) NORTHERN PUMP ISLAND DEMOLISHED (2003)



GROUNDWATER SURFACE MAP DECEMBER 2006 2801 MacArthur Blvd. Oakland, California

PLATE 3

APPENDIX A WELL SAMPLING FORMS, LABORATORY REPORTS AND CHAIN OF CUSTODY DOCUMENTS



PROJECT NAME:	2801 Mac	Arthur Blvo	t						
PROJECT NO .:	838.006								ī
SAMPLED BY:	Obi Nzewi					- WE		WELL NO.: P DIAMETER: 2	<u></u>
DATE:	12/19/200				······································				2 3
WEATHER:	Brig	ht su	inny	cold.		-			·····
TOTAL DEPTH OF CAS	SING (BTOC):_ <u>38</u>	.5′	_FEET	CALCULATED	PURGE VO	LUME:	2.7	gallon
DEPTH TO GROUNDW	ATER (BTO	c) <u>: 33</u>	·D	FEET	(feet of water *		.0408 * # o	f Volumes)	• · · · · ·
FEET OF WATER IN W	ELL:	5	-5	FEET	FREE PRODU	CT:	NA		
					PURGE METH	OD:	Clean Dis	posable Bailer	
MEASUREMENT METH	IOD: ELECT	RONIC SC		or OTHER			 .		
				FIELD MEASURE	EMENTS				
GALLONS REMOVED	T 18 477	_		CONDUCTIVITY		ORP	DO	COMMENTS	
Downhole (Pre-Purge)	TIME	Temp	pH	(µMHOS/CM)	TDS (g/L)	(mV)	(mg/l)	(odor, color,)	
J	1242	19:46	6.74	1201	0.875	-7.3	A 62	<u>(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	
ź	1250	19.87	6.96	12.86	0427	- 13.	HSD		
	100f	19.07	702	1308	0.947	-9.7	3.11		
						-			
									······
	<u> </u>								
······································									
	L	L	[·····		·····			
					7/0	Y			
ACTUAL DEPTH TO GRO	OUNDWATE	R BEFORI	E SAMPLIN	IG (BTOC)	35.8	5		3010	
							TIME SAM	PLED: 1215	
SAMPLING METHOD				·····					
			/				/		
CONTAINERS / PRESER		40	ML			Lľ	ER		
JONTAINERS / PRESER									
JUNIAINERS / PRESER		/					/		
LONTAINERS / PRESER	-	/					/		
	- amples are fi	Po Po	ly		_	оті	HER		
NALYSES: (Note if any s		ield filtered	I)						
NALYSES: (Note if any s X 1	TEHd, TEHm	ield filtered o (8015 w/) Silica gel)			esticides (808			
NALYSES: (Note if any s X 1 X 1	TEHd, TEHm TVHg, BTEX,	ield filtered o (8015 w/ MTBE (80) / Silica gel))15/8020)		P(esticides (808 CBs (8080)	0)		
NALYSES: (Note if any s X 1 X 1 X 7	TEHd, TEHm TVHg, BTEX, ⁻ uel Oxygena	ield filtered o (8015 w/ MTBE (80 ites and Le) / Silica gel))15/8020)		PC	esticides (808 CBs (8080) Ilfate (300.0)	0)		******
NALYSES: (Note if any s X 1 X 1 X F	TEHd, TEHm TVHg, BTEX, ⁻ uel Oxygena HVOCs (8260	ield filtered o (8015 w/ MTBE (80 ites and Le))) / Silica gel))15/8020) pad Scaven		PC Su Nit	esticides (808 CBs (8080) Ilfate (300.0) trate (300.0)	60)		
NALYSES: (Note if any s X 1 X 1 X F	TEHd, TEHm TVHg, BTEX, ⁻ uel Oxygena	ield filtered o (8015 w/ MTBE (80 ites and Le))) / Silica gel))15/8020) pad Scaven		PC Su Nit	esticides (808 CBs (8080) Ilfate (300.0)	60)		
NALYSES: (Note if any s X 1 X 1 X F	TEHd, TEHm TVHg, BTEX, ^F uel Oxygena HVOCs (8260 Fitle 22 Metals	ield filtered o (8015 w/ MTBE (80 ates and Le)) s (6010/90) / Silica gel))15/8020) ad Scaven 00)		P(Su Nil Fe	esticides (808 CBs (8080) Ilfate (300.0) trate (300.0) ²⁺ - Field Filt	i0) ered		



PROJECT NO .:	2001 Mac	Arthur Blv	d						
	838.006			······································		<u> </u>		1	0 -
SAMPLED BY:	Obi Nzew	and the second se		······································			1.040000	WELL NO.: 2	<u> Z</u>
DATE:	12/19/200				·····	- **CL			
WEATHER:	Brig	ht s	uny	mild			100	ELEVATION:	·····
TOTAL DEPTH OF CA	SING (BTOC):_ <u>H2</u>	.35	FEET	CALCULATED		LUME:	7-67	gallor
DEPTH TO GROUNDV	VATER (BTO	ci:26	.67	FEET	(feet of water *	' casing dia ² *	.0408 * # (of Volumes)	
FEET OF WATER IN W	VELL:	15	•68	_FEET	FREE PRODU	CT:	NA		
					PURGE METH	OD:	Clean Dis	sposable Bailer	
MEASUREMENT METH	HOD: ELECT	RONIC SC	DUNDER	or OTHER	· · · · · · · · · · · · · · · · · · ·		-		
				FIELD MEASURI	EMENTS				an a
GALLONS REMOVED	Titer	_		CONDUCTIVITY		ORP	DO		en de la service. T
Downhole (Pre-Purge)		Temp	pH	(µMHOS/CM)	TDS (g/L)	(mV)	(mg/l)	COMMENTS (odor, color,)	
<u> </u>	11 8	20.07		482	0346	69.5	521	Hydroiantoon	Odor
5	1H28 1H30	20.07		492	0.354	66.2	3.40	//	UTION
7.7	1435	19.92	10.00	492	0.354	68.2	3.55	11	
	1433	1172	7.48	519	0.373	+3.5	3.51	11	
	1				<u> </u>			· · · · · · · · · · · · · · · · · · ·	
······································									
		<u> </u>		······································					
	and the second sec	A	L		/ F	the second se	1		
					20		<u>l</u>]
	OUNDWATE	R BEFORI	E SAMPLIN	IG (BTOC):	28.6	\$	TIME SAM	PLED: 133	35
ACTUAL DEPTH TO GR		R BEFOR	E SAMPLIN	IG (BTOC);	28.6	\$	TIME SAM	PLED: 133	35
	<u></u>		E SAMPLIN	IG (BTOC):	28.6	\$	TIME SAM	PLED: 133	35
	<u></u>	R BEFOR		IG (BTOC):	28.6	LIT	/	PLED: 133	35
	<u></u>			IG (BTOC):	28.6		/	PLED: 133	35
AMPLING METHOD		40 I	ML.	IG (BTOC):	28.6		ER	PLED: 133	35
AMPLING METHOD	RVATIVE:	40 I Pol	y ML y	IG (BTOC):	28.6	Lit	ER	PLED: 133	35
AMPLING METHOD	RVATIVE: 	40 I Pol eld filtered o (8015 w/	VIL Vy Silica gel)	IG (BTOC):	28.6	СП	ER / /	PLED: 133	35
AMPLING METHOD ONTAINERS / PRESER NALYSES: (Note if any s X 1 X 1	RVATIVE: samples are fi TEHd, TEHma TVHg, BTEX,	40 I Pol eld filtered o (8015 w/ MTBE (80	WL y Silica gel) 15/8020)			Lit	ER / /	PLED: 133	35
AMPLING METHOD ONTAINERS / PRESER NALYSES: (Note if any s X T X T	RVATIVE: samples are fi TEHd, TEHmo TVHg, BTEX, Fuel Oxygena	40 I Pol eld filtered o (8015 w/ MTBE (80 tes and Le	WL y Silica gel) 15/8020)		PC	LIT OTH esticides (8080 CBs (8080)	ER / /	PLED: 133	35
AMPLING METHOD ONTAINERS / PRESER NALYSES: (Note if any s X T X T X F	RVATIVE: samples are fi TEHd, TEHm TVHg, BTEX, Fuel Oxygena HVOCs (8260	40 I Pol eld filtered o (8015 w/ MTBE (80 tes and Le)	ML y Silica gel) 15/8020) ad Scaven		P(Su Nit	LIT OTH esticides (8080) CBs (8080) ilfate (300.0) irate (300.0)	ER // //ER D)	PLED: 133	35
SAMPLING METHOD SONTAINERS / PRESER NALYSES: (Note if any s X T X T X F F	RVATIVE: Samples are fi TEHd, TEHm TVHg, BTEX, Fuel Oxygena HVOCs (8260 Fitle 22 Metals	40 I Pol eld filtered o (8015 w/ MTBE (80 tes and Le)	ML y Silica gel) 15/8020) ad Scaven		P(Su Nit	LIT OTH esticides (808() CBs (8080) ilfate (300.0)	ER // //ER D)	PLED: 133	35
AMPLING METHOD ONTAINERS / PRESER NALYSES: (Note if any s X T X T X F	RVATIVE: samples are fi TEHd, TEHm TVHg, BTEX, Fuel Oxygena HVOCs (8260 Title 22 Metals ON:	40 I Pol eld filtered o (8015 w/ MTBE (80 tes and Le)	y y Silica gel) 15/8020) ad Scaven 00)		PC Su Nit Fe	LIT OTH esticides (8080) CBs (8080) ilfate (300.0) irate (300.0)	ER / IER D)	PLED: 133	35



PROJECT NO.: 838.006 Well NO.: M - 1 SAMPLED BY: Obi Nzewi Well NO.: M - 1 DATE: 12/19/2006 Well CASING DIAMETER: 2" WEATHER: Bright Sunny Mild TOC ELEVATION: 1000000000000000000000000000000000000	PROJECT NAME:	000			an an an an an an an Anna an	PLING FORM				0.532012
SAMPLED BY: ObliNzewi 12/19/2006 WELL AGSING DAMETER 2/* DATE: Bongh Strucky Muild WELL AGSING DAMETER CORE VOLUME: 2/* TOTAL DEPTH OF CASING (BTOC): #S.O. FEET CALCULATED PURGE VOLUME: 6/-6/5 gailons DEPTH TO GROUNDWATER (BTOC): #S.O. FEET CALCULATED PURGE VOLUME: 6/-6/5 gailons DEPTH TO GROUNDWATER (BTOC): #S.O. FEET CALCULATED PURGE VOLUME: 6/-6/5 gailons FEET OF WATER IN WELL:			Arthur Blvg	<u>t</u> t						
WEATHER: Bright Purnuy Nulld TOC ELEVATION: TOTAL DEPTH OF CASING (BTOC): <u>HSO</u> FEET CALCULATED PURGE VOLUME: <u>J:65</u> galions DEPTH TO GROUNDWATER (BTOC): <u>31.4</u> FEET FREE PRODUCT: NA	_				······································				WELLNO · 🐲 🗖	M-1
WEATHER: Bright Purnuy Nulld TOC ELEVATION: TOTAL DEPTH OF CASING (BTOC): <u>HSO</u> FEET CALCULATED PURGE VOLUME: <u>J:65</u> galions DEPTH TO GROUNDWATER (BTOC): <u>31.4</u> FEET FREE PRODUCT: NA							WEI	L CASING		1111
TOTAL DEPTH OF CASING (BTOC): <u>HS-O</u> FEET CALCULATED PURGE VOLUME: <u>J-65</u> gallons DEPTH TO GROUNDWATER (BTOC): <u>3</u> 1. <u>H</u> FEET FREE PRODUCT: NA)					When we are a state of the stat	
DEPTH TO GROUNDWATER (BTOC): 3 [. H		born	gn i	nin	y Mild					
FREE OF WATER IN WELL: <u>j</u> 3 · b _ FEET FREE PRODUCT: NA PURGE METHOD: Clean Disposable Bailer MEASUREMENT METHOD: ELECTRONIC SOUNDER) or OTHER					FEET	CALCULATE	D PURGE VO	LUME:	6.65	gallons
CELLON WATER IN WELL: Image: Constraint of the constrain	DEPTH TO GROUNDW	ATER (BTC)c) <u>: 31</u>	<u>• H</u>	FEET	(leet of water	* casing dia* *	.0408 * # c	of Volumes)	
Interviewed and the second se	FEET OF WATER IN W	ELL:	<u> </u>	·b	FEET	FREE PRODU	JCT:	NA		·····
MEASUREMENT METHOD: LECTRONIC SOUNDER) or OTHER FIELD MEASUREMENTS COMDUCTIVITY ORP DO COMMENTS COMMENTS COMDUCTIVITY ORP DO COMMENTS COMDUCTIVITY ORP DO COMMENTS ONDUCTIVITY ORP DO COMMENTS ONDUCTIVITY ORP DO COMMENTS ONDUCTIVITY ORP DO COMMENTS ONDUCTIVITY ORP DO COMMENTS ACTUAL DEPTH TO GROUNDWATER BEFORE SAMPLING (BTOC): TIME SAMPLED: OTHER ACTUAL DEPTH TO GROUNDWATER BEFORE SAMPLING (BTOC): CONTAINERS / PRESERVATIVE: 40 ML LITER					••• · · · · • •	PURGE METH	HOD:	Clean Dis	posable Bailer	
GALLONS REMOVED TIME Temp PH CONDUCTIVITY ORP DO COMMENTS Downhole (Pre-Purge) 134/4 19:50 6.9 9.7 0.7 -3.9.9 5.28 21.3 1.0 <td>MEASUREMENT METH</td> <td>OD: ELECT</td> <td>RONIC SC</td> <td>UNDER</td> <td>or OTHER</td> <td></td> <td></td> <td></td> <td></td> <td></td>	MEASUREMENT METH	OD: ELECT	RONIC SC	UNDER	or OTHER					
GALLONS REMOVED TIME Temp PH CONDUCTIVITY ORP DO COMMENTS Downhole (Pre-Purge) 134/4 19:50 6.9 9.7 0.7 -3.9.9 5.28 21.3 1.0 <td></td> <td></td> <td></td> <td></td> <td></td> <td>MENTS</td> <td></td> <td> Verstaanse van de server</td> <td></td> <td></td>						MENTS		 Verstaanse van de server		
Downhole (Pre-Purge) 13H4 19-59 67 7 -39-9 5-28 21 3 5 0 2007 1007 <t< td=""><td>GALLONE DEMOVED</td><td></td><td></td><td></td><td></td><td></td><td>aa()</td><td><u>م</u> مم</td><td></td><td></td></t<>	GALLONE DEMOVED						aa()	<u>م</u> مم		
2 1350 20-02 9710 981 0.+ 239.4 528 239.4 ngdncarbon kdn 4 1400 20:65 2:15 1011 0.726 -49.8 641 4 6:5 1412 20:65 2:15 1011 0.726 -49.8 641 4 6:5 1412 20:65 2:15 1011 0.722 -58.0 3:28 11 6:5 1412 20:65 7:17 100b 0.722 -58.0 3:28 11 actual bepth to groundwater before sampling (btoc): 11 11 12 13 0 sampling Method					(µMHOS/CM)					
4 14 00 20:52 570 481 0.7205 - 449.8 641 0 1.300 6:6 14 12 20:06 717 1000 0.722 - 58:0 0 3:24 11 6:6 14 12 20:06 717 1000 0.722 - 58:0 0 3:24 11 Actual depth to groundwater before sampling (BTOC): Mile 11 11 0.722 - 58:0 0 3:24 11 Actual depth to groundwater before sampling (BTOC): Mile 11 11 11 11 Sampling Method				Anna and and and and and and and and and			-39.9		Viet & hundressen	has all
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			20.02				- 29.8	691	- J- nyavuar	tern nary
ACTUAL DEPTH TO GROUNDWATER BEFORE SAMPLING (BTOC): ACTUAL DEPTH TO GROUNDWATER BEFORE SAMPLING (BTOC): SAMPLING METHOD CONTAINERS / PRESERVATIVE: 40 ML LITER Poly ANALYSES: (Note if any samples are field filtered) X TEHd, TEHmo (8015 w/ Silica gel) X TVHg, BTEX, MTBE (8015/8020) X Fuel Oxygenates and Lead Scavengers (8260) HVOCs (8260) Title 22 Metals (6010/9000) MISC FIELD OBSERVATION:							-49.H	3.66	11	
SAMPLING METHOD CONTAINERS / PRESERVATIVE: 40 ML Value Va			20.00	717	1006	0.722	-58.0	3.24	11	
SAMPLING METHOD CONTAINERS / PRESERVATIVE: 40 ML Value Va					·····					
SAMPLING METHOD CONTAINERS / PRESERVATIVE: 40 ML Value Va			1							
SAMPLING METHOD CONTAINERS / PRESERVATIVE: 40 ML Value Va					-					
SAMPLING METHOD CONTAINERS / PRESERVATIVE: 40 ML LITER Poly ANALYSES: (Note if any samples are field filtered) X TEHd, TEHmo (8015 w/ Silica gel) X TVHg, BTEX, MTBE (8015/8020) FCBs (8080) X Fuel Oxygenates and Lead Scavengers (8260) Sulfate (300.0) HVOCs (8260) Title 22 Metals (6010/9000) Fe ²⁺ - Field Filtered MISC FIELD OBSERVATION:	ACTUAL DEPTH TO GRO	DUNDWATE	R BEFORE	E SAMPLIN	IG (BTOC):	γ	16	TIME SAM	PLED: 1310]
40 ML LITER Poly OTHER ANALYSES: (Note if any samples are field filtered) X TEHd, TEHmo (8015 w/ Silica gel) X TEHd, TEHmo (8015 w/ Silica gel) Pesticides (8080) X TVHg, BTEX, MTBE (8015/8020) PCBs (8080) X Fuel Oxygenates and Lead Scavengers (8260) Sulfate (300.0) HVOCs (8260) Nitrate (300.0) Title 22 Metals (6010/9000) Fe ²⁺ - Field Filtered	SAMPLING METHOD									·······
40 ML LITER Poly OTHER ANALYSES: (Note if any samples are field filtered) X TEHd, TEHmo (8015 w/ Silica gel) X TEHd, TEHmo (8015 w/ Silica gel) Pesticides (8080) X TVHg, BTEX, MTBE (8015/8020) PCBs (8080) X Fuel Oxygenates and Lead Scavengers (8260) Sulfate (300.0) HVOCs (8260) Nitrate (300.0) Title 22 Metals (6010/9000) Fe ²⁺ - Field Filtered	CONTAINERS / PRESER	VATIVE:	/		······································					
Poly OTHER ANALYSES: (Note if any samples are field filtered) X TEHd, TEHmo (8015 w/ Silica gel) Pesticides (8080) X TVHg, BTEX, MTBE (8015/8020) PCBs (8080) PCBs (8080) X Fuel Oxygenates and Lead Scavengers (8260) Sulfate (300.0) PCBs (8080) HVOCs (8260) Nitrate (300.0) Nitrate (300.0) Title 22 Metals (6010/9000) Fe ²⁺ - Field Filtered MISC FIELD OBSERVATION:			40 1	AL.				/		
ANALYSES: (Note if any samples are field filtered) X TEHd, TEHmo (8015 w/ Silica gel) Pesticides (8080) X TVHg, BTEX, MTBE (8015/8020) PCBs (8080) X Fuel Oxygenates and Lead Scavengers (8260) Sulfate (300.0) HVOCs (8260) Nitrate (300.0) Title 22 Metals (6010/9000) Fe ⁻²⁺ - Field Filtered							LIT	ER		
ANALYSES: (Note if any samples are field filtered) X TEHd, TEHmo (8015 w/ Silica gel) Pesticides (8080) X TVHg, BTEX, MTBE (8015/8020) PCBs (8080) X Fuel Oxygenates and Lead Scavengers (8260) Sulfate (300.0) HVOCs (8260) Nitrate (300.0) Title 22 Metals (6010/9000) Fe ⁻²⁺ - Field Filtered								/		
X TEHd, TEHmo (8015 w/ Silica gel) Pesticides (8080) X TVHg, BTEX, MTBE (8015/8020) PCBs (8080) X Fuel Oxygenates and Lead Scavengers (8260) Sulfate (300.0) HVOCs (8260) Nitrate (300.0) Title 22 Metals (6010/9000) Fe ²⁺ - Field Filtered	A & L & S & S & S & S & S & S & S & S & S		Pol	У				/		
X TVHg, BTEX, MTBE (8015/8020) PCBs (8080) X Fuel Oxygenates and Lead Scavengers (8260) Sulfate (300.0) HVOCs (8260) Nitrate (300.0) Title 22 Metals (6010/9000) Fe ²⁺ - Field Filtered	ANALYSES: (Note if any sa	amples are t	ield filtered)			UIF	ICA		
X Fuel Oxygenates and Lead Scavengers (8260)	XI	EHd, TEHm	io (8015 w/	Silica gel)		P	esticides (808	0)		
A Fiber Oxygenates and Lead Scavengers (8260)	X I	VHg, BTEX,	MTBE (80	15/8020)				.,		******
	X P	uel Oxygena	ates and Le	ad Scaven	igers (8260)					
MISC FIELD OBSERVATION:										
DIGW at 80% Recovery = 37.68			s (6010/90)	00)		Fe	e ²⁺ - Field Filte	ered		
DIGW at 80% Recovery = 37.68	MISC FIELD OBSERVATIO	-	······							
y with		DIG	wat	80%	Reiman	11 -	27.68	1		
			·····			3	~ 00	······································		······································



	T NO.: 838.006		PLING FORM				han an a		
PROJECT NAME:	2801 Ma	cArthur Riv	đ		2011 - 12 - 12 - 12 - 12 - 12 - 12 - 12	an a	ana tana at tao 100000	1 1997년 11일 - 1998년 11일 전문 11일 - 11일 - 11일 - 11일 - 11일 전문 11일 - 11일 - 11일 - 11일 - 11일 - 11일 전문	
PROJECT NO .:		wandi biy	<u>u</u>			tel Anner			
SAMPLED BY:	Obi Nzev	<i>u</i> }					١	NELL NO.: 🥏 🚺	1-H
DATE:	12/19/20					WE	LL CASING D	NELL NO.:	<u>}</u>
WEATHER:	B~~		C					EVATION:	
		grir	sum	y mild		_			
TOTAL DEPTH OF CA				FEET	CALCULATE		UME:	5.1	gallons
DEPTH TO GROUND	VATER (BTC); <u>3 5</u>	.15	_FEET	(feet of water		* .0408 * # of \	/olumes)	
FEET OF WATER IN V	VELL:	<u> </u>	.50	FEET	FREE PRODU	JCT:	NA		
	\langle				PURGE METH	łOD:	Clean Dispo	sable Bailer	
MEASUREMENT METH	HOD ELEC	TRONIC SC	DUNDER	or OTHER					
				FIELD MEASURE	MENTS				And the states states of
_GALLONS REMOVED	Tiller			CONDUCTIVITY		ORP	DO	COMUSIC	
Downhole (Pre-Purge)	TIME 1300	Temp	pH	(µMHOS/CM)	TDS (g/L)	(mV)	(mg/l)	COMMENTS (odor, color,)	
2		14.8	6.81	747	OSH	-15.5	4.5	(0001, 00101,)	
4	1317	19.85		756	0.545	- 18.5	3.62		
5	1329	19.83		76H	0.551	-28.3	3.52		
	1529	19.90	6.91	777	0:561	-33.3	5.84		
······································		+							·····
ACTUAL DEPTH TO GR	OUNDWATE	RBEFOR	E SAMPLIN	IG (BTOC):	40.4	5		ED: 1245]
SAMPLING METHOD						-			
CONTAINERS / PRESER	VATIVE:	/	,	· · · · · · · · · · · · · · · · · · ·	2		/		····-
		40 !	WL			ـــــــــــــــــــــــــــــــــــــ			
		/							
		Pol	ly		—				
ANALYSES: (Note if any s	samples are i	field filtered)			OT	HER		
X	TEHd, TEHm	no (8015 w/	Silica gel)		D				
X	TVHg, BTEX	, MTBE (80	15/8020)		٣	esticides (808	30)	·····	
XI	Fuel Oxygena	ates and Le	ad Scaven	oers (8260)		CBs (8080)			
ł	HVOCs (826)))		3 (0200)		ulfate (300.0)			
	Fitle 22 Metal		00)		Ni	itrate (300.0) 2 ⁺ - Eicle Eit			****
MISC FIELD OBSERVATIO					fre	e ²⁺ - Field Fill	ered		
		~1.\ ~	1 200	ή					
	<u>_</u>	aw a	r 5070	Recovery	-= H2	181			
									······



	2801 Mac	Arthur Blvc	ł						
PROJECT NO .:	838.006								A 4 -
SAMPLED BY: DATE:	Obi Nzewi					 WE	LL CASING D	WELL NO.:	M - 5
WEATHER:	12/19/200)6						EVATION:	<u> </u>
WEATHER:	BMG	tht s	unn	y cold		·····		EVATION:	
				σ					
TOTAL DEPTH OF CAS				FEET	CALCULATE			H.8	gallo
DEPTH TO GROUNDW	ATER (BTO	c): 28	12	FEET	(**************************************	casing uia	.0406 " # 01	Volumes)	
FEET OF WATER IN W	ELL:	9	.88	_FEET	FREE PRODU	JCT:	NA		
					PURGE METH	HOD:	Clean Disp	sable Bailer	
MEASUREMENT METH	ODI ELECT	RONIC SC							
Managana ing kanang				GOTHER	·		****		
	6 met 5 - 61 - 17			FIELD MEASURE	MENTS				an a
GALLONS REMOVED	711.40	_		CONDUCTIVITY		ORP	DO		이 강성은 것
Downhole (Pre-Purge)	TIME	Temp	pН	(µMHOS/CM)	TDS (g/L)	(mV)	(mg/l)	COMMENTS (odor, color,)	
	<u> </u>	+	·····	<u> </u>	ļ		T	(0001, 00101,)	
			·····						·······
	·····								
			······						
	·····	f							
							[
			·····				1		
		L I			1		<u>├────</u> ├──		
		L		<u>]</u>]	161	0			
CTUAL DEPTH TO GRC	DUNDWATE		SAMPLI	NG (BTOC):	28.6	,8			
	DUNDWATE	R BEFORE	SAMPLI	NG (BTOC):	28.6	,8	TIME SAMPL	ed: 11.01	>
CTUAL DEPTH TO GRC		R BEFORE	SAMPLI	NG (BTOC):	28.6	,8	TIME SAMPL	ed: [], O [2
			E SAMPLI	NG (BTOC):	28.6	,8	TIME SAMPL	ed: 11.01	>
AMPLING METHOD		R BEFORE	· · · · · · · · · · · · · · · · · · ·	NG (BTOC):	28.6			ed <u>:</u> [[. O [2
AMPLING METHOD			· · · · · · · · · · · · · · · · · · ·	NG (BTOC):	28.6		TIME SAMPL	ed: 11.01	2
AMPLING METHOD		40 M	AL.	NG (BTOC):	28.6			ed <u>:</u> [[O]	2
AMPLING METHOD	/ATIVE: _	40 N	AL.	NG (BTOC):	28.6	Ln	 TER	ed: 11.01	>
AMPLING METHOD	VATIVE:	40 N Poly eld filtered)	AL y		28.6	Ln		ed: [[.0	2
AMPLING METHOD ONTAINERS / PRESERV VALYSES: (Note if any sa X T	ATIVE: amples are fi EHd, TEHma	40 N Poly eld filtered) p (8015 w/	ML y Silica gelì			LIN	ER HER	ed: 11, O I	2
AMPLING METHOD ONTAINERS / PRESERV VALYSES: (Note if any sa X T X T	VATIVE: amples are fi EHd, TEHma VHg, BTEX,	40 N Poly eld filtered) o (8015 w/ MTBE (80	/IL y) Silica gel) 15/8020))	- - -	LIN OTH Pesticides (808	ER HER	ed: 11.01)
AMPLING METHOD ONTAINERS / PRESERV VALYSES: (Note if any sa X T X T X T X Fi	ATIVE: amples are fi EHd, TEHma VHg, BTEX, uel Oxygena	40 N Poly eld filtered) o (8015 w/ MTBE (80 tes and Lea	/IL y) Silica gel) 15/8020)		– – – – – – – – –	LIN OTH Pesticides (808 CBs (8080)	ER HER	ED: 11.00	<u>)</u>
AMPLING METHOD ONTAINERS / PRESER\ NALYSES: (Note if any sa X T X T X T X Fu H	VATIVE: amples are fi EHd, TEHme VHg, BTEX, uel Oxygena VOCs (8260	40 N Poly eld filtered) o (8015 w/ MTBE (80 tes and Lea)	AL y Silica gel) 15/8020) ad Scavel)		LIN OTH lesticides (808 CBs (8080) ulfate (300.0)	ER HER	ED: 11.01	<u> </u>
AMPLING METHOD ONTAINERS / PRESER\ NALYSES: (Note if any sa X T X T X T X Fu H	ATIVE: amples are fi EHd, TEHma VHg, BTEX, uel Oxygena	40 N Poly eld filtered) o (8015 w/ MTBE (80 tes and Lea)	AL y Silica gel) 15/8020) ad Scavel)		LIN OTH Pesticides (808 CBs (8080) ulfate (300.0) itrate (300.0)	FER HER 0)	ED: 11.00)
AMPLING METHOD ONTAINERS / PRESERV IALYSES: (Note if any sa X T X T X Fi H	VATIVE: amples are fi EHd, TEHm VHg, BTEX, uel Oxygena VOCs (8260 tle 22 Metals	40 N Poly eld filtered) o (8015 w/ MTBE (80 tes and Lea)	AL y Silica gel) 15/8020) ad Scavel) ngers (8260)		LIN OTH Pesticides (808 CBs (8080) ulfate (300.0) itrate (300.0) e ^{2*} - Field Filt	FER HER 0)		
AMPLING METHOD ONTAINERS / PRESERV JALYSES: (Note if any sa X T X T X T X Ft H	VATIVE: amples are fi EHd, TEHm VHg, BTEX, uel Oxygena VOCs (8260 tle 22 Metals	40 M Poly eld filtered) o (8015 w/ MTBE (80) tes and Les) s (6010/900 YS	AL y Silica gel) 15/8020) ad Scaver 00) CUDLE)		LIN OTH Pesticides (808 CBs (8080) ulfate (300.0) itrate (300.0) e ²⁺ - Field Filt	FER HER 0)	ED: 11.01	2



	e e e e	-976-49		WELL SAM	PLING FORM				1
PROJECT NAME:	2801 Mac	Arthur Blvo	ł						SUSTREME S
PROJECT NO .:	838.006								÷
SAMPLED BY:	Obi Nzew	í	·····					WELL NO.: 2 M-	<u>b</u>
DATE:	12/19/200	06		******	······	WEI			
WEATHER:	Brig	ht Si	inn	y cold.			TOC	ELEVATION:	
TOTAL DEPTH OF CAS	SING (BTOC	»: <u> </u>	.7	_FEET	CALCULATE	D PURGE VOI	LUME:	14· 7 H	Gallone
DEPTH TO GROUNDW	ATER (BTO	c): 18	·35	FEET	(feet of water	* casing dia ² *	.0408 * # c	of Volumes)	gailons
FEET OF WATER IN WI	ELL:	29	. 35	FEET	FREE PRODU	JCT:	<u>NA</u>		
					PURGE METH	HOD:	Clean Dis	sposable Bailer	
MEASUREMENT METH	OD: ELECT	RONIC SC	UNDER	or OTHER			-		
				FIELD MEASURE	EMENTS				
_GALLONS REMOVED	·****	-		CONDUCTIVITY		ORP	DO	CONTRACTOR	
Downhole (Pre-Purge)	TIME	Temp	pH	(µMHOS/CM)	TDS (g/L)	(mV)	(mg/l)	COMMENTS (odor, color,)	
5	1150	20.01	+.15	351	0.253	1557	6.29		
10	1915	1945	7.00	373	0.271	137.9	5.5		
15	1221	19.2	bot	386	0.280	139.7	5.6	······································	
		11.4	7.18	475	0.347	57.5	2.97		
		1						······································	
		<u> </u>						····	
						·			
ACTUAL DEPTH TO GRC	DUNDWATE	R BEFORE	E SAMPLIN	IG (BTOC):	43,0	13	TIME SAM	PLED: 1/20	
ONTAINERS / PRESERV	/ A Th		,	······································	·····				
CHIMALING / FACOLAN	AIIVE:				_				
		40	VIL.			LIT	ER	**************************************	
		/					,		
	-	Pol					/		
NALYSES: (Note if any sa	moles are f	r u held filtered	y v			отн	IER		
ХТ	EHd, TEHm	o (8015 w/) Silico anti						
ХТ	VHg, BTEX,	MTRF (80	diica gei)			esticides (808)	0)		
				gers (8260)		CBs (8080)			
H	VOCs (8260))	Sa Guaven	iAcis (0%0A)		ulfate (300.0)			
Ti	tle 22 Metal	s (6010/90)	00)		N	itrate (300.0)		······································	
		,	1		Fe	e ²⁺ - Field Filte	ered	***** ********************************	
ISC FIELD OBSERVATIO	N:	Pil	rged	dry at	2 13.5	gallon	8		
	DIG	wa	t RD'	to becomen	11 = 7	7.001			
				WIND Y TAY	y	<u> ~ · V 2</u>			
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ANALYTICAL REPORT

Prepared for:

Fugro West Inc. 1000 Broadway Suite 440 Oakland, CA 94607

Date: 03-JAN-07 Lab Job Number: 191694 Project ID: 838.006 Location: 2801 MacArthur Blvd.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by	Project Manager
Reviewed by	
	Operations Manager

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CASE NARRATIVE

Laboratory number: Client: Project: Location: Request Date: Samples Received:

191694 Fugro West Inc. 838.006 2801 MacArthur Blvd. 12/21/06 12/21/06

This hardcopy data package contains sample and QC results for six water samples, requested for the above referenced project on 12/21/06. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

Many samples had pH greater than 2. The samples were analyzed within 7 days. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

A number of samples had pH greater than 2. The samples were not analyzed within 7 days. No other analytical problems were encountered.

	191694	5																												
CHAIN OF CUSTODY	A A	Λ		,		~ /																	<u>P</u>	AG	E	1	OF		1	
PROJECT NAME: 280/	Mac	Hr	th	r	l	5/1	ı d															Г		AN		(515	REQI	IECT	ED	
PROJECT NO : \$38.0	0(LA			Ċ	\$-	T	*********											1	77	K	\$ <u></u>				
PROJECT CONTACT: D61 N	zewi							ARC					rde		d							l	00] ,≈,	6	Š				
PROJECT CONTACT: Dbi N SAMPLED BY: Hana Ze	idenber	<u> </u>												1./\	$\overline{\mathbf{w}}$		·····						N	5108		(ag				
Т		\downarrow				.						T										200	₿ }		0	, L				
	MATRIX		CON.	ΓΑΙΝΕ	RS		PRE	ESEI	RVA'	TIVE	-			c		-	~ ~ ~	•				R		14						
LABORATORY I.D. NUMBER FIELD SAMPLE I.D.	~					1	T				<u>-</u>	┢			AIVI	LIN	G DA	15			-		12	<u>a</u> }-						
	WATER SOIL AIR	VOA	LITER	TUBE		HCL	H ₂ SO ₄	HNO3	ICE	OTHER	NONE	M	ONTH	DA	NY	YE	AR		TIME	:	NOTES	RTE.	PUL.	140	10000	V 61 6V				
<u>>1</u> <u>M-5</u>	XIII-	6							X		$\overline{\mathbb{X}}$	1	2	2	0	0	6	71	1 7	00		$\overline{\mathbf{k}}$	X							
-2 M-b -3 P-1 -4 M-4 -7 M-4	+	6				_					<u> X</u>		Z	Z	0	0	2	7	7 7			ťì	17	ſſ	\uparrow	+				
<u>-9</u> M-4		6									Γ×	Ļ	2	7	·		<u>é</u>	$\frac{1}{z}$	*********	5						<u> </u>				
		6		+		┟┈					R	7	2	2	0		6	4	2 4	15					4				_	
<u>-6</u> P-2	V	16	1								X	7		2		0			2/3			\mathbf{t}		₩	\mathbb{R}					┿╌┨
										*******			i ic		<u></u>			<u> </u>		+		4	V		Ľ	$\left \right $				+
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			<u> </u>																	-						<u>}</u> }		-	-	<u> </u>
СНА	AIN OF CUSTO	DDY F	RECOR	D	···						ſ	CO	MMEN	TS &	NO	rrc.						d			*********	••••••••••••••••••••••••••••••••••••••	L			المحسمة. ريسمي
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RELINQUISHED BY: (Signature)				3Y: (S	gnature)			ATE/		. 1																			
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ELINQUISHED BY: (Signature)		<u> </u>													Ň	له					100	0 Br	oa	dwa	ay, :	Suit	e 20	0		
(olynature)	DATE/TIME	RECE	EIVED E	BY: (Si	gnature)		DAT	E/TI	ME					\approx					1	Oak	lan	d, C	Cali	forr	nia 9	4607	7		
g:/server migration/data/template/chain															\sim				Т	əl: 5	10.2	68.()46	1	Fax	: 51	0.26	8.01	37	
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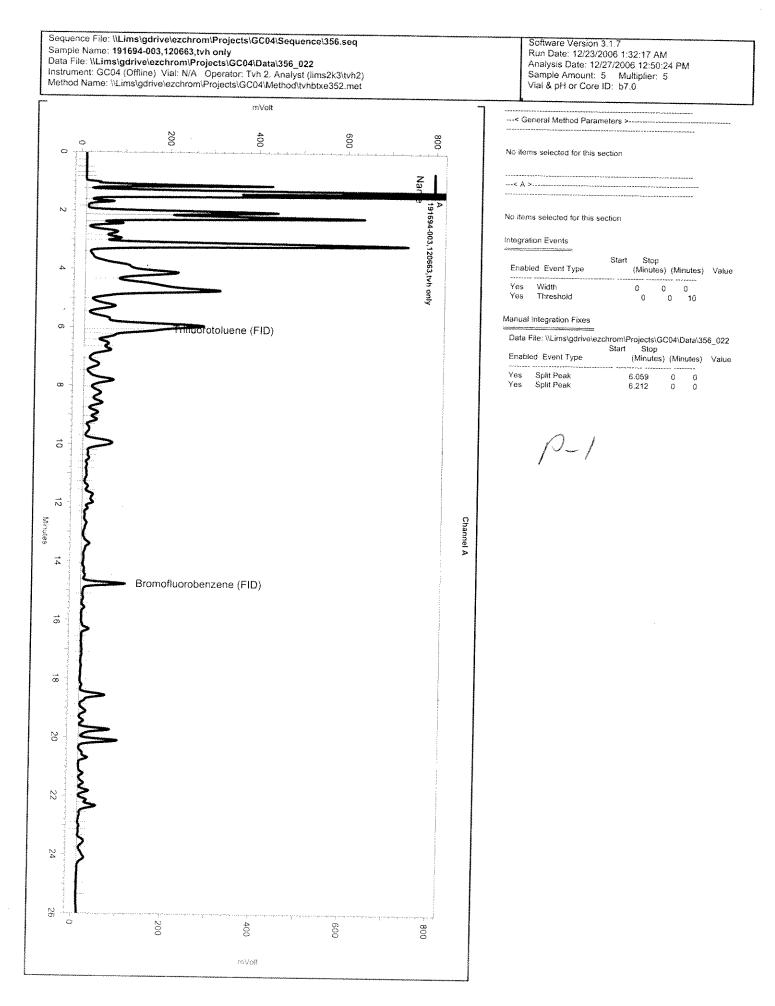
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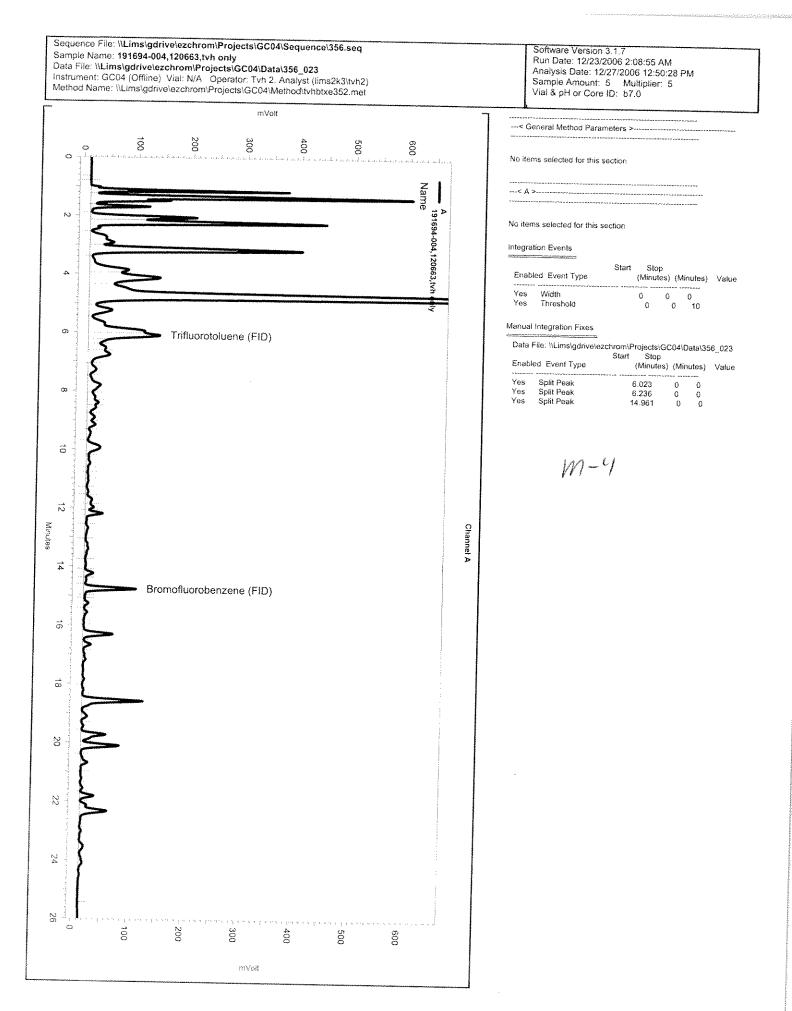


		Tota	l Volati	le Hydrocar	bons
Lab #: Client:	191694 Fugro West	The		Location:	2801 MacArthur Blvd.
Project#:	838.006	4110.		Prep: Analysis:	EPA 5030B
Matrix:	Water			Sampled:	EPA 8015B 12/20/06
Units:	ug/L		·····	Received:	12/21/06
-					
Field ID:	M-5			Diln Fac:	1.000
Ťype: Lab ID:	SAMPLE 191694-001			Batch#:	120663
P				Analyzed:	12/23/06
A Gasoline C7-0	nalyte Cl2		Result ND		RL 50
Su	rrogate	*RE	Ĉ Limits		
Trifluorotolu Bromofluorobe	uene (FID) enzene (FID)	96 98	69-137 80-133		

Field ID:	M-6			Diln Fac:	1.000
Type: Lab ID:	SAMPLE			Batch#:	120663
	191694-002			Analyzed:	12/23/06
Ar Gasoline C7-C	nalyte 12	1	Result		RL 50
		·····			50
Trifluorotolu	crogate	%RE(
Bromofluorobe	ene (FID) enzene (FID)	102 105	69-137 80-133		
Field ID:					
	P-1			Diln Fac:	1 000
	SAMPLE			Diln Fac: Batch#:	1.000
Type: Jab ID:				Diln Fac: Batch#: Analyzed:	1.000 120663 12/23/06
ab ID: An	SAMPLE 191694-003		Result	Batch#:	120663 12/23/06
ab ID: <u>An</u> Gasoline C7-C	SAMPLE 191694-003 alyte 12		Result 1,700 L	Batch#:	120663
ab ID: An Gasoline C7-C Sur	SAMPLE 191694-003 alyte 12 Fogate	*REC	1,700 L	Batch#:	120663 12/23/06 RL
Ab ID: An Gasoline C7-C Sur Trifluorotolu	SAMPLE 191694-003 alyte 12 rogate ene (FID)	99	1,700 L Limits 69-137	Batch#:	120663 12/23/06 RL
ab ID: An Gasoline C7-C	SAMPLE 191694-003 alyte 12 rogate ene (FID)		1,700 L	Batch#:	120663 12/23/06 RL
Ab ID: <u>An</u> <u>Gasoline C7-C</u> <u>Sur</u> Trifluorotolu Bromofluorobe ield ID:	SAMPLE 191694-003 alyte 12 rogate ene (FID) nzene (FID) M-4	99	1,700 L Limits 69-137	Batch#: Analyzed:	120663 12/23/06 RL 50
Ab ID: <u>An</u> <u>Gasoline C7-C</u> <u>Sur</u> Trifluorotolu Bromofluorobe ield ID: ype:	SAMPLE 191694-003 alyte 12 rogate ene (FID) nzene (FID) M-4 SAMPLE	99	1,700 L Limits 69-137	Batch#:	120663 12/23/06 RL 50 1.000
Ab ID: <u>An</u> <u>Gasoline C7-C</u> <u>Sur</u> Trifluorotolu Bromofluorobe ield ID: ype: ab ID:	SAMPLE 191694-003 alyte 12 rogate ene (FID) nzene (FID) M-4 SAMPLE 191694-004	99	1,700 L Limits 69-137	Batch#: Analyzed: Diln Fac:	120663 12/23/06 RL 50
Ab ID: <u>Gasoline C7-C</u> <u>Sur</u> Trifluorotolu Bromofluorobe ield ID: ype: ab ID: An:	SAMPLE 191694-003 alyte 12 rogate ene (FID) nzene (FID) M-4 SAMPLE 191694-004 alyte	99	1,700 L Limits 69-137 80-133 Result	Batch#: Analyzed: Diln Fac: Batch#: Analyzed:	120663 12/23/06 RL 50 1.000 120663 12/23/06 RL
Ab ID: Gasoline C7-C Sur Trifluorotolu Bromofluorobe ield ID: ype: ab ID: An: Gasoline C7-C	SAMPLE 191694-003 alyte 12 rogate ene (FID) nzene (FID) M-4 SAMPLE 191694-004 alyte 12	99 124	1,700 L Limits 69-137 80-133 Result 1,800	Batch#: Analyzed: Diln Fac: Batch#: Analyzed:	120663 12/23/06 RL 50 1.000 120663 12/23/06
Ab ID: Gasoline C7-C Sur Trifluorotolu Bromofluorobe ield ID: ype: ab ID: An: Gasoline C7-C	SAMPLE 191694-003 alyte 12 rogate ene (FID) nzene (FID) M-4 SAMPLE 191694-004 alyte 12 rogate ene (FID)	99	1,700 L Limits 69-137 80-133 Result 1,800	Batch#: Analyzed: Diln Fac: Batch#: Analyzed:	120663 12/23/06 RL 50 1.000 120663 12/23/06 RL

L= Lighter hydrocarbons contributed to the quantitation ND= Not Detected RL= Reporting Limit $_{\mbox{Page 1 of 2}}$

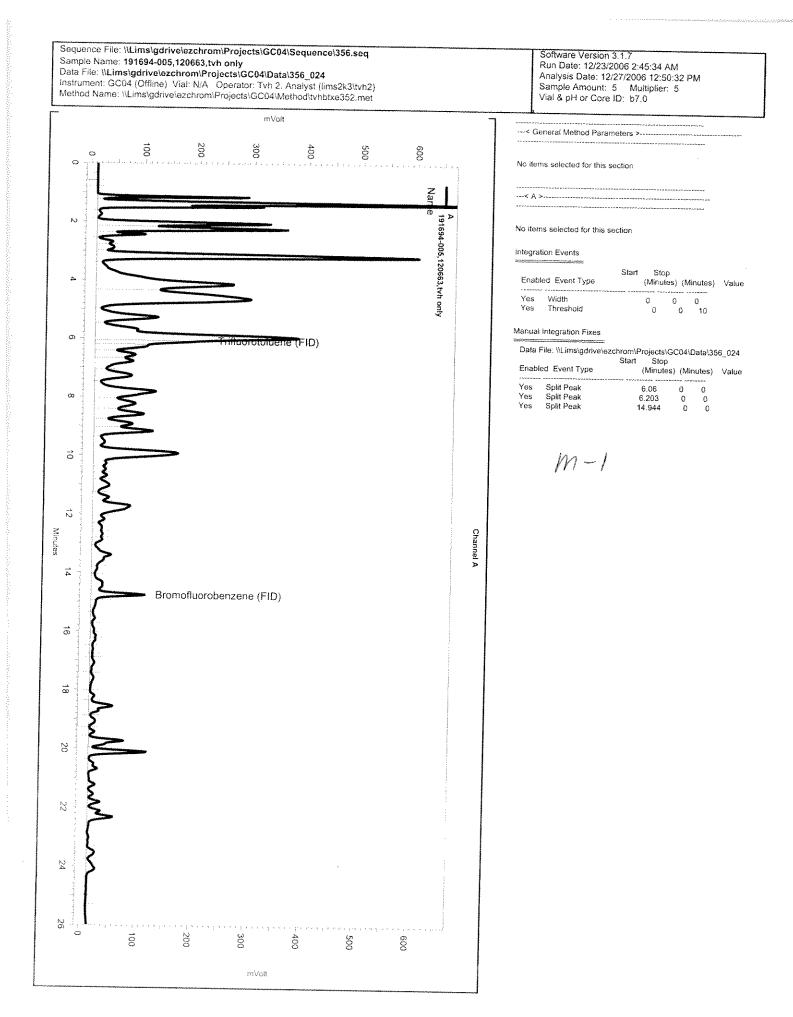


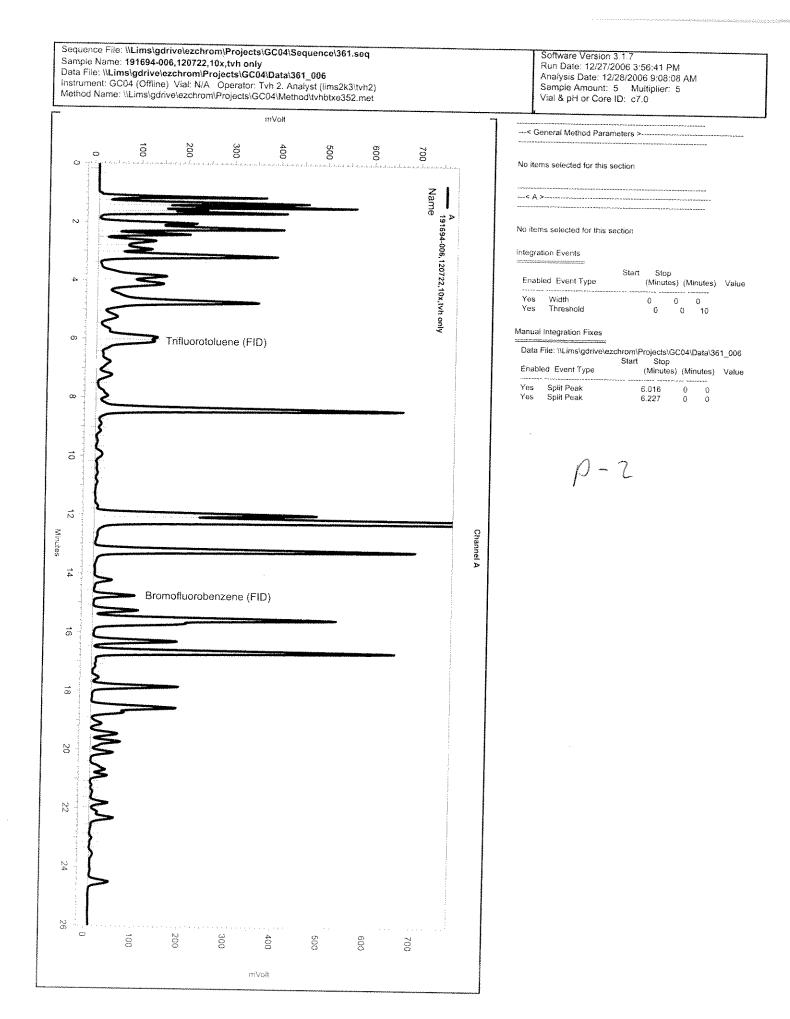


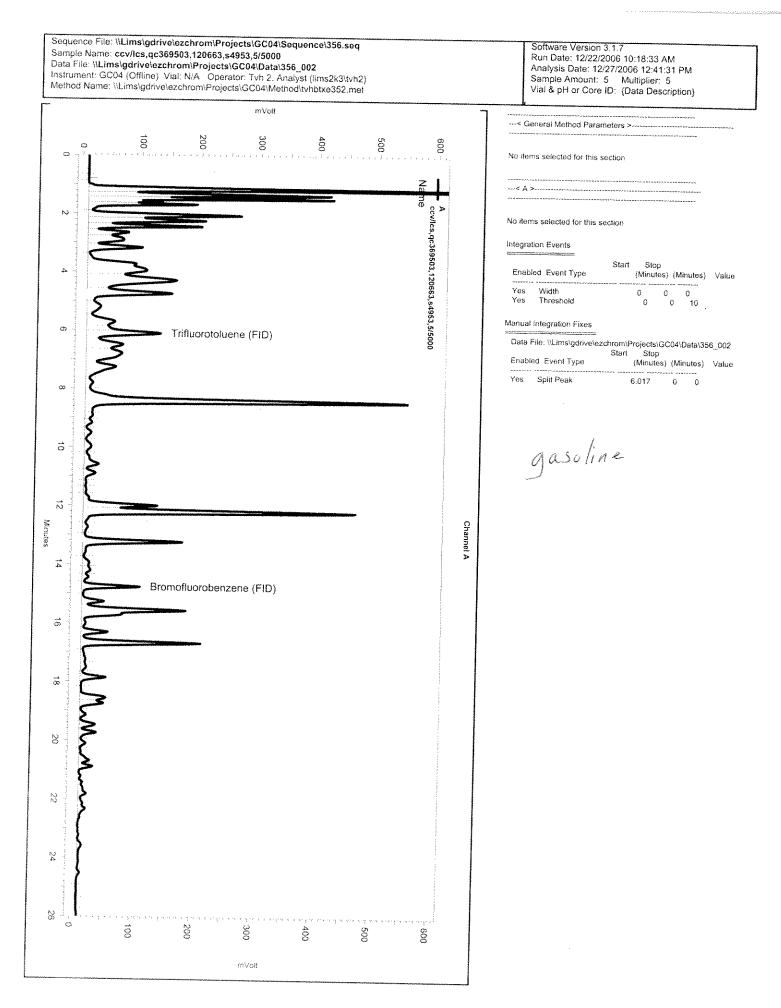


		— .				
		Tota	⊥ Volati	le Hydrocar	bons	
Lab #: Client:	191694 Fugro West	Inc	*****	Location:	2801 MacArthur Blvd.	
Project#: Matrix:	838.006			Prep: Analysis:	EPA 5030B EPA 8015B	
Units:	Water uq/L			Sampled: Received:	12/20/06	
				<u>Received:</u>	12/21/06	·
Field ID:	мэ					
Type:	M-1 SAMPLE			Diln Fac: Batch#:	1.000	
Lab ID:	191694-005			Analyzed:	120663 12/23/06	
Ar	nalyte		Result	-	RL	
Gasoline C7-C	212		2,100 L		50	
Trifluorotol	rogate Lene (FID)	%REC 103	Limits 69-137			
Bromofluorobe	enzene (FID)	133	80-133			
Field ID:	P-2			Diln Fac:		
Type: Lab ID:	SAMPLE			Batch#:	10.00 120722	
Lab ID:	191694-006			Analyzed:	12/27/06	
An Gasoline C7-C	alyte		Result		RL	
			41,000		500	
·····						
Trifluorotolu	rogate ene (FID)	%REC 104				
Sur Trifluorotolu Bromofluorobe	ene (FTD)		Limits 69-137 80-133			
Trifluorotolu	ene (FTD)	104	69-137			
Trifluorotolu	ene (FTD)	104	69-137	Patch#.		
Trifluorotolu Bromofluorobe Type: Lab ID:	ene (FID) nzene (FID) BLANK QC369502	104	69-137	Batch#: Analyzed:	120663	
Trifluorotolu Bromofluorobe	ene (FID) nzene (FID) BLANK	104	69-137			
Trifluorotolu Bromofluorobe Type: Lab ID: Diln Fac:	ene (FID) nzene (FID) BLANK QC369502 1.000 alvte	104 103	69-137 80-133 Result	Analyzed:	120663 12/22/06 RL	
Trifluorotolu Bromofluorobe Type: Lab ID: Diln Fac: An Gasoline C7-C	ene (FID) nzene (FID) BLANK QC369502 1.000 alyte 12	104 103 NI	69-137 80-133 Result	Analyzed:	120663 12/22/06	
Trifluorotolu Bromofluorobe Type: Lab ID: Diln Fac: Gasoline C7-C Surr Trifluorotolue	ene (FID) nzene (FID) BLANK QC369502 1.000 alyte 12 cogate ane (FID)	104 103 NI 8REC 99	69-137 80-133 Result D Limits 69-137	Analyzed:	120663 12/22/06 RL	
Trifluorotolu Bromofluorobe Type: Lab ID: Diln Fac: Gasoline C7-C Suri	ene (FID) nzene (FID) BLANK QC369502 1.000 alyte 12 cogate ane (FID)	104 103 NI %REC	69-137 80-133 Result D Limits	Analyzed:	120663 12/22/06 RL	
Trifluorotolu Bromofluorobe Type: Lab ID: Diln Fac: Gasoline C7-C Surr Trifluorotolue	ene (FID) nzene (FID) BLANK QC369502 1.000 alyte 12 cogate ane (FID)	104 103 NI 8REC 99	69-137 80-133 Result D Limits 69-137	Analyzed:	120663 12/22/06 RL	
Trifluorotolu Bromofluorobe Type: Lab ID: Diln Fac: Gasoline C7-C Surr Trifluorotolue Bromofluorober Type:	ene (FID) nzene (FID) BLANK QC369502 1.000 alyte 12 cogate ene (FID) nzene (FID) bzene (FID)	104 103 NI 8REC 99	69-137 80-133 Result D Limits 69-137	Analyzed:	120663 12/22/06 RL 50	
Trifluorotolu Bromofluorobe Type: Lab ID: Diln Fac: Gasoline C7-C Suri Trifluorotolue Bromofluorober	ene (FID) nzene (FID) BLANK QC369502 1.000 alyte 12 cogate ene (FID) nzene (FID) bzene (FID) BLANK QC369715	104 103 NI 8REC 99	69-137 80-133 Result D Limits 69-137	Analyzed:	120663 12/22/06 RL	
Trifluorotolu Bromofluorobe Type: Lab ID: Diln Fac: Gasoline C7-C Surr Trifluorotolue Bromofluorober Type: Lab ID: Diln Fac:	ene (FID) nzene (FID) BLANK QC369502 1.000 alyte 12 rogate ene (FID) nzene (FID) bzene (FID) BLANK QC369715 1.000	104 103 NI 8REC 99	69-137 80-133 Result D Limits 69-137 80-133	Analyzed: Batch#: Analyzed:	120663 12/22/06 RL 50 120722 12/27/06	
Trifluorotolu Bromofluorobe Type: Lab ID: Diln Fac: Gasoline C7-C Surr Trifluorotolue Bromofluorober Type: Lab ID: Diln Fac:	ene (FID) nzene (FID) BLANK QC369502 1.000 alyte 12 cogate ene (FID) nzene (FID) BLANK QC369715 1.000	104 103 NI 8REC 99	69-137 80-133 Result D Limits 69-137 80-133 Result	Analyzed: Batch#: Analyzed:	120663 12/22/06 RL 50 120722 12/27/06	
Trifluorotolu Bromofluorobe Type: Lab ID: Diln Fac: Gasoline C7-C Sur Trifluorotolue Bromofluorober Type: Lab ID: Diln Fac: Ana Gasoline C7-C1	ene (FID) nzene (FID) BLANK QC369502 1.000 alyte 12 cogate ene (FID) nzene (FID) BLANK QC369715 1.000 ilyte 2	104 103 NI &REC 99 99	69-137 80-133 Result D Limits 69-137 80-133 Result	Analyzed: Batch#: Analyzed:	120663 12/22/06 RL 50 120722 12/27/06	
Trifluorotolu Bromofluorobe Type: Lab ID: Diln Fac: Gasoline C7-C Sur Trifluorotolue Bromofluorober Type: Lab ID: Diln Fac: Ana Gasoline C7-C1	ene (FID) nzene (FID) BLANK QC369502 1.000 alyte 12 cogate ene (FID) nzene (FID) BLANK QC369715 1.000 ilyte 2 cogate pe (FID)	104 103 NI %REC 99 99	69-137 80-133 Result D Limits 69-137 80-133 Result	Analyzed: Batch#: Analyzed:	120663 12/22/06 RL 50 120722 12/27/06	

L= Lighter hydrocarbons contributed to the quantitation ND= Not Detected RL= Reporting Limit $_{\mbox{Page 2 of 2}}$









	Total V	olatile Hydrocarbo	DDS
Lab #: Client: Project#:	191694 Fugro West Inc. 838.006	Location: Prep: Analysis:	2801 MacArthur Blvd. EPA 5030B
Type: Lab ID: Matrix: Units:	LCS QC369503 Water ug/L	Diln Fac: Batch#: Analyzed:	EPA 8015B 1.000 120663 12/22/06

Analyte	Spiked	Result	%REC		
Gasoline C7-C12	2,000		SALL	Limits	
1	2,000	1,918	96	80-120	٦.

Surrogate	%REC	Limits
Trifluorotoluene (FID)	107	69-137
Bromofluorobenzene (FID)	111	80-133



	Total V	olatile Hydrocarbo	DDS
Lab #: Client: Project#:	191694 Fugro West Inc. 838.006	Location: Prep: Analysis:	2801 MacArthur Blvd. EPA 5030B
Type: Lab ID: Matrix: Units:	LCS QC369718 Water ug/L	Diln Fac: Batch#: Analyzed:	EPA 8015B 1.000 120722 12/27/06

Analyte	Spiked				
	spiked	Result	%REC	Limits	
Gasoline C7-C12	2,000	1 770	<u>с л</u>	0.0 1.0.0	0000000
	_/	1,1/3	89	80-120	1

Surrogate	%RE(limits .	
Trifluorotoluene (FID)	104	69-137	
Bromofluorobenzene (FID)	112	80-133	

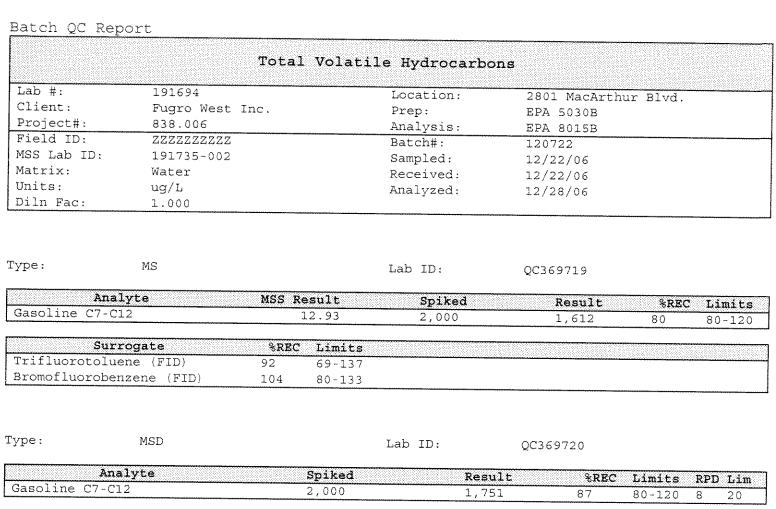


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Batch QC Report

	Total V	olatile Hydrocarbo	ons
Lab #: Client:	191694 Fugro West Inc.	Location:	2801 MacArthur Blvd.
Project#:	838.006	Prep: Analysis:	EPA 5030B EPA 8015B
Field ID: MSS Lab ID: Matrix:	M-5 191694-001 Water	Batch#: Sampled: Received:	120663 12/20/06 12/21/06
Units: Diln Fac:	ug/L 1.000	Analyzed:	12/23/06

Type: MS			Lab ID:		QC369506		
Analyte Gasoline C7-C12	MSS I	Result	Spik	ed	Result	%RE	C Limit
Gasorrile C7-C12		19.19	2,00	0	1,748	86	80-12
Surrogate	%RE(C Limits					
Trifluorotoluene (FID)	96	69-137					
Bromofluorobenzene (FID)	104	00 1 2 2					
	104	80-133					
		00-133	Lab ID:		QC369507		****
Ype: MSD Analyte	104	Spiked	Lab ID:	Result		d ^o Limita	
'ype: MSD Analyte	104		Lab ID:	Result 1,804		3C Limits 80-120	RPD Lin 3 20
Type: MSD Analyte Gasoline C7-C12 Surrogate		Spiked 2,000	Lab ID:		%RI		
Type: MSD Analyte Gasoline C7-C12		Spiked 2,000	Lab ID:		%RI		



Surrogate	%REC	Limits
Trifluorotoluene (FID)	95	69-137
Bromofluorobenzene (FID)	109	80-133

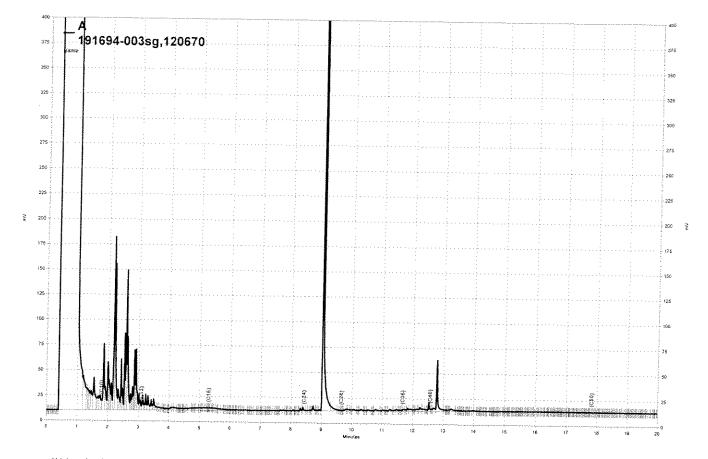
urtis & Tompkins, Ltd.



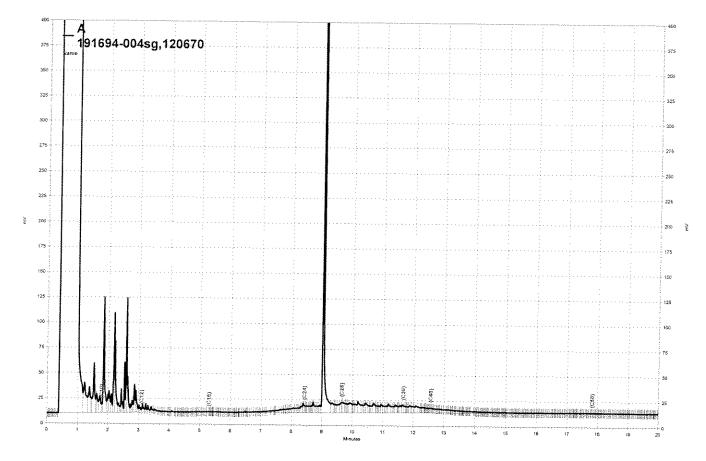
		Total Extract	able Hydrocarbo	ກສ
Lab #: Client: Project#: Matrix: Units: Diln Fac:	191694 Fugro West 838.006 Water ug/L 1.000	Inc.	Location: Prep: Analysis: Sampled: Received: Prepared:	2801 MacArthur Blvd. EPA 3520C EPA 8015B 12/20/06 12/21/06 12/22/06
Batch#: Field ID: Type:	M-5 SAMPLE		Analyzed: Cleanup Method:	12/27/06
Lab ID: And Diesel C10-C24 Motor Oil C24-		Result ND ND	RL 50 300	
Suri Hexacosane	rogate	%RBC Limits 98 65-130		
Field ID: Type: Lab ID:	M-6 SAMPLE 191694-002		Analyzed: Cleanup Method:	12/28/06 EPA 3630C
Ana Diesel C10-C24 Motor Oil C24-		Result ND ND	RL 50 300	
Surr Hexacosane	rogate	%REC Limits 96 65-130		
Field ID: Type: Lab ID:	P-1 SAMPLE 191694-003		Analyzed: Cleanup Method:	12/28/06 EPA 3630C
Type: Lab ID:	SAMPLE 191694-003	Result 200 L ND	Cleanup Method:	12/28/06 EPA 3630C
Type: Lab ID: Diesel C10-C24 Motor Oil C24-	SAMPLE 191694-003	200 L	Cleanup Method: RL Y 50	12/28/06 EPA 3630C
Type: Lab ID: Diesel C10-C24 Motor Oil C24- Surr	SAMPLE 191694-003 191694-003	200 L ND %REC Limits	Cleanup Method: RL Y 50	12/28/06 EPA 3630C
Type: Lab ID: Diesel C10-C24 Motor Oil C24- Mexacosane Field ID: Type: Lab ID:	SAMPLE 191694-003 C36 C36 M-4 SAMPLE 191694-004 Iyte	200 L ND %REC Limits	Cleanup Method: RL Y 50 300 Analyzed: Cleanup Method: RL	EPA 3630C

L= Lighter hydrocarbons contributed to the quantitation Y= Sample exhibits chromatographic pattern which does not resemble standard ND= Not Detected RL= Reporting Limit

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P-1



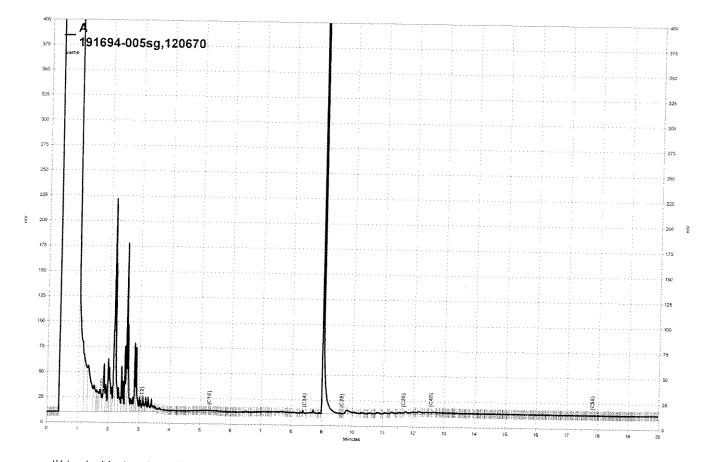
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M-4



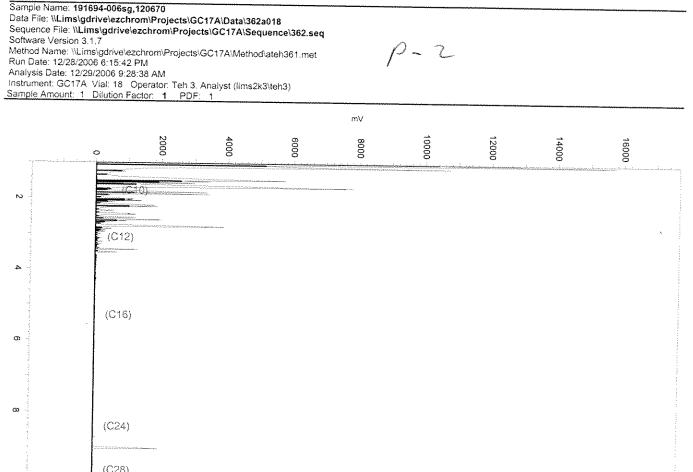
		Total E	xtracta	able Hydrocarbo	ns
Lab #: Client: Project#:	191694 Fugro West I 838.006	Inc.		Location: Prep: Analysis:	2801 MacArthur Blvd. EPA 3520C
Matrix: Units: Diln Fac: Batch#:	Water ug/L 1.000 120670			Sampled: Received: Prepared:	EPA 8015B 12/20/06 12/21/06 12/22/06
Field ID:	M-1 SAMPLE	·····		Analyzed:	12/28/06
Diesel C10-C2	191694-005 alyte 4	R	esult 220 L Y	Cleanup Method: RL	EPA 3630C
Motor Oil C24	-C36	ND		300	
Sur Hexacosane	rogate		Limits 65-130		
ield ID: ype: ab ID:	P-2 SAMPLE 191694-006			Analyzed: Cleanup Method:	12/28/06 EPA 3630C
An Diesel Cl0-C24 Motor Oil C24	alyte 4 -C36		esult ,200 L Y	RL 50 300	
Suri Hexacosane	rogate	8 REC 1 100 6	simits 55-130		
ype: ab ID:	BLANK QC369528			Analyzed: Cleanup Method:	12/27/06 EPA 3630C
Ans Diesel C10-C24 Motor Oil C24-		Re ND ND	isul t	RL 50 300	
Surr Iexacosane	ogate		imits 5-130		

L= Lighter hydrocarbons contributed to the quantitation Y= Sample exhibits chromatographic pattern which does not resemble standard ND= Not Detected RL= Reporting Limit Page 2 of 2

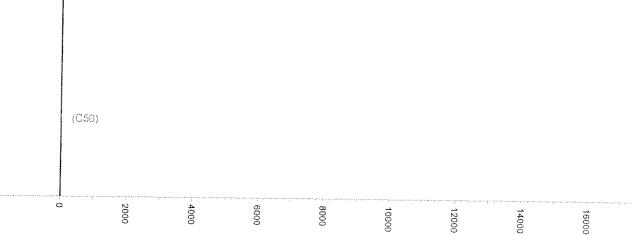


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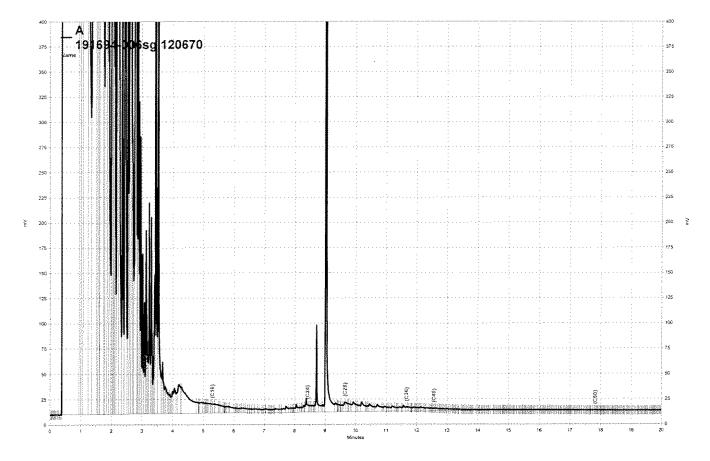
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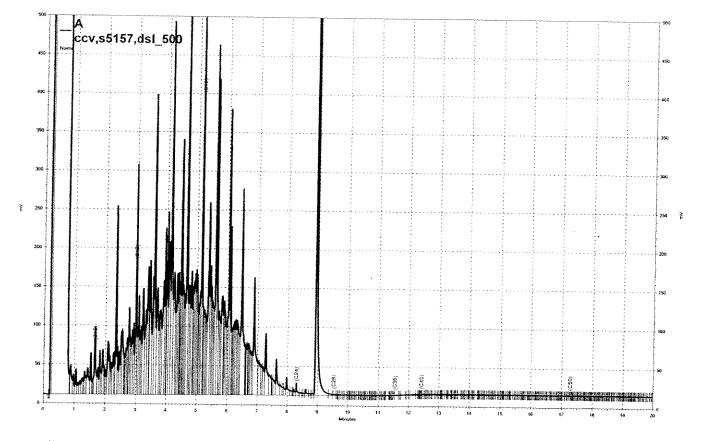
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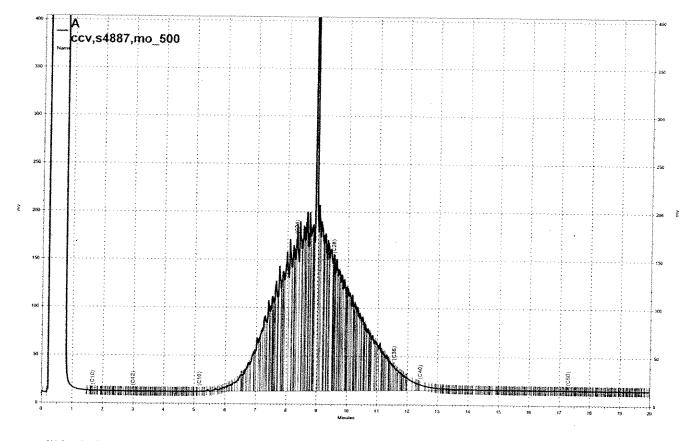
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P-2



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Motor oil



	Total Ex	tractable Hydroca	rbons
Lab #:	191694	Location:	2801 MacArthur Blvd.
Client:	Fugro West Inc.	Prep:	EPA 3520C
Project#:	838.006	Analysis:	EPA 8015B
Гуре:	LCS	Diln Fac:	1.000
Lab ID:	QC369529	Batch#:	120670
Matrix:	Water	Prepared:	12/22/06
Units:	ug/L	Analyzed:	12/27/06

Cleanup Method: EPA 3630C

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Analyte		Spiked	Result	%RE(2 Limits	
Diesel C10-C24		2,500	2,303	92	61-133	
-					***************************************	
Surrogate	%RE(1 Limits				
Hexacosane	83	65-130				



Batch QC Report	В	at	ch	QC	Report	
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		Total	Extracta	able Hydrocarbo	ns		
Lab #:	191694			Location:	2801 MacArtl	hur Blvd.	
Client:	Fugro West	Inc.		Prep:	EPA 3520C		
Project#:	838.006			Analysis:	EPA 8015B		
Field ID:	ZZZZZZZZZ			Batch#:	120670	*****	
MSS Lab ID:	191600-012			Sampled:	12/19/06		
Matrix:	Water			Received:	12/19/06		
Units:	ug/L			Prepared:	12/22/06		
Diln Fac:	1.000			Analyzed:	12/27/06		
Type: Lab ID: Analyt	MS QC369530	MSS Re:	sult	Cleanup Method: Spiked	Result	%REC	Limits
Diesel C10-C24		<20).89	2,500	2,416	97	55-134
Surrc Hexacosane	gate	%REC	Limits 65-130				
fype: Lab ID:	MSD QC369531			Cleanup Method:	EPA 3630C		4
Lad ID:	~~~		Spiked	Result	*980	Limits	RPD

Diesel Cl0-C24	2,5	500	2,396	96	55-134	1	27

Surrogate	%REC L:	imits					



	BT:	KE & Oxygenates	
Lab #: Client: Project#:	191694 Fugro West Inc. 838.006	Location: Prep: Analysis:	2801 MacArthur Blvd. EPA 5030B
Field ID: Lab ID: Matrix:	M-5 191694-001 Water	Batch#: Sampled:	EPA 8260B 120753 12/20/06
Units: Diln Fac:	ug/L 1.000	Received: Analyzed:	12/21/06 12/28/06

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
	UL CIVIC	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-120
1,2-Dichloroethane-d4	107	80-130
Toluene-d8	97	80-120
Bromofluorobenzene	111	80-122



BTXE & Oxygenates				
Lab #: Client: Project#:	191694 Fugro West Inc. 838.006	Location: Prep: Analysis:	2801 MacArthur Blvd. EPA 5030B	
Field ID: Jab ID: Matrix: Mnits: Filn Fac:	M-6 191694-002 Water ug/L 1.000	Batch#: Sampled: Received: Analyzed:	EPA 8260B 120753 12/20/06 12/21/06 12/28/06	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
		0.5

1,2-Dichloroethane-d4 107 80-120 Toluene-d8 97 80-120	Surrogate	%REC	Limits
Toluene-d8 97 80-120	Dibromofluoromethane	101	80-120
Bromofluorobongene		107	80-130
Bromofluorobenzene		97	80-120
111 80-122	Bromofluorobenzene	111	80-122



	BT	KE & Oxygenates	
Lab #:	191694	Location:	2801 MacArthur Blvd.
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#: Field ID:	838.006	Analysis:	EPA 8260B
Lab ID:	P-1	Batch#:	120796
Matrix:	191694-003	Sampled:	12/20/06
Units:	Water	Received:	12/21/06
Diln Fac:	ug/L 1.000	Analyzed:	12/29/06

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	82	10
MTBE	6.0	0.5
Isopropyl Ether (DIPE)	2.5	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	70	0.5
Toluene	ND 0.7	0.5
1,2-Dibromoethane	ND U.7	0.5
Ethylbenzene	2.4	0.5
m,p-Xylenes	1.4	0.5
o-Xylene	ND	0.5

Surrogate	%REC	: Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	97	80-130
Toluene-d8	101	80-120
Bromofluorobenzene	96	80-122



	BT2	Œ & Oxygenates	
Lab #:	191694	Location:	2801 MacArthur Blvd.
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	838.006	Analysis:	EPA 8260B
Field ID:	M-4	Batch#:	120753
Lab ID:	191694-004	Sampled:	12/20/06
Matrix:	Water	Received:	12/21/06
Units:	ug/L	Analyzed:	12/28/06
Diln Fac:	6.250		

Analyte	Result	RL	
tert-Butyl Alcohol (TBA)	ND	63	
MTBE	ND	3.1	
Isopropyl Ether (DIPE)	ND	3.1	
Ethyl tert-Butyl Ether (ETBE)	ND	3.1	
1,2-Dichloroethane	ND	3.1	
Benzene	430	3.1	
Methyl tert-Amyl Ether (TAME)	ND	3.1	
Toluene	ND	3.1	
1,2-Dibromoethane	ND	3.1	
Ethylbenzene	ND	3.1	
m,p-Xylenes	9.2	3.1	
o-Xylene	ND	3.1	

Dibromofluoromethane	105	80-120
1,2-Dichloroethane-d4	116	80-130
Toluene-d8	98	80-120
Bromofluorobenzene	114	80-122



	BT	XE & Oxygenates	
Lab #:	191694	Location:	2801 MacArthur Blvd.
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	838.006	Analysis:	EPA 8260B
Field ID:	M-1	Batch#:	120796
Lab ID:	191694-005	Sampled:	12/20/06
Matrix:	Water	Received:	12/21/06
Units:	ug/L	Analyzed:	
Diln Fac:	1.000	maiyzeu:	12/29/06

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	2.2	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
	1×12	0.5

Surrogate	%REC	Limits	
Dibromofluoromethane	100	80-120	
1,2-Dichloroethane-d4	95	80-130	1
Toluene-d8	95	80-120	
Bromofluorobenzene	100	80-122	
			1



	BII	<pre>KE & Oxygenates</pre>	
Lab #:	191694	Location:	2801 MacArthur Blvd.
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	838.006	Analysis:	EPA 8260B
Field ID:	P-2	Batch#:	120796
Lab ID:	191694-006	Sampled:	12/20/06
Matrix:	Water	Received:	12/21/06
Units:	ug/L	Analyzed:	12/29/06
Diln Fac:	33.33	<u>∡</u> , , , , , , , , , , , , , , , , , , ,	····,, - *

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	330
MTBE	ND	17
Isopropyl Ether (DIPE)	ND	17
Ethyl tert-Butyl Ether (ETBE)	ND	17
1,2-Dichloroethane	ND	17
Benzene	990	17
Methyl tert-Amyl Ether (TAME)	ND	17
Toluene	2,200	17
1,2-Dibromoethane	ND	17
Ethylbenzene	1,700	17
m,p-Xylenes	5,200	17
o-Xylene	2,500	17

Surrogate	%REC	: Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	99	80-130
Toluene-d8	103	80-120
Bromofluorobenzene	96	80-122



	BTI	(E & Oxygenates	
Lab #:	191694	Location:	2801 MacArthur Blvd.
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	838.006	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC369843	Batch#:	120753
Matrix:	Water	Analyzed:	12/28/06
Units:	ug/L	-	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-120
1,2-Dichloroethane-d4	97	80-130
Toluene-d8	95	80-120
Bromofluorobenzene	105	80-122



	BTJ	(E & Oxygenates	
Lab #:	191694	Location:	2801 MacArthur Blvd.
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	838.006	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC370027	Batch#:	120796
Matrix:	Water	Analyzed:	12/29/06
Units:	ug/L		

Analyte	Result	RL	
tert-Butyl Alcohol (TBA)	ND	10	
MTBE	ND	0.5	
Isopropyl Ether (DIPE)	ND	0.5	
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Methyl tert-Amyl Ether (TAME)	ND	0.5	
Toluene	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p~Xylenes	ND	0.5	
o-Xylene	ND	0.5	

Surrogate	%REC	Limits
Dibromofluoromethane	113	80-120
1,2-Dichloroethane-d4	113	80-130
Toluene-d8	110	80-120
Bromofluorobenzene	101	80-122



	BT	XE & Oxygenates	
Lab #: Client: Project#:	191694 Fugro West Inc. 838.006	Location: Prep: Analysis:	2801 MacArthur Blvd. EPA 5030B EPA 8260B
Matrix: Units: Diln Fac:	Water ug/L 1.000	Batch#: Analyzed:	120753 12/28/06

Type:	BS			Lab ID:	QC36	9841	
Ethyl ter 1,2-Dichle Benzene	Ether (DIPE) t-Butyl Ether (ETBE) oroethane rt-Amyl Ether (TAME) moethane ene		Spiked 125.00 25.00 25.00 25.00 25.00 25.00 25.00 25.00 25.00 25.00 25.00 25.00		Result 120.8 23.99 22.09 28.47 29.31 23.13 23.26 25.35 27.66 26.52 51.86 25.75	%REC 97 96 88 114 117 93 93 101 111 106 104	64-141 72-120 68-123 77-129 77-120 80-120 80-120 80-120 80-120 80-120 80-120 80-121
Dibromoflu		%REC 104 114 98 107			25.75		80-120

Type:	BSD		Lab ID:	QC365	9842			
Ethyl tert 1,2-Dichlo: Benzene	Ether (DIPE) -Butyl Ether (ETBE) roethane t-Amyl Ether (TAME) oethane ne	Spiked 125.0 25.00		Result 113.7 22.84 21.41 27.71 27.55 21.98 21.98 24.98 24.14 25.79 25.41 49.63 24.62	\$REC 91 86 111 110 88 88 97 103 102 99 98	Limits 64-141 72-120 68-123 77-129 77-120 80-120 80-120 80-120 80-120 80-121 80-120	RPD 6 5 3 6 5 6 5 7 4 4 4 4	L:1m 22 20 20 20 20 20 20 20 20 20 20 20 20
Dibromofluc 1,2-Dichlor Toluene-d8 Bromofluoro	promethane 10 roethane-d4 10 97	7 80-130 80-120						



	BT	KE & Oxygenates	
Lab #: Client: Project#:	191694 Fugro West Inc. 838.006	Location: Prep: Analysis:	2801 MacArthur Blvd. EPA 5030B EPA 8260B
Matrix: Units: Diln Fac:	Water ug/L 1.000	Batch#: Analyzed:	120796 12/29/06

Type:	ype: BS		Lab ID:		QC370025			
	Analyte		Spiked		Result	*REC	Limits	
tert-Butyl	Alcohol (TBA)		125.0		122.4	98	64-141	
MTBE			25.00		22.20	89	72-120	
Isopropyl E	Sther (DIPE)		25.00		22.22	89	68-123	
	-Butyl Ether (ETBE)		25.00		23.93	96	77-129	
1,2-Dichlor	roethane		25.00		23.71	95	77-120	
Benzene			25.00		27.50	110	80-120	
Methyl tert	-Amyl Ether (TAME)		25.00		22.87		77-120	
Toluene	_		25.00		26.61	106	80-120	
1,2-Dibromc			25.00		24.46	98	80-120	
Ethylbenzer	ne		25.00		27.87	111	80-120	
m,p-Xylenes	3		50.00		55,46	111	80-121	
o-Xylene			25.00		27.99	112	80-120	
E	Surrogate	%REC	Limits					
Dibromofluc	promethane	102	80-120					
1,2-Dichlor	coethane-d4	99	80-130					
Toluene-d8		102	80-120					
Bromofluorc	benzene	100	80-122					

Type: BSD			Lab ID:	QC370	026			
Analyte		Spiked		Result	%REC	Limits	RPD	Lim
	BA)	125.0		135.4	108	64-141	10	22
MTBE		25.00		21.08	84	72-120	5	20
Isopropyl Ether (DIPE)		25.00		21.27	85	68-123	4	20
Ethyl tert-Butyl Ethe	r (ETBE)	25.00		22.02	88	77-129	8	20
1,2-Dichloroethane		25.00		24.04	96	77-120	ī	20 I
Benzene		25.00		28.53	114	80-120	4	20
Methyl tert-Amyl Ether	r (TAME)	25.00		22.88	92	77-120	ō	20
Toluene		25.00		27.43	110	80-120	3	20
1,2-Dibromoethane		25.00		24.67	99	80-120	ī	20
Ethylbenzene		25.00		29.13	117	80-120	4	20
m,p-Xylenes		50.00		56.45	113	80-121	2	20
o-Xylene	·····	25.00		28.53	114	80-120	2	20
Surrogate	*REC	Limits						
Dibromofluoromethane	104	80-120						
1,2-Dichloroethane-d4	103	80-130						
Toluene-d8	105	80-120						l
Bromofluorobenzene	95	80-122						