

STELLAR ENVIRONMENTAL SOLUTIONS, INC. 2198 SIXTH STREET, SUITE 201, BERKELEY, CA 94710 TEL: 510.644.3123 FAX: 510.644.3859

TRANSMITTAL MEMORANDUM						
ENV ALA SEF 113	CAL OVERSIGHT PROGRAM VIRONMENTAL HEALTH SERVICES AMEDA COUNTY HEALTH CARE RVICES AGENCY 1 HARBOR BAY PARKWAY AMEDA, CALIFORNIA 94502-6577	DATE: OCTOBER 13, 2005				
ATTENTION:	MR. DON HWANG	FILE: SES 2003-43				
SUBJECT:	Oakland Auto Works 240 W. MacArthur Blvd Oakland, California Alameda County Health Fuel Leak Case No. R00000142	Alameda Cou OCT 1 8 2005 vironmental He				
WE ARE SEN						
THE FOLLOW	ING: THIRD QUARTER 2005 GROUN (1 COPY)	IDWATER MONITORING REPORT				
	□ AS REQUESTED					
		For your use				
		For Your Files				
		3				
1	R. GLEN POY-WING, ROPERTY OWNER	BY: BRUCE RUCKER				

THIRD OUAR TER 2005 CRODINDWATER MONITORING REPORT

240-W. MACARTHUR DOTLEN AND ONKLAND, CALIFORNIA

> Propriet for MR: GETON Prog. Myrne: Orkeranti Auson Marsier

OTREAND AUTO MORES OXALAND, C.d.BOPNIA

October 2005

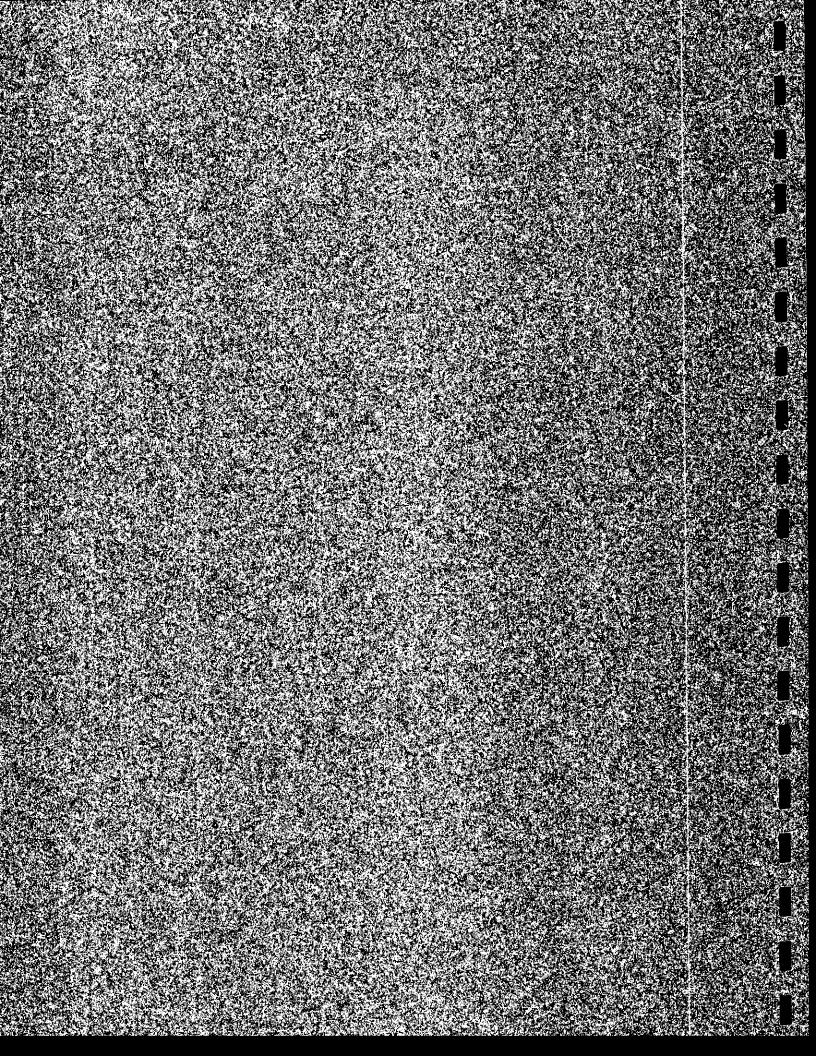
BLLAR

Environmental Solutrana, Inc.

PRNCA

R. a. a. A.

Officients & Exception during the





GEOSCIENCE & ENGINEERING CONSULTING

October 12, 2005

Mr. Don Hwang Hazardous Materials Specialist Alameda County Environmental Health Department Local Oversight Program 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502

Subject: Third Quarter 2005 Groundwater Monitoring Report Oakland Auto Works Facility – 240 W. MacArthur Boulevard, Oakland, California Alameda County Health Department Fuel Leak Case No. RO0000142

Dear Mr. Hwang:

Enclosed is the Stellar Environmental Solutions, Inc. report summarizing recent activities conducted at the referenced site. This report presents the findings of the Third Quarter 2005 groundwater monitoring event (the 28th site groundwater monitoring event since August 1997). This report was uploaded to both the Water Board's GeoTracker system and the Alameda County Environmental Health Department's Electronic Upload "ftp" system.

If you have any questions regarding this report, please contact us at (510) 644-3123.

Sincerely,

Brue M. Ruh/.

Bruce M. Rucker, R.G., R.E.A. Project Manager

Junak S. Makdini

Richard S. Makdisi, R.G., R.E.A. Principal

cc: Mr. Glen Poy-Wing, property owner



Alameda County OCT 1 8 2005 Environmental Health

THIRD QUARTER 2005 GROUNDWATER MONITORING REPORT

240 W. MACARTHUR BOULEVARD OAKLAND, CALIFORNIA

Prepared for:

MR. GLEN POY-WING OAKLAND AUTO WORKS 240 W. MACARTHUR BOULEVARD OAKLAND, CALIFORNIA 94612

Prepared by:

STELLAR ENVIRONMENTAL SOLUTIONS, INC. 2198 SIXTH STREET BERKELEY, CALIFORNIA 94710

October 12, 2005

Project No. 2003-43

TABLE OF CONTENTS

Page

1.0	INTRODUCTION
	Project Background1Regulatory Status1Scope of Report2Site Description2Historical Environmental Activities2
2.0	PHYSICAL SETTING
	Topography and Surface Water Drainage
3.0	SEPTEMBER 2005 GROUNDWATER MONITORING AND SAMPLING 10
4.0	REGULATORY CONSIDERATIONS, ANALYTICAL RESULTS AND FINDINGS
	Regulatory Considerations12Groundwater Sample Analytical Methods13Groundwater Sample Results14Quality Control Sample Analytical Results21
5.0	SUMMARY, CONCLUSIONS, AND PROPOSED ACTIONS
	Summary and Conclusions
6.0	REFERENCES AND BIBLIOGRAPHY
7.0	LIMITATIONS

Appendices

1

Appendix A	Current Event Groundwater Monitoring Field Records
Appendix B	Current Event Analytical Laboratory Report and Chain-of-Custody Record
Appendix C	Historical Groundwater Monitoring Well Analytical Data

TABLES AND FIGURES

Tables		Page
Table 1	Groundwater Monitoring Well Construction and Groundwater Elevation Data	
	240 W. MacArthur Boulevard, Oakland, California	
Table 2	Groundwater Sample Analytical Results – September 19, 2005 Hydrocarbons, BTEX, and MTBE	
	240 W. MacArthur Boulevard, Oakland, California	15
Table 3	Groundwater Sample Analytical Results – September 19, 2005 Lead Scavengers and Fuel Oxygenates	
	240 W. MacArthur Boulevard, Oakland, California	16

Figures

Page

Figure 1	Site Location Map	3
Figure 2	Site Plan	4
Figure 3	Groundwater Elevation Map – September 19, 2005	8
Figure 4	Gasoline Isoconcentration Contours – September 2005	. 17
Figure 5	Diesel Isoconcentration Contours – September 2005	. 18
Figure 6	Benzene Isoconcentration Contours – September 2005	. 19
Figure 7	MTBE Isoconcentration Contours – September 2005	20

1.0 INTRODUCTION

PROJECT BACKGROUND

The subject property, located at 240 W. MacArthur Boulevard, Oakland, Alameda County, California, is owned by Glen Poy-Wing and his wife of Oakland Auto Works, for whom Stellar Environmental Solutions, Inc. (SES) has provided environmental consulting services since July 2003. The site has undergone contaminant investigations and remediation since 1991 (discussed below). A list of all known environmental reports is included in Section 6.0, References and Bibliography. This report presents finding for the 28th site groundwater monitoring event since monitoring began in August 1997.

In 2002, the current property owners purchased the property and assumed responsibility for continued environmental investigations. The property was formerly owned by Mr. Warren Dodson (Dodson Ltd.) and operated as Vogue Tyres.

REGULATORY STATUS

The Alameda County Environmental Health Department (Alameda County Health) is the lead regulatory agency for the case, acting as a Local Oversight Program (LOP) for the Regional Water Quality Control Board (Water Board). There are no Alameda County Health or Water Board cleanup orders for the site; however, all site work has been conducted under oversight of Alameda County Health. In our August 2003 review of the Alameda County Health case file, we determined that all known technical reports for the site were included in that file.

The previous consultant requested site closure in March 2003 (AEC, 2003a). Alameda County Health denied that request and, in a letter dated April 16, 2003, requested additional site characterization prior to considering case closure. That work was subsequently conducted by SES, and was summarized in our April 2004 Soil and Groundwater Investigation Report (SES, 2004c). In December 2004, SES submitted a workplan for interim remedial action (including additional site characterization and an evaluation of soil vapor extraction as an interim corrective action). Alameda County Health has not yet responded to that workplan.

The site is in compliance with State of California "GeoTracker" requirements. Tasks conducted include: uploading field point (well) names; surveying groundwater monitoring well horizontal and vertical coordinates, and uploading that data; and uploading groundwater monitoring

analytical data from groundwater monitoring events conducted by SES (beginning in August 2003). Beginning January 1, 2005, portable data format (pdf) electronic copies of site technical reports were uploaded to GeoTracker, along with hard-copy reports submitted to Alameda County Health. This report has also been uploaded to Alameda County Health's Electronic Upload "ftp" system.

In December 2004, the owner submitted to Alameda County Health a workplan for interim corrective action (proposing soil vapor extraction to reduce source area contaminant mass). Alameda County Health has not yet responded to that workplan.

The site has been granted a Letter of Commitment (and has been receiving financial reimbursement) from the California Underground Storage Tank Cleanup Fund.

SCOPE OF REPORT

This report discusses the following work, conducted between July 1 and September 30, 2005:

■ 28th groundwater monitoring and sampling event, conducted on September 14, 2005.

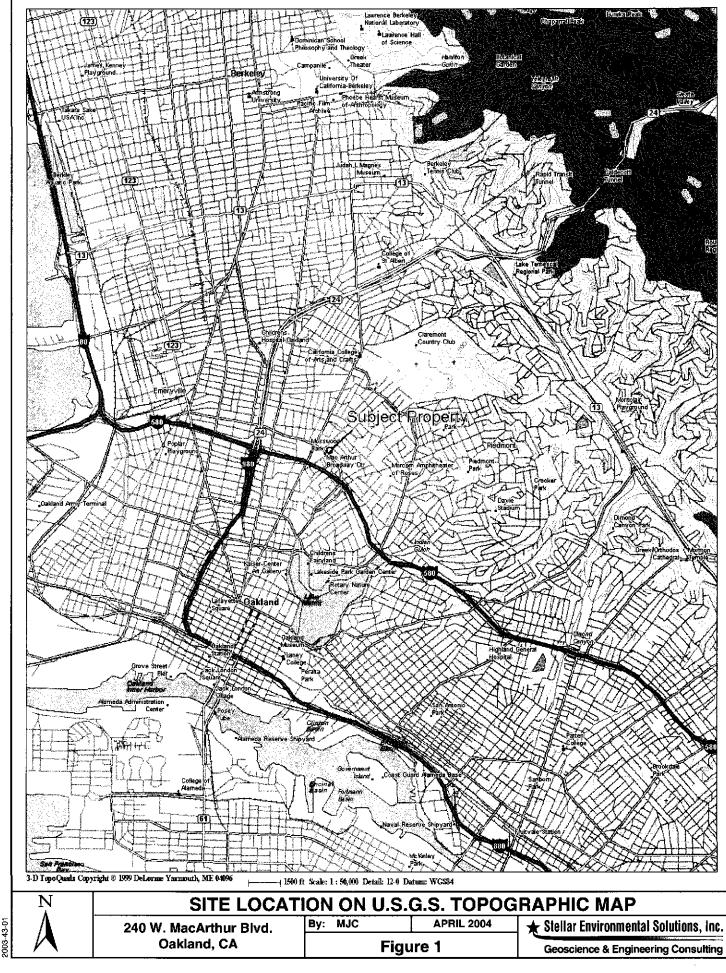
SITE DESCRIPTION

The project site is located at 240 W. MacArthur Boulevard in Oakland, California (see Figure 1). The rectangular-shaped project site is approximately 14,000 square feet (140 feet long by 100 feet wide), and is oriented with its long axis parallel to W. MacArthur Boulevard (approximately northwest-southeast). The project site is essentially flat and is wholly paved. One structure currently exists on the property—an automobile servicing shop that covers approximately 50 percent of the property. The building is currently occupied by Oakland Auto Works. Figure 2 is a site plan showing adjacent land uses.

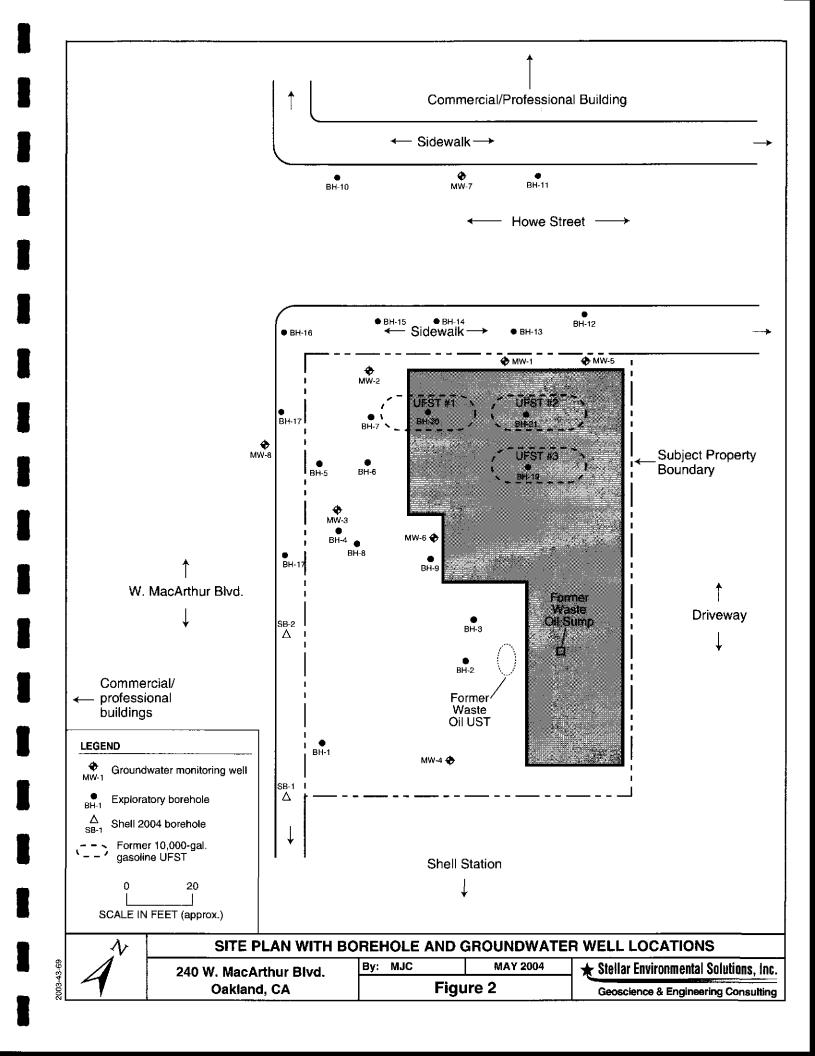
Adjacent land use includes: a Shell-branded service station (to the south); W. MacArthur Boulevard (to the west); Howe Street (to the north); and a paved driveway, then a multi-story (with basement) health services building (to the east).

HISTORICAL ENVIRONMENTAL ACTIVITIES

This section summarizes historical (prior to the current quarter) environmental remediation and site characterization activities, based on documentation provided by the current property owners as well as Alameda County Health files. Figure 2 shows the site plan with the current groundwater well and former underground fuel storage tank (UFST) locations.



.



Historical remediation and site characterization activities include:

- **Pre-1991.** Three 10,000-gallon gasoline UFSTs from a former Gulf service station occupancy were removed prior to 1991 (there is no available documentation regarding the removals).
- 1991. A waste oil sump was removed. Limited overexcavation was conducted, and there was no evidence of residual soil contamination, with the exception of 360 milligrams per kilogram (mg/kg) of petroleum oil & grease (Mittelhauser Corporation, 1991b).
- 1996. A 350-gallon waste oil underground storage tank (UST) was removed. Elevated levels of diesel and oil & grease were detected in confirmation soil samples. Subsequent overexcavation was conducted, and there was no evidence of residual soil contamination (All Environmental, Inc., 1997a).
- January 1997. In accordance with a request by Alameda County Health, a subsurface investigation was conducted (All Environmental, Inc., 1997b). Six exploratory boreholes were advanced to a maximum depth of 20 feet, and soil samples were collected.
- August 1997. Additional site characterization was conducted; this included sampling three boreholes, installing four groundwater monitoring wells, and conducting the initial groundwater sampling event.
- February 2001. Four additional groundwater monitoring wells were installed. Maximum historical soil concentrations were detected in well MW-5 in the northeastern corner of the subject property: 11,700 mg/kg of gasoline and 25.6 mg/kg of benzene (AEC, 2001b).
- October 2001. Short-term (less than 1-day duration) groundwater and vapor extraction from five wells was conducted over 4 days (AEC, 2001e) (referred to by that consultant as "Hi-Vac" process).
- 2003. A sensitive receptor and vicinity water well survey was conducted.
- April 2004. Additional site characterization was conducted, including: advancing and sampling 12 exploratory boreholes; analyzing 64 soil and 12 grab-groundwater sample results; and further evaluating site hydrogeology and contaminant extent and magnitude.

To date, a total of 28 groundwater monitoring events have been conducted at the site.

2.0 PHYSICAL SETTING

The following evaluation of the physical setting of the site—including topography, surface water drainage, and geologic and hydrogeologic conditions—is based on previous (1991 through April 2003) site investigations conducted by others, and site inspections and groundwater monitoring data collected by SES since 2003.

TOPOGRAPHY AND SURFACE WATER DRAINAGE

The site is on a gently-sloping alluvial fan at the base of the Berkeley/Oakland Hills, which rise approximately 1,100 feet above mean sea level (amsl) and are located approximately 3 miles east of San Francisco Bay. The mean elevation of the subject property is approximately 82 feet amsl. The subject property is essentially flat, with a local topographic gradient to the west. The nearest surface water bodies are: 1) Glen Echo Creek, a northeast-southwest trending creek located approximately 800 feet southeast of the subject property; and 2) Rockridge Branch, a north-south trending creek located approximately 1,000 feet northwest of the subject property. Both creeks are culverted underground in the areas nearest to the subject property.

LITHOLOGY

A previous SES report included geologic cross-sections through the area of historical investigations (SES, 2004c). The following summarizes site lithologic conditions.

The unsaturated zone (from ground surface to approximately 20 feet below ground surface [bgs]) consists of interbedded silty/sandy clays with silty/clayey sand, with occasional gravelly zones. In the sand zones, clay and/or silt content is high, and the sand is generally very fine- to fine-grained—such that the unit is, in essence, gradational between a clayey sand and a sandy clay. The most laterally-extensive unsaturated zone unit is a sandy clay encountered between ground surface and approximately 15 feet, locally pinching out and displaying lenticular form. Locally, this unit is interbedded with a sandy clay. The sediment types and geometry are suggestive of channel deposits, which is a common depositional facies in this area.

Depth to groundwater in all onsite April 2004 boreholes was approximately 20 to 21 feet bgs, predominantly in a saturated, loose, clayey sand. The saturated portion of this clayey sand constitutes the bottom of the unit; the saturated zone is approximately 0.5 to 2.5 feet thick, underlain in all boreholes by a cohesive, non-water-bearing clay. The top of this clay was consistently at a depth between approximately 21 and 23 feet. Of the 12 boreholes, 9 were

advanced at least 1.5 feet into this clay before terminating (and not encountering visible moisture or sand). One of the boreholes was advanced deeper, documenting a thickness of at least 4.5 feet. The lithologic data (supported by soil sample analytical data) strongly suggest that this clay unit inhibits downward migration of groundwater contamination.

The site lithology is consistent with that documented at the adjacent Shell service station site. Specifically, those boreholes have documented the thin upper, water-bearing zone underlain by the likely non-water-bearing clay unit. In three of the four Shell well boreholes, that clay unit was at least 2 feet thick. In one of the well boreholes, the clay unit was underlain by a saturated clayey sand unit (from approximately 22 to 25.5 feet bgs, which was underlain by a non-water-bearing clay). There are insufficient data to conclude whether the second deepest saturated clayey sand is connected to the more shallow sitewide saturated zone. The subsequent (March 2004) Shell boreholes SB-1 and SB-2 (between the Shell wells and the subject property) all terminated at 20 feet bgs, which was too shallow to encounter the underlying clay unit.

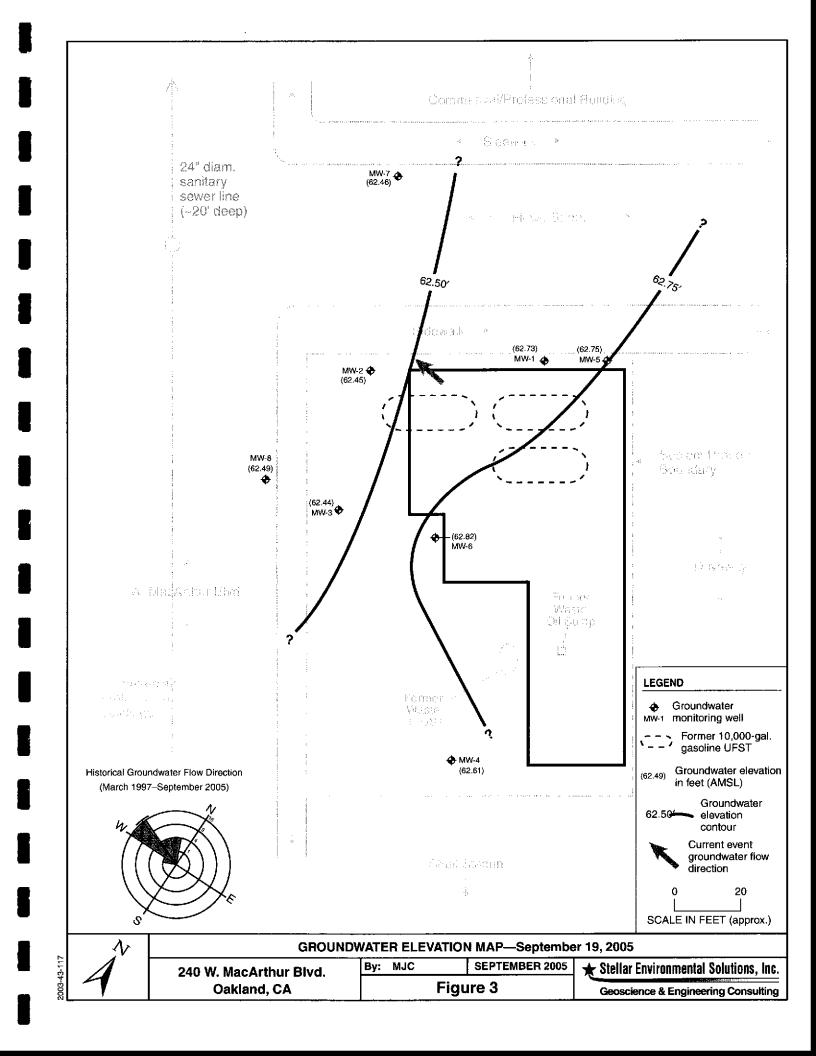
GROUNDWATER HYDROLOGY

The number and positioning of the existing eight site monitoring wells is currently adequate to evaluate the general groundwater flow direction and gradient. Four of the wells (MW-1, MW-2, MW-3, and MW-4) are screened between approximately 25 and 15 feet bgs, and the other four (MW-5, MW-6, MW-7, and MW -8) are screened at a depth of 10 to 20 feet.

Following the September 26, 2003 well surveying, SES evaluated groundwater flow direction of events (from October 2001 to March 2003), finding groundwater flow to be generally westward, with a slight northern component in some events. Figure 3 is a groundwater elevation map that shows elevations and contours from the current (September 2005) groundwater monitoring event. Groundwater flow direction in this event was generally to the west, although the data suggest local variations. A generally westward (with a slight southern component) groundwater flow direction has also been measured at the adjacent Shell-branded service station (Cambria Environmental Technology, 2004). Subject property groundwater gradient in the current event was relatively flat, at approximately 0.005 feet/foot. Historical groundwater gradient has varied between approximately 0.002 feet/foot and 0.008 feet/foot, averaging approximately 0.005 feet/foot.

Figure 3 includes a rose diagram that shows historical groundwater flow direction measured at the site. The rose diagram is a histogram that has been wrapped around a circle and has the following characteristics:

Each wedge represents a 15-degree arc of groundwater flow direction.



- The length of each wedge (circle radius) represents the number of sampling events with data falling within the 15-degree arc.
- The bold black line from the center of the circle to the outer edge is the mean groundwater flow direction.
- The arcs extending to either side of the mean groundwater flow direction line represent the 95-degree confidence interval of the data.

Historical equilibrated water levels (in wells) have been measured at depths of approximately 13 to 16 feet (slightly higher than first occurrence of groundwater encountered during drilling), indicating that groundwater occurs under slightly confining conditions. The range of water level elevations has varied by approximately 3 feet, and shows a strong seasonal variation, with highest elevations during the rainy winter-spring seasons and lowest elevations during the dry summer-fall seasons.

3.0 SEPTEMBER 2005 GROUNDWATER MONITORING AND SAMPLING

This section presents the groundwater sampling and analytical methods for the current event (Third Quarter 2005), conducted on September 19, 2005. Table 1 summarizes monitoring well construction and groundwater monitoring data. Groundwater analytical results are presented and discussed in Section 5.0. Monitoring and sampling protocols were in accordance with the SES technical workplan (SES, 2003) submitted to Alameda County Health, and subsequent technical revision requested by Alameda County Health. The groundwater sampling event involved the collection of one set of "post-purge" samples from all wells, in accordance with recent revisions to the quarterly monitoring program approved by Alameda County Health. Specific activities for this event included:

- Measuring static water levels and field measurement of "pre-purge" groundwater samples for hydrogeochemical parameters (temperature, pH, electrical conductivity, turbidity, and dissolved oxygen) in the eight site wells; and
- Collecting "post-purge" groundwater samples from the eight onsite wells for field measurement of the aforementioned hydrogeochemical parameters, and for offsite laboratory analyses for contaminants of concern.

The locations of all site monitoring wells are shown on Figure 2. Well construction information and water level data are summarized in Table 1. All site wells are 2-inch-diameter PVC, although the borehole geologic logs for MW-1 through MW-4 completed by the previous consultant mistakenly indicated that they are 4-inch-diameter. Appendix A contains the groundwater monitoring field records for the current event.

Groundwater monitoring well water level measurements, sampling, and field analyses were conducted by Blaine Tech Services (San Jose, California) under the supervision of SES personnel. To minimize the potential for cross-contamination, wells were purged and sampled in order of increasing contamination (based on the previous quarter analytical results).

As the first monitoring task, static water levels were measured in the eight site wells using an electric water level indicator. Grab-groundwater samples were then collected from each well (using a new disposable bailer) and field-analyzed for aquifer stability parameters—including temperature, pH, electrical conductivity, turbidity, and dissolved oxygen.

Well Screened Interval Groundwater Groundwater Level Depth^(a) Elevation ^(b) Well Depth Elevation Depth September 19, 2005 Well September 19, 2005 (feet bgs) (feet) (feet) MW-1 25 19.5 to 24.5 54.5 to 49.5 16.42 62.73 MW-2 25 14.5 to 24.5 64.2 to 54.2 16.00 62.45 62.44 MW-3 25 14.5 to 24.5 63.4 to 53.4 15.14 MW-4 62.61 25 14.5 to 24.5 63.6 to 53.6 15.13 MW-5 62.75 20 9 to 19 70.6 to 60.6 16.61 MW-6 15.61 62.82 20 9 to 19 69.7 to 59.7 62.46 MW-7 20 9 to 19 69.6 to 59.6 15.81 13.90 62.49 **MW-8** 20 9 to 19 67.7 to 57.7

Table 1Groundwater Monitoring Well Construction and Groundwater Elevation Data240 W. MacArthur Boulevard, Oakland, California

Notes:

^(a) Pre-purge measurement, feet below top of well casing.

^(b) Pre-purge measurement, feet above mean sea level.

Each well was then purged (by hand bailing with a new disposable bailer) of three wetted casing volumes, and aquifer stability parameters (pH, temperature, electrical conductivity, and turbidity) were measured between each purging. When measurements indicated that representative formation water was entering the well, a groundwater sample set was collected from each well with the purging bailer. These samples were field-measured for pH, temperature, electrical conductivity, turbidity, and dissolved oxygen. Samples were then transferred to appropriate sampling containers (40-ml VOA vials with hydrochloric acid preservative, and 1-liter amber glass jars), labeled, and placed in coolers with "blue ice." All groundwater samples were managed under chain-of-custody procedures from the time of sample collection until samples were received in the laboratory.

Approximately 30 gallons of wastewater (purge water and equipment decontamination rinseate) was containerized in a labeled, 55-gallon steel drum that will be temporarily stored onsite. This non-hazardous water will continue to be accumulated onsite until it is cost-effective to coordinate its disposal, at which time it will be profiled and disposed of at a permitted wastewater treatment facility.

4.0 REGULATORY CONSIDERATIONS, ANALYTICAL RESULTS AND FINDINGS

This section presents analytical results of the most recent monitoring event, preceded by a summary of relevant regulatory considerations.

REGULATORY CONSIDERATIONS

Environmental Screening Levels

There are no published cleanup goals for detected site contaminants in groundwater. The Water Board has published "Environmental Screening Levels" (ESLs), which are screening-level concentrations for soil and groundwater that incorporate both environmental and human health risk considerations, and are used as a preliminary guide in determining whether additional remediation and/or investigation are warranted. The ESLs are not cleanup criteria; rather, they are conservative screening-level criteria designed to be protective of both drinking water resources and aquatic environments in general. The groundwater ESLs are composed of one or more components, including ceiling value, human toxicity, indoor air impacts, and aquatic life protection. Exceedance of ESLs suggests that additional remediation and/or investigation may be warranted, such as monitoring plume stability to demonstrate no risk to sensitive receptors in the case of sites where drinking water is not threatened.

The City of Oakland, via its Urban Land Redevelopment (URL) Program, utilizes a similar ESL approach in evaluating whether active remediation is necessary at sites proposed for redevelopment. This program is not currently applicable to the site, as no redevelopment is proposed.

For all site contaminants with published drinking water standards—benzene, toluene, ethylbenzene, and xylenes (BTEX); and methyl *tertiary*-butyl ether (MTBE)—the drinking water standards are equal to or greater than the published ESLs.

Sensitive Receptors

Risk evaluation commonly includes the identification of sensitive receptors, including vicinity groundwater supply wells. As discussed in a previous report (SES, 2004c), the California Department of Water Resources identified only one groundwater supply well within 1,500 feet of

the site. Based on its distance and upgradient location relative to the site, there is no reasonable potential for this well to intercept shallow groundwater emanating from the subject property.

As specified in the Water Board's San Francisco Bay Region Water Quality Control Plan, all groundwaters are considered potential sources of drinking water unless otherwise approved by the Water Board, and are assumed to ultimately discharge to a surface water body and potentially impact aquatic organisms. In the case of groundwater contamination, ESLs are published for two scenarios: groundwater *is* a source of drinking water, and groundwater *is not* a source of drinking water. Qualifying for the higher ESLs (applicable to groundwater *is not* a source of drinking water) requires meeting one of the following two criteria:

- 1. The Water Board has completed the "East Bay Plain Groundwater Basin Beneficial Use Evaluation Report" (Water Board, 1999) that delineates three types of areas with regard to beneficial uses of groundwater: Zone A (significant drinking water resource), Zone B (groundwater unlikely to be used as drinking water resource), and Zone C (shallow groundwater proposed for designation as Municipal Supply Beneficial Use). The subject site falls within Zone A.
- 2. A site-specific exemption can be obtained from the Water Board. Such an exemption has not been obtained for this site.

As discussed below, multiple groundwater contaminants have been detected in excess of ESLs, for both groundwater beneficial scenarios (groundwater *is* versus *is not* a potential drinking water resource). These data indicate that continued site characterization is warranted until it can be demonstrated that site-sourced contamination poses no unacceptable risk to sensitive receptors. Our subsequent discussion of groundwater contamination is in the context of the ESL criteria for sites where groundwater *is* a potential drinking water resource.

GROUNDWATER SAMPLE ANALYTICAL METHODS

Groundwater samples were analyzed in accordance with the methods proposed in the SES technical workplan. Analytical methods included:

- Total volatile hydrocarbons gasoline range (TVHg), by EPA Method 8015B (all wells);
- BTEX and MTBE, by EPA Method 8260B;
- The lead scavengers 1,2-dichloroethane (EDC) and 1,2-dibromoethane (EDB), by EPA Method 8260B (all wells except MW-4 and MW-7 which historically have had little or no site-sourced contamination);
- Total extractable hydrocarbons diesel range (TEHd), by EPA Method 8015M (all wells except MW-4 and MW-7, which historically have never detected diesel); and
- Fuel oxygenates, by EPA Method 8260B.

Groundwater samples were analyzed in accordance with the methods proposed in the SES technical workplan, with one exception. Due to an error in the laboratory, groundwater samples in the current event were prepared using a silica gel cleanup, prior to analysis (all previous well samples have not undergone this preparation). In general, this preparation removes non-petroleum hydrocarbons (i.e. of organic origin). The analytical results for the current event indicate no significant differences from historical analytical results.

GROUNDWATER SAMPLE RESULTS

Tables 2 and 3 summarize the contaminant analytical results of the current monitoring event. Appendix B contains the certified analytical laboratory report and chain-of-custody record. Appendix C contains historical site groundwater monitoring well analytical data.

Gasoline and Diesel

Figure 4 shows gasoline isoconcentration contours for the recent event. Gasoline was detected in six of the eight wells (all except MW-4 or MW-7). Detected concentrations ranged from 520 micrograms per liter ($\mu g/L$) (in well MW-6) to 23,000 $\mu g/L$ (in well MW-1). All of the gasoline concentrations exceeded the 100- $\mu g/L$ ESL criterion. The gasoline plume extends to the south along the Howe Street side of the property, and to the east (toward well MW-4). To the south, the plume extends somewhat offsite into W. MacArthur Boulevard. Wells MW-1 and MW-5, at the northern corner of the site (near the original source area), had the highest gasoline concentration, as they have historically. The gasoline plume also extends offsite to the north (beneath Howe Street).

Figure 5 shows diesel isoconcentration contours for the recent event. Diesel was detected in all six of the wells analyzed for diesel, but is of secondary concern relative to gasoline, with concentrations historically at significantly lower levels than gasoline. Diesel concentrations ranged from 200 μ g/L (in well MW-6) to 3,600 μ g/L (in well MW-5), with all concentrations exceeding the 100- μ g/L ESL criterion. The diesel plume footprint is similar to that of the gasoline plume. Diesel is present offsite under Howe Street (to the north) and under W. MacArthur Boulevard (to the west).

Benzene, Toluene, Ethylbenzene, and Total Xylenes

Figure 6 shows benzene isoconcentration contours for the recent event. Benzene was detected in five of the six wells for which benzene was analyzed, at concentrations ranging from 13 μ g/L (in MW-6) to 2,100 μ g/L (in MW-1). Maximum benzene concentrations were detected in source area wells MW-1 and MW-5, as historically has been the case. The lateral extent of the benzene

Table 2Groundwater Sample Analytical Results – September 19, 2005Hydrocarbons, BTEX, and MTBE (a)240 W. MacArthur Boulevard, Oakland, California

Well	TVHg	TEHd	Benzene	Toluene	Ethyl- benzene	Total Xylenes	мтве
MW-1	23,000	2,500	2,100	100	200	880	< 2.5
MW-2	1,400	210	30	1.3	1.9	2.8	58
MW-3	5,000	950	60	3.1	12	25.8	59
MW-4	< 50	NA	NA	NA	NA	NA	NA
MW-5	15,000	3,600	810	210	300	1,300	< 1.3
MW-6	680	200	13	0.9	6.6	13.0	< 0.5
MW-7	< 50	NA	NA	NA	NA	NA	NA
MW-8	520	< 50	< 0.5	< 0.5	< 0.5	< 1.0	65
Environme	ental Screening I	Levels (b)					
	NLP	NLP	1.0	40	30	20	5.0
Drinking V	Vater Standards	(c)	·		_	·	
	100	100	1.0 ^(d)	40	30	13	5.0

Notes:

^(a) All concentrations in $\mu g/L$, equivalent to parts per billion (ppb).

^(b) For commercial/industrial sites where a known or potential drinking water resource is threatened.

(e) Drinking water standards are State of California Secondary Maximum Contaminant Levels - Proposed, unless specified otherwise.

^(d) State of California Primary Maximum Contaminant Levels.

MTBE = methyl tertiary-butyl ether

TEHd = total extractable hydrocarbons - diesel range TVHg = total volatile hydrocarbons - gasoline range

NA = Not analyzed for this contaminant. NLP = No level published.

plume was constrained onsite in three directions in the current event; however, it extends under Howe Street to the north (up to approximately 100 μ g/L). The benzene plume configuration is generally the same as for gasoline and diesel.

Toluene, ethylbenzene, and xylenes were detected in generally the same wells in which benzene was detected, and contaminant concentrations exceeded respective ESL criteria in several of the wells.

Table 3Groundwater Sample Analytical Results – September 19, 2005Lead Scavengers and Fuel Oxygenates (a)240 W. MacArthur Boulevard, Oakland, California

Well	EDC	DIPE	ТВА
MW-1	6.5	< 2.5	240
MW-2	0.6	0.7	130
MW-3	1.5	0.9	94
MW-5	7.7	< 1.3	87
MW-6	15	0.7	43
MW-8	< 0.5	1.4	120
Drinking Water Standards ^(b)	NLP	NLP	NLP
ESLs ^(c)	0.5	NLP	12

Notes:

^(a) All concentrations in $\mu g/L$, equivalent to parts per billion (ppb).

(h) Drinking water standards are State of California Secondary Maximum Contaminant Levels - Proposed, unless specified otherwise.

(c) For commercial/industrial sites where known/potential drinking water resource is threatened.

DIPE = isopropyl ether.

EDC = ethylene dichloride (1,2-dichloroethane).

TBA = tertiary-butyl alcohol

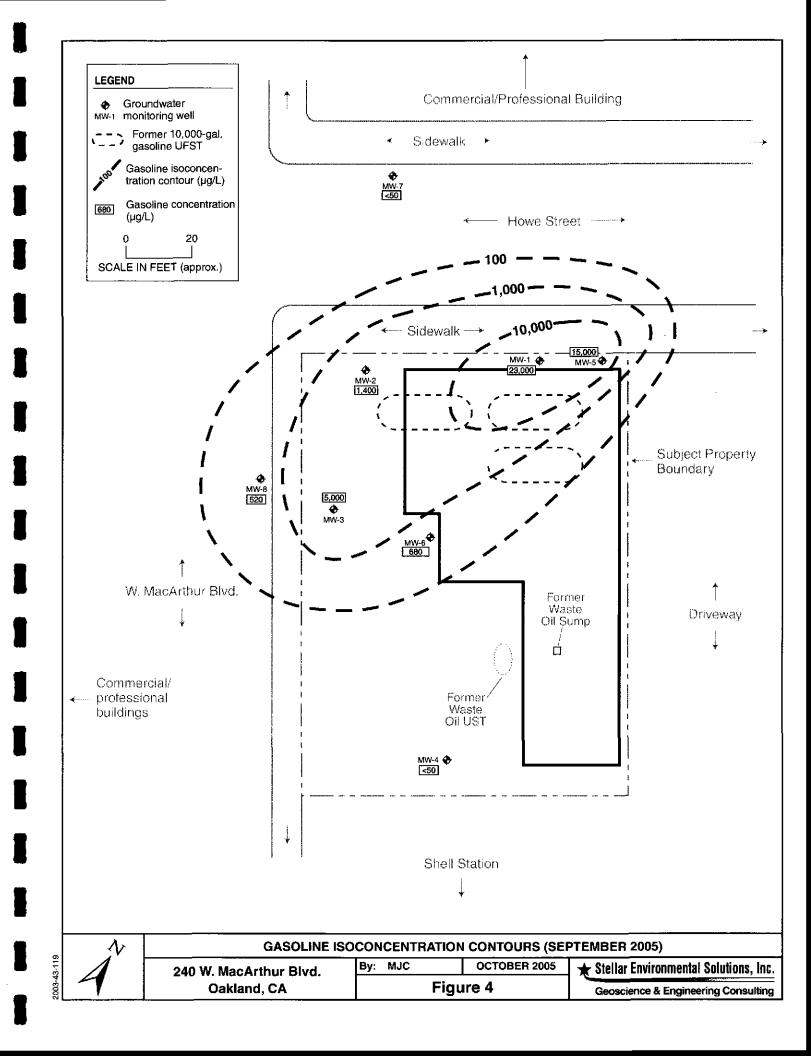
NLP = No level published.

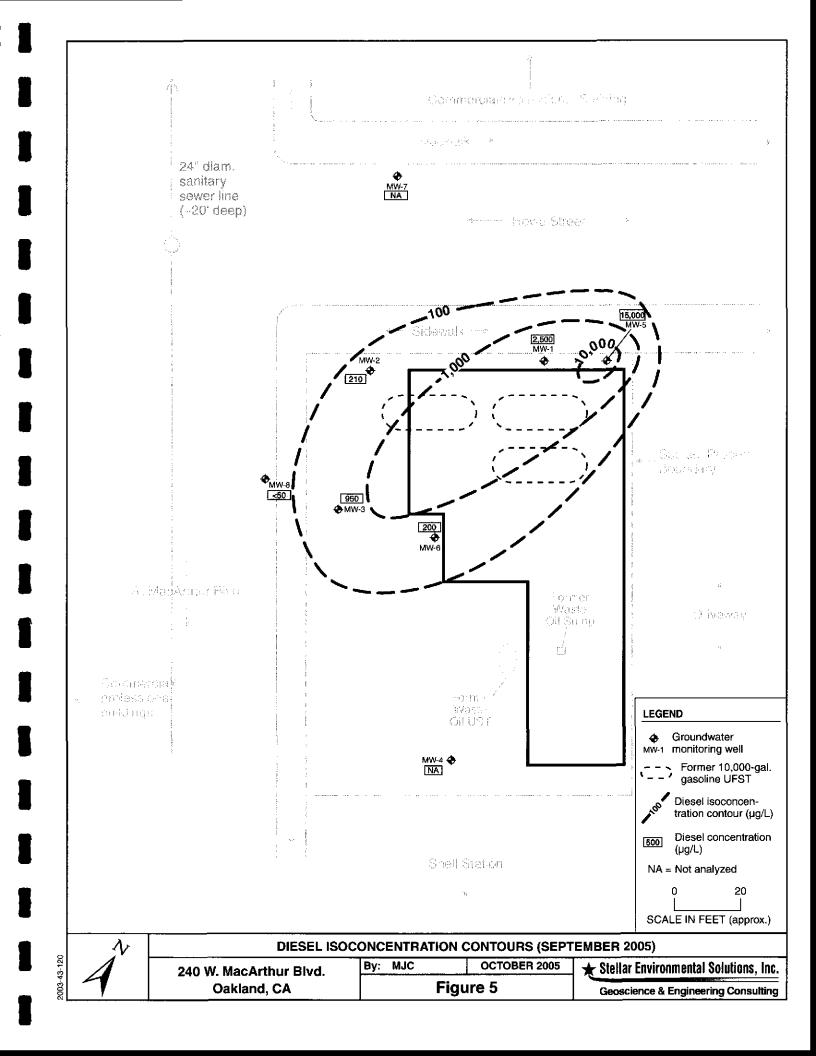
Table includes only detected fuel oxygenates. Contaminants analyzed for and not detected include EDB, ETBE, and TAME.

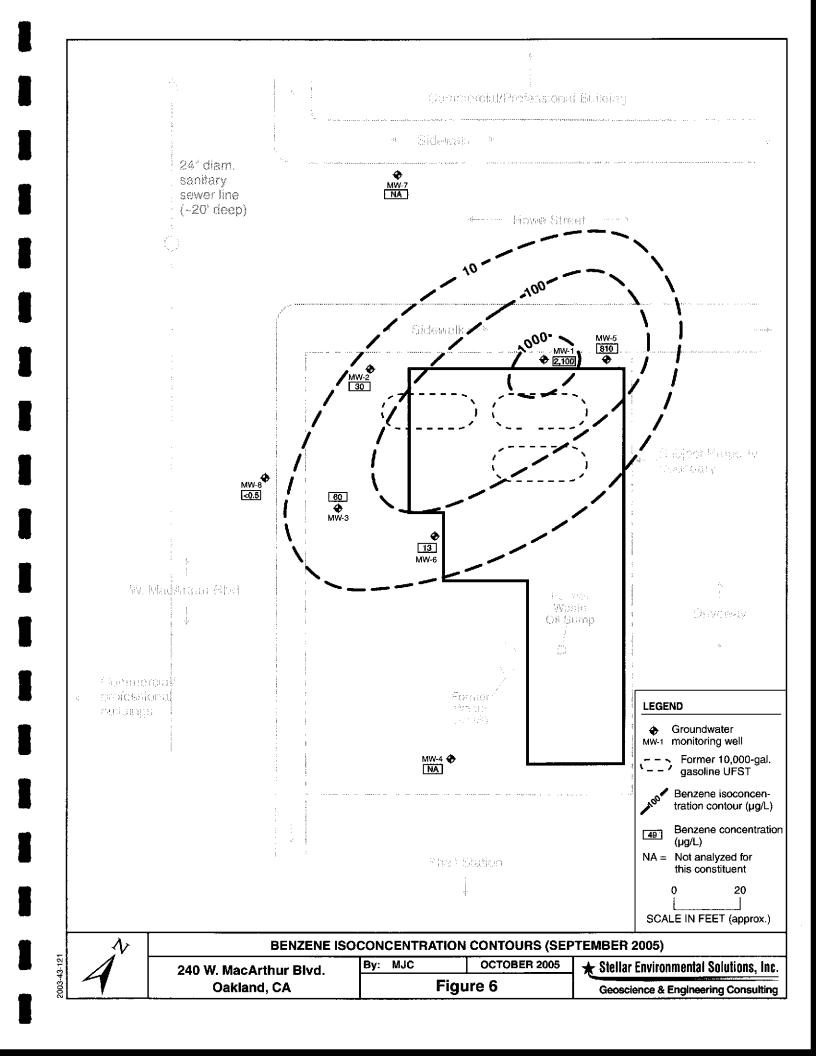
Methyl tertiary-Butyl Ether

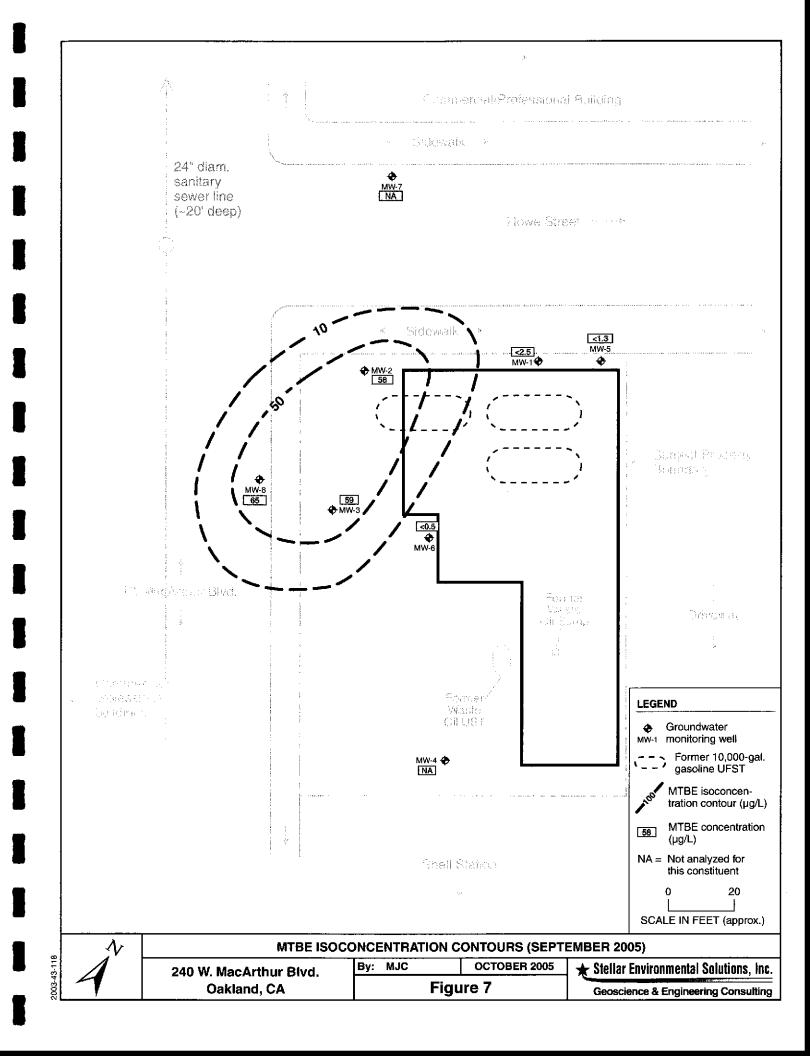
Figure 7 shows MTBE isoconcentration contours for the recent event. MTBE was detected in three of the six site wells for which MTBE was analyzed, at concentrations ranging from 58 μ g/L (in MW-2) to 65 μ g/L (in MW-8). The center of mass of the MTBE plume has migrated downgradient from the source area to the southern side of the property (adjacent to W. MacArthur Boulevard), with no MTBE present in source area wells MW-1 and MW-5.

The lateral extent of the MTBE plume was constrained onsite in three directions in the current event; however, it extends to the west underneath W. MacArthur Boulevard. As discussed in previous reports (SES, 2004c), MTBE appears to be migrating onto the subject property from the adjacent (to the east) Shell-branded service station. This contamination, however, is unrelated to the separate site-sourced MTBE contamination.









Lead Scavengers and Fuel Oxygenates

The lead scavenger EDC was detected in five of the six site wells for which lead scavengers were analyzed, with a maximum concentration of 15 μ g/L in MW-6. The lead scavenger EDB was not detected in any of the six wells.

Two fuel oxygenates were detected in the current event. DIPE was detected in four wells at concentrations between 0.7 μ g/L and 1.4 μ g/L. TBA was detected in all six wells at concentrations between 43 μ g/L and 240 μ g/L. No other fuel oxygenates were detected.

Summary of Groundwater Contamination

Maximum concentrations of gasoline and diesel were detected in wells MW-5 and MW-1, located in the northeastern corner of the property (near the former UFSTs). Maximum concentrations of MTBE were detected in downgradient wells (adjacent to W. MacArthur Boulevard), indicating that the center of mass of MTBE has migrated downgradient. Groundwater contamination extends offsite to the south and west (beneath Howe Street and W. MacArthur Boulevard).

QUALITY CONTROL SAMPLE ANALYTICAL RESULTS

Laboratory QC samples (e.g., method blanks, matrix spikes, surrogate spikes) were analyzed by the laboratory in accordance with requirements of each analytical method. All laboratory QC sample results and sample holding times were within the acceptance limits of the methods (Appendix C).

5.0 SUMMARY, CONCLUSIONS, AND PROPOSED ACTIONS

SUMMARY AND CONCLUSIONS

- The site has undergone site investigations and remediation since 1991 (SES has been involved since August 2003) to address soil and groundwater contamination resulting from leaking UFSTs that were reportedly removed. Alameda County Health is the lead regulatory agency.
- A total of 28 groundwater monitoring/sampling events have been conducted in the eight site wells between August 1997 and the current event.
- Additional site characterization (exploratory borehole drilling and sampling) in 2004 provided additional data on the extent and magnitude of residual soil and groundwater contamination.
- Groundwater at the site appears to be slightly confined, with a flow direction ranging between northwest and west, with a relatively flat hydraulic gradient averaging approximately 0.005 ft/ft. The groundwater flow direction and gradient were within the historical range.
- The primary site chemicals of concern, with regard to concentrations and risk issues, are gasoline, benzene, and MTBE. Diesel, aromatic hydrocarbons, lead scavengers, and fuel oxygenates are present at lesser concentrations and over a smaller area.
- As stipulated by Alameda County Health, analysis for lead scavengers will continue to be conducted in wells MW-1, MW-5, and MW-6. Fuel oxygenates were detected in those wells, and in MW-2, MW-3, and MW-8. Because lead scavengers and fuel oxygenates are analyzed by the same method at no additional cost, the responsible party has elected to continue analysis for lead scavengers and fuel oxygenates lead scavengers in all wells except MW-4 and MW-7.
- The greatest concentrations of gasoline, diesel, and benzene in groundwater are located in the northern corner of the site (near the source area). Maximum groundwater contamination by MTBE was detected in the downgradient portion of the property, indicating that the center of mass of these contaminants has migrated downgradient. Groundwater contamination above ESL criteria extends offsite (likely no more than 25 feet) beneath Howe Street and W. MacArthur Boulevard.

- The groundwater plume geometry shown in the Q3 2005 monitoring event with a southwest migrational pattern is typical of what has been observed in previous monitoring events. Seasonal effects do not appear to change the plume migration direction.
- A previous water well survey identified no vicinity water wells with the potential to intercept site-sourced groundwater contamination.
- Potential preferential pathways identified include deep sanitary sewer lines beneath Howe Street and W. MacArthur Boulevard (adjacent to the subject property). Based on the detection of gasoline and MTBE in well MW-7 (beyond the Howe Street deep utilities), it appears unlikely that the Howe Street deep utilities are acting as a preferential pathway for site-sourced groundwater contamination. The influence of deep utilities beneath W. MacArthur Boulevard is not known.
- The adjacent Shell service station is contributing minor MTBE groundwater contamination to the eastern corner of the subject property. This contamination is unrelated to the separate, site-sourced MTBE groundwater contamination in the northern and western portions of the subject property.
- Sufficient site characterization has been conducted to evaluate the risks associated with residual soil contamination, and to evaluate corrective action options. The data indicate that, if corrective action is not conducted, residual site contamination will remain at elevated levels for at least several years and likely longer.
- In December 2004, the property owner submitted to Alameda County Health a workplan for interim remedial action (focusing on soil vapor extraction to reduce source area contaminant mass). Alameda County Health has not yet responded to that workplan.

PROPOSED ACTIONS

The property owner proposes to implement the following action to address regulatory concerns:

- Implement the SES-recommended December 2004 Additional Site Characterization and Interim Remedial Action Workplan as soon as it is approved by Alameda County Health.
- Continue the program of quarterly groundwater sampling and reporting, with the objectives of obtaining site closure and continuing reimbursement requests under the State of California Petroleum UST Cleanup Fund.
- Continue the modified quarterly groundwater monitoring program to include analysis for fuel oxygenates and lead scavengers in all wells except MW-4 and MW-7.

■ Continue to make required Electronic Data Format uploads to the Water Board's GeoTracker database, and upload an electronic copy of technical reports to ACDEH's "ftp" system.

~

6.0 REFERENCES AND BIBLIOGRAPHY

- Advanced Environmental Concepts, Inc. (AEC), 2003a. 1st Quarter Groundwater Sampling Report (2003) – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. March 7.
- AEC, 2003b. 2nd Quarter Groundwater Sampling Report (2003) Former Vogue Tyres Facility 240 W. MacArthur Boulevard, Oakland, California. April 30.
- AEC, 2002a. December 2001 Quarterly Groundwater Sampling Report Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. January 30.
- AEC, 2002b. March 2002 Quarterly Groundwater Sampling Report Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. April 19.
- AEC, 2002c. 2nd Quarter Groundwater Sampling Report (2002) Former Vogue Tyres Facility 240 W. MacArthur Boulevard, Oakland, California. July 17.
- AEC, 2002d. 4th Quarter Groundwater Sampling Report (2002) Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. November 11.
- AEC, 2001a. December 2000 Quarterly Groundwater Sampling Report Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. January.
- AEC, 2001b. Additional Soil and Groundwater Assessment 240 W. MacArthur Boulevard, Oakland, County of Alameda, California. March.
- AEC, 2001c. May 2001 Quarterly Groundwater Sampling Report Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. May 27.
- AEC, 2001d. July 2001 Quarterly Groundwater Sampling Report Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. August 31.
- AEC, 2001e. Summary "Hi-Vac" Workplan Former Vogue Tyres Facility 240 W. MacArthur Boulevard, Oakland, California. September 11.

- AEC, 2001f. October 2001 Quarterly Groundwater Sampling and Summary "Hi-Vac" Report Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. December 15.
- AEC, 2000a. Quarterly Groundwater Sampling Report Former Vogue Tyres Facility 240 W. MacArthur Boulevard, Oakland, California. August 11.
- AEC, 2000b. Additional Groundwater Assessment Workplan for Former Vogue Tyres Facility 240 W. MacArthur Boulevard, Oakland, County of Alameda, California. October.
- AEC, 1999. Quarterly Groundwater Sampling Report Former Vogue Tyres Facility 240 W. MacArthur Boulevard, Oakland, California. January 22.
- AEC, 1998a. Second Quarterly Groundwater Sampling Report Former Vogue Tyres Facility 240 W. MacArthur Boulevard, Oakland, California. April 2.
- AEC, 1998b. Request for Site Closure Former Vogue Tyres Facility 240 W. MacArthur Boulevard, Oakland, California. June 29.
- AEC, 1998c. Third Quarterly Groundwater Sampling Report Former Vogue Tyres Facility 240 W. MacArthur Boulevard, Oakland, California. August 2.
- AEC, 1998d. Fourth Quarterly Groundwater Sampling Report Former Vogue Tyres Facility 240 W. MacArthur Boulevard, Oakland, California. November 6.
- AEC, 1997a. Subsurface Soil and Groundwater Investigation Workplan for Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. June.
- AEC, 1997b. Continuing Soil and Groundwater Assessment for Former Vogue Tyres Facility 240 W. MacArthur Boulevard, Oakland, California. August.
- AEC, 1997c. First Quarterly Groundwater Sampling Report Former Vogue Tyres Facility 240 W. MacArthur Boulevard, Oakland, California. December 21.
- All Environmental, Inc., 1997a. Underground Storage Tank Removal and Excavation, Transport and Disposal of Contaminated Soil Report – 240 W. MacArthur Boulevard, Oakland, California. January 3.
- All Environmental, Inc., 1997b. Phase II Subsurface Investigation Report 240 W. MacArthur Boulevard, Oakland, California. February 14.

- All Environmental, Inc., 1997c. Soil and Groundwater Investigation Workplan 240 W. MacArthur Boulevard, Oakland, California. April 15.
- Cambria Environmental Technology, Inc., 2004. Second Quarter 2004 Monitoring Report, Shell-branded Service Station, 230 W. MacArthur Boulevard, Oakland, California. July 29.
- Guidici, 2003. Supervisor, City of Oakland Public Works Department Sewer Maintenance. Personal communication to Joe Dinan of SES. September 8.
- Mittelhauser Corporation, 1991a. Magnetic Survey for Underground Utilities and Recommendations at 240 W. MacArthur Boulevard, Oakland, California. February 21.
- Mittelhauser Corporation, 1991b. Sump Removal and Waste Oil Cleanup at 240 W. MacArthur Boulevard, Oakland, California. April 9.
- Regional Water Quality Control Board (Water Board), 2005. Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater. February.
- Stellar Environmental Solutions, Inc. (SES), 2005a. Fourth Quarter 2004 Groundwater Monitoring and Annual Summary Report, 240 W. MacArthur Boulevard, Oakland, California. January 18.
- SES, 2005b. First Quarter 2005 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. March 31.
- SES, 2005c. Second Quarter 2005 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. July 8.
- SES, 2004a. Fourth Quarter 2003 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. January 12.
- SES, 2004b. First Quarter 2004 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. April 12.
- SES, 2004c. Soil and Groundwater Investigation Report, 240 W. MacArthur Boulevard, Oakland, California. June 8.
- SES, 2004d. Second Quarter 2004 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. July 12.

- SES, 2004e. Third Quarter 2004 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. October 11.
- SES, 2004f. Workplan for Additional Site Characterization and Interim Remedial Action, 240W. MacArthur Boulevard, Oakland, California. December 27.
- SES, 2003a. Workplan for Additional Site Characterization, 240 W. MacArthur Boulevard, Oakland, California. August 20.
- SES, 2003b. Third Quarter 2003 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. September 5.
- SES, 2003c. Amended Workplan for Additional Site Characterization, 240 W. MacArthur Boulevard, Oakland, California. December 10.

7.0 LIMITATIONS

This report has been prepared for the exclusive use of the current property owners (Mr. and Mrs. Glen Poy-Wing, d.b.a. Oakland Auto Works) their representatives, and the regulators. No reliance on this report shall be made by anyone other than those for whom it was prepared.

The findings and conclusions presented in this report are based on the review of previous investigators' findings at the site, as well as site activities conducted by SES since August 2003. This report provides neither a certification nor guarantee that the property is free of hazardous substance contamination. This report has been prepared in accordance with generally accepted methodologies and standards of practice of the area. The SES personnel who performed this limited remedial investigation are qualified to perform such investigations and have accurately reported the information available, but cannot attest to the validity of that information. No warranty, expressed or implied, is made as to the findings, conclusions, and recommendations included in the report.

The findings of this report are valid as of the present. Site conditions may change with the passage of time, natural processes, or human intervention, which can invalidate the findings and conclusions presented in this report. As such, this report should be considered a reflection of the current site conditions as based on the investigation and remediation completed.

WELL GAUGING DATA

Project # 0507/9-MDBate 9/19/05 Client Stellar Envi

site 240 W. MacArthur Bled, Oakland

					Thickness	Volume of				
		Well		Depth to	of	Immiscibles			Survey	
J		Size	Sheen /		Immiscible	Removed	Depth to water		Point: TOB	
	Well ID	(in.)	Odor	Liquid (ft.)	Liquid (ft.)	(ml)	(ft.)	bottom (ft.)	91 TOC	
	NW-1	2	ador				16.42	24,37		
	W2	٢					<u>[6</u> ∞	24/37 24/33		
1	Mar-3	ζ					15.14	24127		
	MW-4	2					15.13	24.09		
	Mr-5	7.					16.61	70,05		
 	MAR-E	2					15.61	20.15		
	1.1.7	ζ					15.81	19.96		
	1100-7 1100-7	2					13,90	19,74	\vee	
							-			
								v		
1				-						
I										· · · · · · · · · · · · · · · · · · ·
					·····				·	

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

WELLHEAD INSPECTION CHECKLIST Page ____ of _____ 9/19/05-OW, Macarithur Blue, Oaklaco Date Site Address 24 50919-MDZ Job Number Technician Water Bailed Debris Well Inspected -Other Action Well Not Weilbox Сар Removed Lock Taken No Corrective From Components Inspected Replaced Well ID From Action Required Replaced (explain Wellbox (explain Cleaned Wellhox below) below) Mw-1 Mw-~ MIT V V ~ $\boldsymbol{\mathcal{V}}$ $\overline{\mathcal{I}}$ NOTES:

SAN DIEGO

WELL MONITORING DATA SHEET γ						
Project #: 050919-MD3 CI	ient: Steller & Oakbus Autour					
Sampler: MO Da	ate: 9/19/05					
Well I.D.: MW / W	ell Diameter: 2 3 4 6 8					
Total Well Depth (TD): 24.37 De	epth to Water (DTW): 16.42					
Depth to Free Product: Th	nickness of Free Product (feet):					
Referenced to: PEC Grade D.	O. Meter (if req'd):					
DTW with 80% Recharge [(Height of Water Co	lumn x 0.20) + DTW]: [8,0]					
	Vaterra Sampling Method: Bailer stattic Disposable Bailer Pump Extraction Port Dedicated Tubing Other:					
$\frac{13}{1 \text{ Case Volume}} (\text{Gals.}) \times \frac{3}{\text{Specified Volumes}} = \frac{3.9}{\text{Calculated Volume}} \text{Gals.}$	11 3" 0.37 Other radius" #0.163					
Time Temp Cond. Time $CE or^{\circ}C$ pH $(mS \text{ or } \mu S)$ $CE or^{\circ}C$ DH $CE or (mS \text{ or } \mu S)$	Turbidity (NTUs) Gals. Removed Observations					
1416	1.3 SpHstillprosol					
1419 69.266 1218	71000 2.6 Shern, odar					
1422 68,4 6,6 1165	7000 3.9 4 0					
	Fernosta 3.1					
Did well dewater? Yes No Ga	illons actually evacuated: 3,9					
Sampling Date: 9/19/05 Sampling Time: 1470 Depth to Water: 16.91						
Sample I.D.: Mu - Laboratory: Kiff CalScience Other Cf						
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:						
EB I.D. (if applicable): [@] Duplicate I.D. (if applicable):						
Analyzed for: TPH-G BTEX MTBE TPH-D Ox	ygenates (5) Other:					
D.O. (if req'd): Pre-purge:	^{mg} / _L Post-purge: at other of the mg/ _L					
O.R.P. (if req'd): Pre-purge:	mV Post-purge: mV					

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558

.

		WŁ	LL MONITO	ORING D	ATAS	SHEET			
Project #:	050	919-1	MB3	Client: S	fel	Mare	ÐC	gklaw.	abu
Sampler:		ans		Date:	9/1	9/05			
Well I.D.:	p	wi		Well Diar	neter:	2 3	4	68	
Total Well	Depth (TD)	: 29	433	Depth to	Water	(DTW):		6.00	
Depth to Fi	ree Product:			Thickness			ct (feet		
Referenced	l to: 🤇	PVC	Grade	D.O. Met	er (if r	eq'd):	0	HAI	СН
DTW with	80% Recha	rge [(He	ight of Water	Column x	0.20)	+ DTW]	*	14.67	
Purge Method:	Bailer Disposable Ba Positive Air D Bactric Subm	isplacement		Waterra Peristaltic tion Pump		Sampling I	Method: Other:	Disponble Extraction Dedicated	Bailer Port
	, 		00	We	Il Diameter 1"	Multiplier 0.04	<u>Well Di</u> 4" 6"	ameter <u>Multiplier</u> 0.65 1.47	•
I Case Volume	(Gals.) X Specif	ied Volume	$= \frac{5}{Calculated Vc}$	_Gals. olume	2" 3"	0.16 0.37	Other	radius ² * 1	0.163
Time	Temp (For °C)	pH	Cond. (mS or μ S)	Turbid (NTU	- 1	Gals. Rer	noved	Observa	tions
1323	10,8	68	634	68	3		3	Cordy	/
1326	69,5	6.7	640	70	00	2	6		
1329	690	68	637	710=		<u> </u>	7	<u> </u>	
			· .	Feet	Tust	\$ 1.8	3		
Jid well o		Yes C	No	Gallons				3.9	
npling	f		Sampling Tim	ne: 132	35	Depth to	Wate	r: 17,6	7
' e I.	D.:	hie	2	Laborato	ory:	Kiff Ca	IScience	Other	ŧĹ
1	for: TPH-G	1000	MTBE TPH-D	Oxygenat	es (5)	Other:	Ze	Scot-	-
	`pplicable):	@ Time	Duplicat	te I.D.	(if applic	able):	. T	
	TPH-G	BTEX	MTBE TPH-D	Oxygenat	es (5)	Other:			
	P	re-purge:		^{mg} /L		ost-purge	, , ,		^{mg} /L
	· P	re-purge:		mV	P	ost-purge	- -		mV

s, inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558

.

WELL MONITORING DATA SHEET						
Project #: 050919-M)	Client:	Aellar	2 Oakp	n Autol	lo/kr	
Sampler:	Date:	9/19/9		•••		
Well I.D.: MW-3	Well D	Diameter:	3 4 6	8		
Total Well Depth (TD): 24.27	Depth	to Water (DTW	1): /5 .1	4		
Depth to Free Product:	Thickn	ess of Free Pro	duct (feet):			
Referenced to: PVC - Grad	de D.O. N	leter (if req'd):	(YSI	HACH		
DTW with 80% Recharge [(Height of	Water Colum	n x 0.20) + DTV	w]: /	6.97		
Purge Method: Bailer Disposable Bailer Positive Air Displacement Electric Submersible Ot	Waterra Peristaltic Extraction Pump ther	-	ng Method: <	Bailer Disposable Bailer Extraction Port Dedicated Tubing		
$\frac{15}{1 \text{ Case Volume}} (\text{Gals.}) \times \frac{1}{\text{Specified Volumes}} = \frac{1}{\text{Calculation}}$	<u>4, 5</u> Gals. <u>ulated Volume</u>	Well Diameter Multiple 1" 0.04 2" 0.16 3" 0.37		r Multiplier 0.65 1.47 radius ² * 0.163		
Time $Temp$ Con Time PH $(mSon7346$ $TO9$ 6.7 $To9$		bidity TUs) Gals. I	Removed	Observations	oder	
1349 70.6 67 74	2 70				4	
	2 70			Y	<u>v</u>	
	Fe	zposta 1	.6			
Did well dewater? Yes No	Gallon	s actually evacu	lated: 4	5		
Sampling Date: 9 49 0 Sampling	ng Time: [4	Depth	to Water:	16.03		
Sample I.D.:	Labora	ntory: Kiff	CalScience	Other <u>CH</u>		
Analyzed for: TPH-G BTEX MTBE	трн-d Oxygen	ates (5) Other:	Sea	Sape		
EB I.D. (if applicable):	ne Duplic	ate I.D. (if appl	icable):	v		
Analyzed for: TPH-G BTEX MTBE	TPH-D Oxygen		\			
D.O. (if req'd): Pre-purge:	^{mg} /L	Post-pure	re:	Od	^{nig} /L	
O.R.P. (if req'd): Pre-purge:	mV	Post-purg	ge:		mV	

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558

.

WELL MONITORING DATA SHEET									
Project #:	0509	19-M)3	Client:	Stelle	107	400	MacArtha	Pat k
Sampler:	m	10		Date:	7/19	165	<i>t</i>		
Well I.D.:	MW-	4		Well I	iameter:	2 3	4	68	
Total Well I	Depth (TD)): Z4	1.09	Depth	to Water	·(DTW)	: 15	13	
Depth to Fro			· · · · · · · · · · · · · · · · · · ·	Thickn	ess of Fi	ree Prod	uct (fee	t):	
Referenced	to:	(PVC)	Grade	D.O. N	leter (if	req'd):		YSI HA	СН
DTW with 8	30% Recha	urge [(H	eight of Water	Colum	n x 0.20)	+ DTW]:	76.92	
Purge Method:	Bailer Disposable Ba Positive Air E Electric Subm	Displaceme		Waterra Peristaltic tion Pump		Sampling	; Method: Other:	Baile Disposable Extraction Dedicated	Bailer 1 Port
1 Case Volume	Gals.) XSpecif	<u>3</u> fied Volum	$= \frac{Y.2}{Calculated Vc}$	Gals.	Well Diamete 1" 2" 3"	r Multiplier 0.04 0.16 0.37	Well D 4" 6" Other	iameter Multiplier 0.65 1.47 radius ² * (- - -
Time	Temp (°F or °C)	pH	Cond. (mS or S	2	bidity ΓUs)	Gals. Re	moved	Observa	1
IMG	6910	6.4	535	7/0	\underline{w}	<u> </u>	1	C/ou	JY
1140	691	64	549	017	00	<u> </u>	<u></u>		/
1150	60.0	6.3	538	0	00	91	2	<i>v</i>	
				<u> </u>	FZ		- Øi		
Did well de	ali	1.2	No li Ti		$\frac{1}{2}$	y evacua		42	~
Sampling D		405	Sampling Tim		55	Depth to			L
Sample I.D.		NY	- <u>-</u>	Labora	tory:	Kiff Ca	alScience	Other C	<u> </u>
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See Scope									
EB I.D. (if applicable): [@] ^{Time} Duplicate I.D. (if applicable):									
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:									
D.O. (if req		e-purge:		^{mg} /L		ost-purge	:	0.2	^{mg} /L
O.R.P. (if re	eq'd): Pr	e-purge:	· · · · · · · · · · · · · · · · · · ·	mV	P	ost-purge	:		mV

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558

WELL MONITORING DATA SHEET					
Project #: 050919-mD 3	Client: St Mar Col	land Acto Works			
Sampler: M	Date: 9/19/05				
Well I.D.: MW-5	Well Diameter: (2) 3 4	68			
Total Well Depth (TD): 20.05	Depth to Water (DTW):	661			
Depth to Free Product:	Thickness of Free Product (fe	et):			
Referenced to: Grade	D.O. Meter (if req'd):	KSI HACH			
DTW with 80% Recharge [(Height of Water	Column x 0.20) + DTW]:	17,30			
Purge Method: Bailer Displaceble Bailer Positive Air Displacement Extrac Electric Submersible Other	Waterra Sampling Method: Peristaltic ation Pump Other:	Disposable Bailer Extraction Port Dedicated Tubing			
06 - 10	Well Diameter Multiplier Well I 1" 0.04 4"	Diameter Multiplier 0.65			
$\frac{Ob}{1 \text{ Case Volume}} (\text{Gals.}) \times \underbrace{\frac{Specified \text{ Volumes}}{Specified \text{ Volumes}}}_{\text{Calculated Volumes}} = \underbrace{\frac{S}{Calculated \text{ Volumes}}}_{\text{Calculated Volumes}}$	_ Gals. 2" 0.16 6" 3" 0.37 Other	1.47 radius ² * 0.163			
$\begin{array}{c c} Temp & Cond. \\ \hline Time & (^{\circ}For^{\circ}C) & pH & (mSer\mu S) \\ \hline 1432 & G22 & G7 & 917 \\ \hline \end{array}$	Turbidity (NTUs) Gals. Removed	Observations			
0435 67.3 6.7 903 1439 67.4 68 844	71000 1.2 71000 1.88	VV			
		¥			
	For Dast: 1.8 mgk				
Did well dewater? Yes No Gallons actually evacuated:					
Sampling Date: 98/19 & Sampling Time: 1445 Depth to Water: 17.30					
Sample I.D.: MW 5 Laboratory: Kiff CalScience Other CF					
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:					
EB I.D. (if applicable): [@] Duplicate I.D. (if applicable):					
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:					
D.O. (if req'd): Pre-purge:	^{mg} /L Post-purge:	Gr4 mg/L			
O.R.P. (if req'd): Pre-purge:	mV Post-purge:	mV			

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558

He S

WELL MON	WELL MONITORING DATA SHEET					
Project #: 050919-MD3	Client: Stellar OCOKGO Autoarks					
Sampler:	Date: 9/19/65					
Well I.D.: MW-6	Well Diameter: 2 3 4 6 8					
Total Well Depth (TD):	S Depth to Water (DTW): 156					
Depth to Free Product:	Thickness of Free Product (feet):					
Referenced to: PVC Grade	D.O. Meter (if req'd):					
DTW with 80% Recharge [(Height of Wa	ater Column x 0.20) + DTW]: 16.52					
Purge Method: Bailer Waterra Sampling Method: Bailer Disposable Bailer Peristaltic Disposable Bailer Positive Air Displacement Extraction Pump Extraction Port Electric Submersible Other Other:						
· · · · · · · · · · · · · · · · · · ·	Welt Diameter Multiplier Well Diameter Multiplier					
$\frac{O_{1}7}{I_{\text{Case Volume}}} (Gals.) \times \frac{3}{\text{Specified Volumes}} = \frac{2}{Calculate}$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					
Temp Cond.	Turbidity					
Time ($^{\circ}$ P or $^{\circ}$ C) pH (mS or μ S						
1277 197 6.7 1008	213 OF Clovely					
1235 69.6 6.7. 1019	7/000 1.9					
1257 69.5 GF 1020	7/000 6.1					
	Estet 11					
Did well dewater? Yes No	Gallons actually evacuated: 2,					
Sampling Date: 9 9 67 Sampling						
Sample I.D.:	Laboratory: Kiff CalScience Other CH					
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: Stello						
EB I.D. (if applicable): ^(a) Duplicate I.D. (if applicable):						
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:						
D.O. (if req'd): Pre-purge:	^{mg} / _L Post-punge: 0.6 ^{mg} / _L					
O.R.P. (if req'd): Pre-purge:	mV Post-purge: mV					

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558

Ĩ

WELL MONI	TORING DATA SHEET						
Project #: 050919-MD3	Client: Stellar Odland A. D. Works						
Sampler: AUU	Date: 9 19 01-						
Sampler: MU Well I.D.: MU-7	Well Diameter: 2 3 4 6 8						
Total Well Depth (TD): 19,96	Depth to Water (DTW): 15.8						
Depth to Free Product:	Thickness of Free Product (feet):						
Referenced to: PVC Grade	D.O. Meter (if req'd): HACH						
DTW with 80% Recharge [(Height of Wate	er Column x 0.20) + DTW]: 6.64						
Purge Method: Bailer Disposable Bailer Positive Air Displacement Electric Submersible Other	Waterra Sampling Method: Bailer Peristaltic Disposable Bailer traction Pump Extraction Port Other: Other:						
$\frac{3.7}{1 \text{ Case Volume}} (\text{Gals.}) \times \frac{3}{\text{Specified Volumes}} = \frac{2.1}{\text{Calculated}}$	Well Diameter Multiplier Well Diameter Multiplier 1" 0.04 4" 0.65 2" 0.16 6" 1.47 3" 0.37 Other radius ² * 0.163						
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Turbidity (NTUs)Gals. RemovedObservations 70∞ 0.7 $Chody$ 70∞ 1.4 1.4 70∞ 2.1 1.4						
Did wall deventor?	Gallons actually evacuated: 2./						
Did well dewater? Yes No Sampling Date: 9 (190) Sampling Ti							
	<u> </u>						
	Sample I.D.: MW-7 Laboratory: Kiff CalScience Other_C+1						
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:							
EB I.D. (II applicable): Time Duplicate I.D. (II applicable):							
Analyzed for: TPH-G BTEX MTBE TPH-D D.O. (if req'd): Pre-purge:	O Oxygenates (5) Other: mg/L Post-purge: Z.O mg						
O.R.P. (if req'd): Pre-purge:	mV Post-purge: m						

1

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558

WELL MONITORING DATA SHEET					
Project #: 050919-003	Client: Stat	lar O	staw Autous		
Sampler: Mo	Date: 9/1	19/05-			
Well I.D.: MWV-8	Well Diameter	2 3 4	6 8		
Total Well Depth (TD): 19,74	Depth to Water	(DTW):	3.90		
Depth to Free Product:	Thickness of F	ree Product (fee	et):		
Referenced to: Grade	D.O. Meter (if	req'd): (YSI HACH		
DTW with 80% Recharge [(Height of Water	Column x 0.20)	+ DTW]:	15:07		
Purge Method: Bailer Disposeble Bailer Positive Air Displacement Extra Electric Submersible Other	Waterra Peristaltic ction Pump	Sampling Method: Other:	Bailer Disposable Bailer Extraction Port Dedicated Tubing		
$\frac{O, 9}{\text{(Gals.) X}} = \frac{2.7}{\text{Calculated Volumes}}$	Gals	r Multiplier Well D 0.04 4" 0.16 6" 0.37 Other	l <u>iameter Multiplier</u> 0.65 1.47 radius ² * 0.163		
Temp Cond. Time (°F)r °C) pH (mS or 415)	Turbidity (NTUs)	Gals. Removed	Observations		
1259 69.8 6.9 458	7000	,9	Cloudy		
1301 69.4 68 492	7000	1.8			
1303 69.4 6.8 512	0007	2.7	<u> </u>		
	(
	F& post:	0,0			
Did well dewater? Yes No	Gallon's actuall	y evacuated:	2.7		
Sampling Date: 7/19/05 Sampling Tim	ie: <u>30</u>	Depth to Water	r: 14,25		
Sample I.D.: MU-E	Laboratory:	Kiff CalScience	Other		
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: Scapp					
EB I.D. (if applicable): @ Duplicate I.D. (if applicable):					
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:					
D.O. (if req'd): Pre-purge: $\frac{mg}{L}$ Post-purge: $\frac{mg}{L}$					
O.R.P. (if req'd): Pre-purge:	mV P	ost-purge:	mV		

-

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558

.

SPH or Purge Water Drum Log

lient:

Site Address: 240 W. Mac	Arthur	-Blud., a	soklan,	1		
STAMUSICIPADRUM(S)AUPON	ANRIAN					
Date	6/14/05	9/19/05				
lumber of drum(s) empty:				·····		
Number of drum(s) 1/4 full:		1				
lumber of drum(s) 1/2 full:						
Number of drum(s) 3/4 full:					. <u> </u>	
lumber of drum(s) full:	4	4	· · · · · · · · · · · · · · · · · · ·			
Total drum(s) on site:	5	5				
Are the drum(s) properly labeled?	Yes	X				
Drum ID & Contents:	#20	#-0		· · ·		
f any drum(s) are partially or totally illed, what is the first use date:		1.0				

If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purgewater or DI Water.

If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.

Stellar Eav.

All BTS drums MUST be labeled appropriately.

PTPATEUSSIOTEDRUUVI(S)) UPONI	DEPART	IRE / S			
Date	6/14/05	9/19/05			
Number of drums empty:		1	· · · · · · · · · · · · · · · · · · ·	 	
Number of drum(s) 1/4 full:					
Number of drum(s) 1/2 full:				 	
Number of drum(s) 3/4 full:	1	耄		 	
Number of drum(s) full:	4	\$5		 	
Total drum(s) on site:	5	5		 	
Are the drum(s) properly labeled?	Yon	7	<u> </u>	 	<u></u>
Drum ID & Contents:	Hall	HO			
LOCATION OF DRUM(S)					
Describe location of drum(s): New	+ to Dwn	nactor			
	1 10 8/11	ip sur			
- FINIAL STATIUS					
Number of new drum(s) left on site					
this event		\propto			
Date of inspection:	6/14/05	9/19/05		 	
Drum(s) labelled properly:	Yeb	<u>''y`</u>		 	
Logged by BTS Field Tech:	WIT	M			
				1	

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878 2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Stellar Environmental Solutions 2198 6th Street Suite 201 Berkeley, CA 94710

Date: 30-SEP-05 Lab Job Number: 182018 Project ID: STANDARD Location: Oakland Auto Works

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:	
	Openar Vons Manager

This package may be reproduced only in its entirety. NELAP # 01107CA Page 1 of

1820 Chain of Custody Record Lab job no Curtis and Tompkins Laboratory. Method of Shipment Lab Courier 2323 Fifth St. Address (84^{60B}) Oakland, CA Shipment No. _ Airbill No. BIEX MIDE EDB & ED Analysis Required Stellar Env. Solutions Cooler No. Project Owner Project Manager Bruce Rucker Site Address _ 240 W. Macarthur Blvd. Oakland 4, CA Telephone No. <u>(510)</u> 644-3123 1114.6 (8015h) No. or Con (Insto Barsin) Project Name Oakland Auto Works (510) 644-3859 Fax No. Project Number __________ Remarks Samplers: (Signature) Location/ Depth Field Sample Number Sample Type Date Preservation Type/Size of Container Time Cooler Chemical MW-1111/2011/30 voc Anthor W 5 MV-2_ 1335 MW-3 MOD 5 WU ~ 1155 3 me -5 1445 5 Har WW 6 *-*\۱ 245 5 WV-1220 3 mu-e ♥ 1310 Anner Î SX Relinquished t 1/1/ Received by: Pate 9 Rey of S Date Relinquished by: Date Structe Gust. Apelos Received by: Signature Signature . Htt. 194 Signature Signature 9/20 Printed Time Printed 12.twief Time Printed Time 67-5 BITS 000 Company ાંનવરી Company 1448 448 Company Company Turnsround Time: **Relinquished by:** Date Received by Date Sionature Signatu Comments 00-00-00 Тітте Printed Time Company Company

Stellar Environmental Solutions

2198 Sixth Street #201, Berkeley, CA 94710

Curtis & Tompkins, Ltd.

		Total Volat:	Te UATOCALD		
			•		
Lab #:	182018		Location:	Oakland Auto Works	
lient:	Stellar Environmenta	l Colutions		EPA 5030B	
	STANDARD	ai Solucions	Prep:	EPA 9030B EPA 8015B	
	······································		Analysis:		
latrix:	Water		Sampled:	09/19/05	
Inits:	ug/L		Received:	09/20/05	
Batch#:	106001	·····	····		-
eld ID:	MW-1		Diln Fac:	5.000	
pe:	SAMPLE		Analyzed:	09/21/05	
ıb ID:	182018-001				
	Analyte	Result		RL	
asoline (C7-C12	23,000		250	
rifluoro	Surrogate coluene (FID)	%REC Limits 142 * 62-141			
	robenzene (FID)	185 * 78-134			
pe: b ID:	182018-002	Result	Analyzed:	09/22/05	
asoline (1,400		50	
	Surrogate	%REC Limits			enere en en esp
	coluene (FID)	%REC Limits 167 * 62-141			
	coluene (FID)	167 * 62-141			
	coluene (FID)	167 * 62-141			
	coluene (FID)	167 * 62-141		5.000	
eld ID: pe:	coluene (FID) cobenzene (FID)	167 * 62-141	· · · · · · · · · · · · · · · · · · ·	5.000 09/21/05	
romofluon eld ID: pe:	coluene (FID) cobenzene (FID) MW-3	167 * 62-141	Diln Fac:		
eld ID: pe:	Coluene (FID) Cobenzene (FID) MW-3 SAMPLE 182018-003	167 * 62-141 160 * 78-134	Diln Fac: Analyzed:	09/21/05	
eld ID: pe: b ID:	Coluene (FID) Cobenzene (FID) MW-3 SAMPLE 182018-003 Analyte	167 * 62-141 160 * 78-134 Result	Diln Fac: Analyzed:	09/21/05 Æ	
eld ID: pe: b ID:	Coluene (FID) Cobenzene (FID) MW-3 SAMPLE 182018-003 Analyte	167 * 62-141 160 * 78-134	Diln Fac: Analyzed:	09/21/05	
eld ID: pe: b ID:	MW-3 SAMPLE 182018-003 Analyte	167 * 62-141 160 * 78-134 Result	Diln Fac: Analyzed:	09/21/05 Æ	
eld ID: pe: b ID: asoline (Coluene (FID) Cobenzene (FID) MW-3 SAMPLE 182018-003 Analyte	167 * 62-141 160 * 78-134 Result 5,000	Diln Fac: Analyzed:	09/21/05 Æ	
eld ID: pe: b ID: asoline (MW-3 SAMPLE 182018-003 Analyte Surrogate coluene (FID)	167 * 62-141 160 * 78-134 Result 5,000 %REC Limits 126 62-141	Diln Fac: Analyzed:	09/21/05 Æ	
eld ID: pe: b ID: asoline (MW-3 SAMPLE 182018-003 Analyte Surrogate	167 * 62-141 160 * 78-134 Result 5,000 %REC Limits 126 62-141	Diln Fac: Analyzed:	09/21/05 Æ	
aromofluor Pe: ab ID: Gasoline (Grifluorot Bromofluor	MW-3 SAMPLE 182018-003 Analyte C7-C12 Surrogate coluene (FID) cobenzene (FID)	167 * 62-141 160 * 78-134 Result 5,000 %REC Limits 126 62-141 131 78-134	Diln Fac: Analyzed:	09/21/05 Æ	
eld ID: pe: b ID: sasoline (rifluorot romofluor	MW-3 SAMPLE 182018-003 Analyte 27-C12 Surrogate coluene (FID) cobenzene (FID)	167 * 62-141 160 * 78-134 Result 5,000 %REC Limits 126 62-141 131 78-134	Diln Fac: Analyzed:	09/21/05 Æ	
eld ID: pe: b ID: asoline (rifluorot romofluor = Value o = Not Det	MW-3 SAMPLE 182018-003 Analyte C7-C12 Surrogate coluene (FID) cobenzene (FID) cobenzene (FID)	167 * 62-141 160 * 78-134 Result 5,000 %REC Limits 126 62-141 131 78-134	Diln Fac: Analyzed:	09/21/05 Æ	
romofluor eld ID: pe: b ID: asoline (rifluorot romofluor = Value c = Not Det = Reporti	MW-3 SAMPLE 182018-003 Analyte C7-C12 Surrogate coluene (FID) cobenzene (FID) cobenzene (FID) cobenzene (FID)	167 * 62-141 160 * 78-134 Result 5,000 %REC Limits 126 62-141 131 78-134	Diln Fac: Analyzed:	09/21/05 Æ	
romofluon eld ID: pe: b ID: asoline (rifluorot romofluon = Value c = Not Det	MW-3 SAMPLE 182018-003 Analyte C7-C12 Surrogate coluene (FID) cobenzene (FID) cobenzene (FID) cobenzene (FID)	167 * 62-141 160 * 78-134 Result 5,000 %REC Limits 126 62-141 131 78-134	Diln Fac: Analyzed:	09/21/05 250	.0

CUT Curtis & Tompkins, Ltd.

		Total	l Volati]	le Hydrocar	bons		
	2018.			Location:		Auto Works	
	ellar Environmen ^s	tal Solu	itions	Prep:	EPA 503		
Project#: ST2	ANDARD			Analysis:	EPA 801		
Matrix:	Water			Sampled:	09/19/0	5	
Units:	ug/L			Received:	09/20/0	5	
Batch#:	106001						
Field ID:	MW - 4			Diln Fac:	1.000		
[ype:	SAMPLE			Analyzed:	09/21/0	5	
Lab ID:	182018-004			-			
	nalyte		Result		RL		
Gasoline C7-0	C12	N	1D		50		
	rrogate	%REC					
Trifluorotol		97	62-141				
Bromofluorobe	enzene (FID)	113	78-134	······			
Field ID:	MW - 5			Diln Fac:	5.000		
Гуре:	SAMPLE			Analyzed:	09/22/0	5	
Lab ID:	182018-005			-			
A	nalyte		Result		RL		
Gasoline C7-0			15,000		250		
Su	rrogate	%RBC] Limits				_
Trifluorotol		126	62-141				
Bromofluorob	enzene (FID)	132	78-134				
Field ID:	MW - 6			Diln Fac:	1.000		
Type:	SAMPLE			Analyzed:	09/22/0	5	
Lab ID:	182018-006						
X .	nalyte		Result		RL		
Gasoline C7-0			680		50		<u></u>
a	rrogate	%REC	2 Limits				
Trifluorotol	a second seco	115	62-141				en da dataj, <u>state da de el de</u>
Bromofluorob							
PIOMOLIGOLOD	enzene (FID)	141 *	* 78-134	·····			
	side of QC limit	s; see r	narrative				
ND= Not Detec	ced						

RL= Reporting Limit Page 2 of 3

Curtis & Tompkins, Ltd.

		Tota.	l Volatij	le Hydrocarl	oons
Lab #: ' 18	32018			Location: .	Oakland Auto Works
Client: St	ellar Environment	al Solu	utions	Prep:	EPA 5030B
Project#: SI	TANDARD			Analysis:	EPA 8015B
Matrix:	Water			Sampled:	09/19/05
Units:	ug/L			Received:	09/20/05
Batch#:	106001				
field ID:	MW - 7			Diln Fac:	000.1
	SAMPLE			Analyzed:	09/21/05
Type:				Analyzed:	09/21/05
ab ID:	182018-007				
	nalyte		Result		RL
Gasoline C7-	-C12	11	1D		50
	irrogate	%REC			
Trifluorotol		100	62-141		
Bromofluorob	enzene (FID)	110	78-134		
1					
ield ID:	MW - 8			Diln Fac:	1.000
Type:	SAMPLE			Analyzed:	09/21/05
Lab ID:	182018-008			mary zea.	<i>57, 21, 65</i>
	102010 000				
			Result		RL
Gasoline C7-	nalyte .				
Gasorine C/-	·C12		520		50
	urrogate		Limits		
Trifluorotol		133	62-141		
Bromofluorob	enzene (FID)	131	78-134		
4					
-					
ype:	BLANK			Diln Fac:	1.000
Lab ID:	QC309944			Analyzed:	09/21/05
	-			-	
	nalyte		Result		RL
Gasoline C7-		<u></u> ۱	ID		50
L			<u> </u>		
_	irrogate	%RBC	Limits		
Trifluorotol		98	62-141		
	enzene (FID)	98 113	78-134		
Latomotruotor	Seuzene (FID)		/0-134		
1					
	side of QC limits	; see I	larrative		
D= Not Detec					
L= Reporting					
Page 3 of 3	3				2 - 0

.

Curtis & Tompkins, Ltd.

.

Batch QC Report

Batch QC Re	eport							
		Tota	l Volatil	e Hydroca	rbons			
Lab #: 18	32018			Location:		Oakland	l Auto	Works
Client: St			Prep:		EPA 503	30B		
Project#: SI				Analysis:		EPA 801	15B	
Type:	LCS			Diln Fac:		1.000		
Lab ID:	QC309946			Batch#:		106001		
Matrix:	Water			Analyzed:		09/21/0)5	
Units:	ug/L		_					
	Analyte		Spiked		Result		%REC	Limits
Gasoline C7-	-C12		2,000		2,048		102	80-120
Su	irrogate	%RE	C Limits					
Trifluorotol	luene (FID)	116	62-141					
Bromofluoroh	penzene (FID)	120	78-134					



-.

Batch QC Report

ab #: 1820	18	Location:	Oakland Auto Works
	lar Environmental Solutions	Prep:	EPA 5030B
- Project#: STAN	DARD	Analysis:	EPA 8015B
field ID:	MW-7	Batch#:	106001
ISS Lab ID:	182018-007	Sampled:	09/19/05
Matrix:	Water	Received:	09/20/05
Jnits:	ug/L	Analyzed:	09/21/05
iln Fac:	1.000	_	

Tepe:	MS			Lab ID:	QC309953			
	Analyte	MSS F	lesult	Spiked	Resu	lt %	REC	limits
asoline	C7-C12		18.01	2,000	1,93	9 96	<u>ا</u>	30-120
	Surrogate	%REC	Limits					
rifluor	otoluene (FID)	116	62-141					
Bromoflu	orobenzene (FID)	120	78-134					
Type:	MSD			Lab ID:	QC309954			
Type:	MSD Analyte		Spiked			%REC Limi	ts RI	D Lim
Type: Gasoline	Analyte		Spiked 2,000	Re	sult	%REC Limi 00 80-1		20 Lim
	Analyte		2,000	Re	sult			
Gasoline	Analyte C7-C12	%REC 115	2,000	Re	sult			

Curtis & Tompkins, Ltd.

	,	Total	Extractal	ble Hydrocarbo	ns
Lab #: 1820 Client: Stel Project#: STAN	lar Environmenta	al Solu	utions	Location: Prep: Analysis:	Oakland Auto Works EPA 3520C EPA 8015B
Matrix:	Water			Sampled:	09/19/05
Units: Diln Fac:	ug/L 1.000			Received: Prepared:	09/20/05 09/25/05
Batch#:	106120			Analyzed:	09/28/05
······································			**************************************		
∛ield ID:	MW - 1			Lab ID:	182018-001
Type:	SAMPLE			Cleanup Method:	EPA 3630C
Ana Diesel C10-C24	lyte		Result 2,500 L Y		
				50	
Hexacosane	ogate	119	60-135		
Pield ID:	MW - 2			Lab ID:	182018-002
Cype:	SAMPLE			Cleanup Method:	EPA 3630C
Ana Diesel C10-C24	lyte		Result 210 L Y	RL 50	
		000000000		-	
Hexacosane	ogale	130	60-135		
					-
	BATTAT T			teh TD	182010 002
field ID: Type:	MW-3 SAMPLE			Lab ID: Cleanup Method:	182018-003 EPA 3630C
Ana	lyte		Result	RL	
Diesel C10-C24			950 L Y	50	
Surr Hexacosane	ogate	26 %REC	Limits 60-135		
		120	00 200		
					-
field ID: Type:	MW-5 SAMPLE			Lab ID: Cleanup Method:	182018-005 EPA 3630C
Ana	lyte		Result	RL	_
Diesel C10-C24			3,600 L Y	50	
Surr Hexacosane	ogate	%REC 120	Limits 60-135		
nexacosane		120	00-100		
				- 1	100000 000
Field ID: Type:	MW-6 SAMPLE			Lab ID: Cleanup Method:	182018-006 EPA 3630C
Ana	lyte		Result	RL	
Diesel C10-C24			200 L Y	50	
Surr Hexacosane	ogate	%REC 109	Limits 60-135		
and the second sec		/			
L= Lighter hyd	rocarbons contr:	ibuted	to the qua	ntitation	the standard
Y= Sample exhi. ND= Not Detected	dits chromatogra d	aphic p	pattern whi	ch does not resem	Die standard
RL= Reporting L					5.0

· · · · · ·

Page 1 of 2

CUT Curtis & Tompkins, Ltd.

		otal Extracts	ble Hydrocarbo	ns
ab #: client: Project#:		l Solutions	Location: Prep: Analysis:	Oakland Auto Works EPA 3520C EPA 8015B
Matrix: nits: iln Fac: Batch#:	Water ug/L 1.000 106120		Sampled: Received: Prepared: Analyzed:	09/19/05 09/20/05 09/25/05 09/28/05
Field ID: Type:	MW-8 Sample		Lab ID: Cleanup Method:	182018-008 EPA 3630C
iesel Clo	Analyte D-C24	Result ND	RL 50	
exacosane	Surrogate	*RBC Limits 107 60-135		
Inpe: Lib ID:	BLANK QC310411		Cleanup Method:	EPA 3630C
Diesel C10	Analyte J-C24	Result ND	RL 50	
Hexacosane	Surrogate	&REC Limits 100 60-135		

Curtis & Tompkins, Ltd.

Ì

Batch QC Report

,

<u> Jatch QC</u>	Report							
	T	otal I	Extracta	able Hydrocarbo	ns			
							<u> </u>	
	182018			Location:	Oakland Aut	o Works		
	Stellar Environmental Solutions			Prep:	EPA 3520C			
Project#:	STANDARD			Analysis:	EPA 8015B			. <u> </u>
Matrix:	Water			Batch#:	106120			
Units:	ug/L			Prepared:	09/25/05			
Diln Fac:	1.000		···					
Type:	BS			Analyzed:	09/27/05			
ab ID:	QC310412			Cleanup Method:	EPA 3630C			
	Analyte		Spiked	Resul		C Limits		
Diesel C10	-C24		2,500	2,645	106	53-138		
	Surrogate	*REC	Limits					
Hexacosane	1	120	60-135					
ype:	BSD		÷	Analyzed:	09/28/05			
ab ID:	QC310413			Cleanup Method:	EPA 3630C			
	Analyte		Spiked	Resul		<u></u>		Lin
Diesel C10	-C24		2,500	3,071	123	53-138	15	36
	Surrogate	%REC	Limite					
Hexacosane	:	142 *	60-135					

*= Value outside of QC limits; see narrative RPD= Relative Percent Difference · Page 1 of 1



	BTXE &	Oxygenates		
Lab #:	182018	Location:	Oakland Auto Works	
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B	
Project#:	STANDARD	Analysis:	EPA 8260B	
Field ID:	MW-1	Units:	ug/L	
Lab ID:	182018-001	Sampled:	09/19/05	
Matrix:	Water	Received:	09/20/05	·

Analyte	Result	RL	Diln Fac	c Batch# Analyzed
tert-Butyl Alcohol (TBA)	240	50	5.000	106246 09/29/05
MTBE	ND	2.5	5.000	106246 09/29/05
Isopropyl Ether (DIPE)	ND	2.5	5.000	106246 09/29/05
Ethyl tert-Butyl Ether (ETBE)	ND	2.5	5.000	106246 09/29/05
1,2-Dichloroethane	6.5	2.5	5.000	106246 09/29/05
Benzene	2,100	17	33.33	106298 09/30/05
Methyl tert-Amyl Ether (TAME)	ND	2.5	5.000	106246 09/29/05
Toluene	100	2.5	5.000	106246 09/29/05
1,2-Dibromoethane	ND	2.5	5.000	106246 09/29/05
Ethylbenzene	200	2.5	5.000	106246 09/29/05
m,p-Xylenes	560	2.5	5.000	106246 09/29/05
o-Xylene	320	2.5	5.000	106246 09/29/05

Surrogate	*REC	Limits	Diln	Pac Batch#	Analyzed	
Dibromofluoromethane	100	80-121	5.000	106246	09/29/05	
1,2-Dichloroethane-d4	99	80-125	5.000	106246	09/29/05	
Toluene-d8	99	80-120	5.000	106246	09/29/05	
Bromofluorobenzene	102	80-124	5.000	106246	09/29/05	

ND≈ Not Detected RL= Reporting Limit Page 1 of 1



	BTXE 6	Oxygenates	
Lab #:	182018	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:		Batch#:	106344
Lab ID:	182018-002	Sampled:	09/19/05
Matrix:	Water	Received:	09/20/05
Units:	ug/L	Analyzed:	10/03/05
Diln Fac:	1.000	-	

Analyte	Result	RL	
tert-Butyl Alcohol (TBA)	150	10	
MTBE	64	0.5	1
Isopropyl Ether (DIPE)	0.8	0.5	
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	· · ·
1,2-Dichloroethane	0.6	0.5	1
Benzene	30	0.5	a da analysia a La companya
Methyl tert-Amyl Ether (TAME)	ND	0.5	
Toluene	1.3	0.5	
1,2-Dibromoethane	ND	0.5	· •
Ethylbenzene	1.9	0.5	ł
m,p-Xylenes	2.0	0.5	
o-Xylene	0.8	0.5	-Bell Au alter

Surrogate	*REC	Limits	
Dibromofluoromethane	99	80-121	
1,2-Dichloroethane-d4	106	80-125	
Toluene-d8	100	80-120	
Bromofluorobenzene	103	80-124	العندي العندي المراجع ا مراجع المراجع ال مراجع المراجع ا

Curtis & Tompkins, Ltd.

	Danie -	<u></u>	
	DIAE 6	Oxygenates	
Lab #:	182018	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	106246
Lab ID:	182018-003	Sampled:	09/19/05
Matrix:	Water	Received:	09/20/05
Units:	ug/L	Analyzed:	09/30/05
Diln Fac:	1.000		
	Analyte Result	1	RLi
tert-Buty	l Alcohol (TBA) 94	······································	10
MTBE	59		0.5
T			0 F

11100		0.5	•
Isopropyl Ether (DIPE)	0.9	0.5	
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	
1,2-Dichloroethane	1.5	0.5	
Benzene	60	0.5	2 T 1 T 2 T 2 T 2 T 2 T 2 T 2 T 2 T 2 T
Methyl tert-Amyl Ether (TAME)	ND	0.5	
Toluene	3.1	0.5	
1,2-Dibromoethane	ND	0.5	*
Ethylbenzene	12	0.5	
m,p-Xylenes	20	0.5	
o-Xylene	5.8	0.5	
0-Xylene	5.8	0.5	
Surrogate	%REC Limits		
Dibromofluoromethane	90 90-121		

Dibromofluoromethane	89	80-121	
1,2-Dichloroethane-d4	102	80-125	
Toluene-d8	101	80-120	ur*
Bromofluorobenzene	105	80-124	2

ND= Not Detected RL= Reporting Limit Page 1 of 1

13.0

.....

....

••....



	BTXE	& Oxygenates	
Lab #:	182018	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	MW-5	Sampled:	09/19/05
Lab ID:	182018-005	Received:	09/20/05
Matrix:	Water	Analyzed:	09/29/05
Units:	ug/L	-	

Analyte	Result	RL	Diln Fe	ac Batch#	
tert-Butyl Alcohol (TBA)	87	25	2.500	106246	
MTBE	ND	1.3	2.500	106246	
Isopropyl Ether (DIPE)	ND	1.3	2.500	106246	
Ethyl tert-Butyl Ether (ETBE)	ND	1.3	2.500	106246	
1,2-Dichloroethane	7.7	1.3	2.500	106246	
Benzene	810	20	40.00	106215	
Methyl tert-Amyl Ether (TAME)	ND	1.3	2.500	106246	
Toluene	210	1.3	2.500	106246	
1,2-Dibromoethane	ND	1.3	2.500	106246	8 - C
Ethylbenzene	300	20	40.00	106215	2 - 1 - 1
m,p-Xylenes	810	20	40.00	106215	
o-Xylene	490	20	40.00	106215	

Surrogate	&REC	Limits	Diln	Fac Batch#	
Dibromofluoromethane	93	80-121	2.500	106246	
1,2-Dichloroethane-d4	93	80-125	2.500	106246	
Toluene-d8	101	80-120	2.500	106246	
Bromofluorobenzene	104	80-124	2.500	106246	

ĺ



	BT:	XE & C	xygenates	
Lab #: 182018			Location:	Oakland Auto Works
Client: Stellar Environmental	. Solutio	ns	Prep:	EPA 5030B
Project#: STANDARD			Analysis:	EPA 8260B
Field ID: MW-6			Batch#:	106215
Lab ID: 182018-006			Sampled:	09/19/05
Matrix: Water			Received:	09/20/05
Units: ug/L			Analyzed:	09/29/05
Diln Fac: 1.000			-	
Analyte	Re	ault	RL	
tert-Butyl Alcohol (TBA)		43	i	0
MTBE	ND			0.5
Isopropyl Ether (DIPE)		0.7		0.5
Ethyl tert-Butyl Ether (ETBE)	ND			0.5
1,2-Dichloroethane		15		0.5
Benzene		13		0.5
Methyl tert-Amyl Ether (TAME)	ND			0.5
Toluene		0.9		0.5
1,2-Dibromoethane	ND			0.5
Ethylbenzene		6.6		0.5
m,p-Xylenes		11		0.5
o-Xylene		2.0		0.5
Surrogate		imits		
Dibromofluoromethane	-	0-121		
1,2-Dichloroethane-d4		0-125		
Toluene-d8		0-120		
Bromofluorobenzene	97 8	0-124		

D= Not Detected L= Reporting Limit Page 1 of 1



	BTXE &	Oxygenates	
Lab #:	182018	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	MW-8	Batch#:	106215
Lab ID:	182018-008	Sampled:	09/19/05
Matrix:	Water	Received:	09/20/05
Units:	ug/L	Analyzed:	09/29/05
Diln Fac:	1.000	•	

Analyte	Result	RL	
tert-Butyl Alcohol (TBA)	120	10	
MTBE	65	0.5	
Isopropyl Ether (DIPE)	1.4	0.5	
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	
1,2-Dichloroethane	ND	0.5	ĺ
Benzene	ND	0.5	invits brigate
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	SREC Limits		

22	80-121	1
99	80-125	
101	80-120	
100	80-124	···
	101	101 80-120

ND= Not Detected RL= Reporting Limit Page 1 of 1 

• • • • • • • •

٩,

•

Batch QC Report

		BTXE &	Oxygenates			
ab #: 182018			Location:		Oakland Auto Works	
lient: Stellar Environmenta	al Solu	tions	Prep:		EPA 5030B	
Project#: STANDARD			Analysis:		EPA 8260B	
Type: BLANK			Diln Fac:		1.000	
ab ID: QC310800			Batch#:		106215	
latrix: Water			Analyzed:		09/28/05	
Jnits: ug/L						
Analyte		Regult		RL		
ert-Butyl Alcohol (TBA)	N			10		
ITBE	N	D		Ο.	5	
sopropyl Ether (DIPE)	N	D		Ο.	5	
Sthyl tert-Butyl Ether (ETBE)	N	D		Ο.	5	
l,2-Dichloroethane	N	D		Ο.	5	
Benzene	N	D		Ο.	5	
Methyl tert-Amyl Ether (TAME)	N	D		. 0.	5.	
Toluene	N	D		Ο.	5	
1,2-Dibromoethane	N	D		Ο.	5	
Ethylbenzene	N	D		Ο.	5	
n,p-Xylenes	N	D		Ο.	5	
o-Xylene	N	D		Ο.	5	
Surrogate	REC					
Dibromofluoromethane	97	80-121				
1,2-Dichloroethane-d4	103	80-125				
Toluene-d8	100	80-120				
Bromofluorobenzene	99	80-124				

D= Not Detected L= Reporting Limit Page 1 of 1 • • •

n en ma

Batch QC Report

	BTXE &	Oxygenates		
Lab #:	182018	Location:	Oakland Auto Works	<u></u>
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B	÷.,
Project#:	STANDARD	Analysis:	EPA 8260B	
Type:	BLANK	Diln Fac:	1.000	
Lab ID:	QC310954	Batch#:	106246	
Matrix:	Water	Analyzed:	09/29/05	
Units:	ug/L	-	· ·	•

tert-Butyl Alcohol (TBA)	ND	10	
MTBE	ND	0.5	
Isopropyl Ether (DIPE)	ND	0.5	
Sthyl 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.	
Foluene	ND	0.5	· · ·
L,2-Dibromoethane	ND	0.5	ϵ^{-1}
Ithylbenzene	ND	0.5	
n,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	

Dibromofluoromethane	96	80-121	
1,2-Dichloroethane-d4	108	80-125	
Toluene-d8	101	80-120	1947 - La
Bromofluorobenzene	101	80-124	

ND= Not Detected RL= Reporting Limit Page 1 of 1 Ţ

: • . •?? **>**



·• •

Batch QC Report

Balth QC REPOIL	·		· · · · · · · · · · · · · · · · · · ·	·	
	В	TXE & O	xygenates		
Lab #: 182018			Location:	Oakland Auto Works	
Client: Stellar Environmenta	l Soluti	ons	Prep:	EPA 5030B	
Project#: STANDARD			Analysis:	EPA 8260B	
Type: BLANK			Diln Fac:	1.000	1.1
Lab ID: QC311171			Batch#:	106298	
Matrix: Water			Analyzed:	09/30/05	12.0
Units: ug/L					_
Analyte		tesult	RL		
tert-Butyl Alcohol (TBA)	ND		10		
MTBE	ND		0.9	5	l
Isopropyl Ether (DIPE)	ND		0.1	5	
Ethyl tert-Butyl Ether (ETBE)	ND		0.1	-	
1,2-Dichloroethane	ND		0.9		
Benzene	ND		0.1		
Methyl tert-Amyl Ether (TAME)	ND		0.9	· ·	
Toluene	ND		0.9		
1,2-Dibromoethane	ND		0.9		
Ethylbenzene	ND		0.5		1
m,p-Xylenes	ND		0.5	5	
o-Xylene	ND		0.5	5	
Surrogate		Limits			
Dibromofluoromethane	106	80-121			
1,2-Dichloroethane-d4	108	80-125			
Toluene-d8	99	80-120			i
Bromofluorobenzene	. 99	80-124	•	·	

D= Not Detected RL= Reporting Limit Page 1 of 1 ۰ میں بوجہ د

. ..**.**.

Batch QC Report

Lab #:	182018	Location:		
Client:	Stellar Environmental Solutions		Oakland Auto Works	
Project#:		Prep: Analysis:	EPA 5030B EPA 8260B	
Type:	BLANK	Diln Fac:	1.000	
Lab ID:	QC311345	Batch#:	106344	
Matrix:	Water	Analyzed:	10/03/05	
Units:	ug/L	-4		

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	1997 - 1997 -
Ethylbenzene	ND	0.5	i wi
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	

Surrogate	*REC	Limits	
Dibromofluoromethane	97	80-121	
1,2-Dichloroethane-d4	102	80-125	
Toluene-d8	102	80-120	
Bromofluorobenzene	102	80-124	



Batch QC Report

	BTXE &	Oxygenates	
Lab #: Client: Project#:	182018 Stellar Environmental Solutions STANDARD	Location: Prep: Analysis:	Oakland Auto Works EPA 5030B EPA 8260B
Matrix: Units: Diln Fac:	Water ug/L 1.000	Batch#: Analyzed:	106215 09/28/05

Туре:	BS	Lab ID	: QC310	797		
	Analyte	Spiked	Result	*REC	Limits	
tert-Butyl	Alcohol (TBA)	125.0	118.2	95	66-138	
MTBE		25.00	20.67	83	72-120	
Isopropyl E	ther (DIPE)	25.00	19.73	79	74-121	
Ethyl tert-1	Butyl Ether (ETBE)	25.00	22.53	90	77-123	
1,2-Dichlor	oethane	25.00	24.27	97	77-120	
Benzene		25.00	24.11	96	80-120	
Methyl tert	-Amyl Ether (TAME)	25.00	24.14	97	77-120	
Toluène	-	25.00	25.61	102	80-120	
1,2-Dibromo	ethane	25.00	24.65	99	80-120	
Ethylbenzen	e	25.00	27.02	108	80-120	
m,p-Xylenes		50.00	53.16	106	80-121	
o-Xylene		25.00	26.15	105	80-120	1997) 1997)

Surrogate	RBC	Limits	
Dibromofluoromethane	93	80-121	
1,2-Dichloroethane-d4	99	80-125	
Toluene-d8	101	80-120	
Bromofluorobenzene	96	80-124	

	Type: BSD		Lab ID:	QC31	L0798			
	Analyte	Spike		Reault	REC		<u>eren</u>	B FAIR
	tert-Butyl Alcohol (TBA) MTBE	125	.00	120.5	96	66-138	2	25
	Isopropyl Ether (DIPE)		.00	20.85 19.50	83 78	72-120 74-121	÷	20 20
	Ethyl tert-Butyl Ether (ETBE		.00	22.86	91	77-123	1	20
-	1,2-Dichloroethane	==	.00	23.74	95	77-120	2	20
	Benzene		.00	23.60	94	80-120	$\tilde{2}$	20
	Methyl tert-Amyl Ether (TAME)	25	.00	23.64	95	77-120	2	20
	Toluene		.00	25.16	101	80-120	2	20
-	1,2-Dibromoethane		.00	24.32	97	80-120	1	20
	Ethylbenzene		.00	26.48	106	80-120	2	20: 1
	m,p-Xylenes		.00	53.57	107	80-121	1	20
	o-Xylene	25	.00	26.16	105	80-120	0	_20
٩	Surrogate	SRIE CONTRACTOR	ts					
_ [Dibromofluoromethane	93 80-12	21			·····		<u></u>
	1,2-Dichloroethane-d4	98 80-12						·
	Toluene-d8	101 80-12						1
	Bromofluorobenzene	<u>98 80-12</u>	24					

RPD= Relative Percent Difference Page 1 of 1

Batch QC Report

		: Oxygenates	
Project#:	182018 Stellar Environmental Solutions STANDARD	Location: Prep: Analysis:	Oakland Auto Works EPA 5030B EPA 8260B
Matrix: Units: Diln Fac:	Water ug/L 1.000	Batch#: Analyzed:	106246 09/29/05

-

Type :	BS			Lab ID:	QC31	0951		
MTBE Isopropyl Ethyl ter 1,2-Dichl Benzene	ene		Spiked 125.0 25.00 25.00 25.00 25.00 25.00 25.00 25.00 25.00 25.00 25.00 25.00		Result 116.8 21.03 19.75 23.08 23.90 23.59 23.21 25.23 24.41 26.30 52.44 25.67	93 84 79 92 96 94 93 101 98 105 105 105	<pre>2 Limits 66-138 72-120 74-121 77-123 77-120 80-120 80-120 80-120 80-120 80-120 80-121 80-121 80-120</pre>	
Dibromofl 1,2-Dichl Toluene-d Bromofluo		% RB 93 99 99 99	Limits 80-121 80-125 80-120 80-124					
Type:	BSD			Lab ID:	QC31(952		ļ

		L	an in:	QC3.	10952			
Analyte		Spiked		esult	*RBC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)		125.0	· · · · · · · · · · · · · · · · · · ·	120.1	96	66-138	3	25
MTBE		25.00		21.22	85	72-120	ī	20
Isopropyl Ether (DIPE)		25.00		19.54	78	74-121	ĩ	20
Ethyl tert-Butyl Ether (ETE	BE)	25.00		22.89	92	77-123	ī	20
1,2-Dichloroethane		25.00		24.04	96	77-120	1	20
Benzene		25.00		23.47	94	80-120	ñ	20
Methyl tert-Amyl Ether (TAM	E)	25.00		23.45	94	77-120	ĩ	20
Toluene		25,00		25.14	101	80-120	ō	20
1,2-Dibromoethane		25.00		24.38	98	80-120	ň	20
Ethylbenzene		25.00		26.26	105	80-120	ň	20
m,p-Xylenes		50.00		52.24	104	80-121	ň	20
o-Xylene		25.00		25,88	104	80-120	1	20
			· · · · · · · · · · · · · · · · · · ·			00 120	<u> </u>	<u> </u>
Surrogate	3: E(Limits						
Dibromofluoromethane	93	80-121				<u>ana Pining ang ang ang ang ang ang ang ang ang a</u>		
1,2-Dichloroethane-d4	98	80-125						
Toluene-d8	100	80-120						
Bromofluorobenzene	95	80-124						



Batch QC Report

Type:	BS	Lab ID:	
Matrix: Units: Diln Fac:	Water ug/L 1.000	Batch#: Analyzed:	106298 09/30/05
Client: Project#:		Prep: Analysis:	EPA 5030B EPA 8260B
Lab #:	182018	Location:	Oakland Auto Works

tert-Butyl Alcohol (TBA)	OULKEG	Kesult	A CARGE AND A C		
	125.0	119.7	96	66-138	
MTBE	25.00	22.49	90	72-120	
Isopropyl Ether (DIPE)	25.00	23.05	92	74-121	÷ ·
Ethyl tert-Butyl Ether (ETBE)	25.00	24.92	100	77-123	• • •
1,2-Dichloroethane	25.00	25.62	102	77-120	÷.,+
Benzene	25.00	24.34	97	80-120	
Methyl tert-Amyl Ether (TAME)	25.00	22.88	92	77-120	
Toluene	25.00	24.81	99	80-120	
1,2-Dibromoethane	25.00	23.59	94	80-120	
Ethylbenzene	25.00	24.92	100	80-120	* <u>11</u>
m,p-Xylenes	50.00	50.54	101	80-121	
o-Xylene	25.00	26.31 -	105	80-120	

Bromofluorobenzene	94	80-124	
Toluene-d8	98	80-120	
1,2-Dichloroethane-d4	104	80-125	N 2 4 P
Dibromofluoromethane	104	80-121	

Type:	BSD			Lab ID:	QC31	1170			
tert-Butyl MTBE	Analyte Alcohol (TBA)		Spiked 125.0		Result 115.7	%REC 93	66-138	RPD 3	101mi 25
Isopropyl	Ether (DIPE) -Butyl Ether (ETBE)		25.00 25.00 25.00		21.66 22.23 24.95	87 89 100	72-120 74-121 77-123	4 4	20 20 20
1,2-Dichlo Benzene	·		25.00 25.00		$25.13 \\ 24.00$	101 96	77-120 80-120	2 1	20 20
Toluene 1,2-Dibrom	t-Amyl Ether (TAME) wethane		25.00 25.00 25.00		23.14 24.89 24.26	93 100 97	77-120 80-120 80-120	1 0 2	20 20 20
Ethylbenze m,p-Xylene	ne		25.00 50.00		24.46 49.11	98 98	80-120 80-120 80-121	2 3	20 20
o-Xylene	Surrogate	SRIP (S	25.00 Limits		25.37	101	80-120	4	20
Dibromoflu 1,2-Dichlo Toluene-d8	oromethane roethane-d4	101 102 102	80-121 80-125 80-120			*****			
Bromofluor	obenzene	94	80-124						

Batch QC Report

BTXE &	Oxygenates	
Lab #: 182018 Client: Stellar Environmental Solutions Project#: STANDARD	Location: Prep: Analysis:	Oakland Auto Works EPA 5030B EPA 8260B
Matrix: Water Units: ug/L Diln Fac: 1.000	Batch#: Analyzed:	106344 10/03/05

Analyte	Spiried	Result	\$REC		
tert-Butyl Alcohol (TBA)	125.0	134.5	108	66-138	
MTBE	25.00	23.74	95	72-120	
Isopropyl Ether (DIPE)	25.00	23.25	93	74-121	
Ethyl tert-Butyl Ether (ETBE)	25.00	27.09	108	77-123	
1,2-Dichloroethane	25.00	26.75	107	77-120	
Benzene	25.00	25.84	103	80-120	
Methyl tert-Amyl Ether (TAME)	25.00	26.53	106	77-120	
Toluene	25.00	27.68	111	80-120	
1,2-Dibromoethane	25.00	26.93	108	80-120	
Sthylbenzene	25.00	28.28	1 13	80-120	-
n,p-Xylenes	50.00	56.46	113	80-121	
-Xylene	25.00	27.57	110	80-120	

Dibromofluoromethane	96	80-121	
1,2-Dichloroethane-d4	100	80-125	de allbert
Toluene-d8	100	80-120	
Bromofluorobenzene	100	80-124	

Type:

BSD

Lab ID:

QC311344

Analyte	Spiked	Result			Red	
tert-Butyl Alcohol (TBA)	125.0	125.7	101	66-138	7	25
MTBE	25.00	23.17	93	72-120	<u></u> 5	20.
Isopropyl Ether (DIPE)	25.00	22.03	88	74-121	5	20
Ethyl tert-Butyl Ether (ETBE)	25.00	25.90	104	77-123	7	20
1,2-Dichloroethane	25.00	24.39	98	77-120	-	20
Benzene	25.00	23.87	95	80-120	5	20
Methyl tert-Amyl Ether (TAME)	25.00	24.91	100	77-120	6	20
Toluene	25.00	25.64	103	80-120	0	20
1,2-Dibromoethane	25.00	24.09	96	80-120	11	20
Ethylbenzene	25.00	26.21	105	80-120	8	20
m, p-Xylenes	50.00	51.91	104	80-120	8	20
o-Xylene	25.00	25.87	103	80-120	6	20
					- <u>×</u>	
Surrogate	CREC Limits					
Dibromofluoromethane 9						-10-14 - 14
	00 80-125					
Toluene-d8 99						
Bromofluorobenzene 10	<u>01 80-1</u> 24					i

TABLE C-1 Historical Groundwater Monitoring Well Groundwater Analytical Results Petroleum and Aromatic Hydrocarbons (µg/L) 240 W. Masterikan Bankward, Oakland, Alemada, California

240 W. MacArthur Boulevard, Oakland, Alameda, California MW-1									
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	мтве
Yes	1	Aug-97	1,140	< 1,000	110	16	15	112	NA
Yes	2	Dec-97	ND	NA	ND	ND	ND	31	NA
Yes	3	Mar-98	370	NA NA	8.9	< 0.5	< 0.5	2.2	18
Yes	4	Jul-98	6,400	NA	1,300	23	3.7	58	97
Yes	5	Oct-98	2,500	NA	360	44	1.3	150	< 0.5
Yes	6	Jan-99	2,700	NA	1,200	28	140	78	130
(a)	7	Jun-00	27,000	NA	5,200	500	320	3,100	1,300
(a)	8	Dec-00	976,000	NA	2,490	1,420	3,640	10,100	< 150
(a)	9	Feb-01	NA	NA	NA	NA	NA NA	N4	NA
(a)	10	May-01	20,000	NA	2,900	310	230	1,900	< 30
(a)	11	Jul-01	92,000	NA	2,900	580	2,800	20,000	560
Pre"hi-vac"	12	Oct 22-01	20,000	NA	3,700	560	410	4,600	2,600
Post "hi-vac"	12	Oct 26-01	< 0.05	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	13	Dec-01	3,300	NA	200	12	5.7	43	44
No	14	Mar-02	4,600	NA	820	4.4	100	300	210
No	15	May-02	1,600	M	100	23	20	190	7.7
No	16	Jul-02	2,300	NA NA	250	15	13	180	180
No	17	Oct-02	1,820	NA	222	16	< 0.3	59	58
No	18	Jan-03	2,880	M	188	< 50	< 50	157	20
No	19	Mar-03	6,700	NA	607	64	64	288	< 0.18
No	20	Aug-03	4,900	5,000	740	45	85	250	14
Pre-Purge	21	Dec-03	5,060	400	654	11	79	92	129
Post-Purge	21	Dec-03	8,930	800	1,030	55	127	253	212
Yes	22	Mar-04	11,300	1,100	483	97	122	452	67
Yes	23	Jun-04	9,300	4,000	1,700	75	92	350	6.0
Yes	24	Sep-04	9,100	97	920	19	82	201	7.2
Yes	25	Dec-04	11,000	3,300	830	21	74	118	7.9
Yes	26	Mar-05	4,700	3,500	450	28	42	97	6.7
Yes	27	Jun-05	21,000	6,800	1,900	270	320	2,800	< 13
Yes	28	Sep-05	23,000	2,500	2,100	100	200	880	< 2.5

240 W. MacArthur Boulevard, Oakland, Alameda, California

(table continued on next page; footnotes on final page)

				M	IW-2				
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Tolucne	Ethylbenzene	Total Xylenes	мтве
Yes	1	Aug-97	5,350	< 1,000	108	36	33	144	NA
Yes	2	Dec-97	1,600	MANNE STREET	73	ND	ND	ND	NA
Yes	3	Mar-98	3,400	NA	830	100	210	240	870
Yes	4	Jul-98	3,100	NA	25	2.2	< 0.5	0.9	1,900
Yes	5	Oct-98	4,300	NA	< 0.5	1.2	< 0.5	1	4,200
Yes	6	Jan-99	2,900	NA	160	8.9	6.9	78.4	2,100
(a)	7	Jun-00	2,700	NA	200	17	30	16	680
(a)	8	Dec-00	3,020	NA	56.7	< 1.5	< 1.5	< 3.0	3,040
(a)	- 9	Feb-01	NA	< <u>⊳</u> NA	Sa NA	NA	NA	NA	NA
(a)	10	May-01	720	NA	49	< 3.0	4.6	< 3.0	380
(a)	11	Jul-01	8,400	NA	350	44	77	78	550
Pre"hi-vac"	12	Oct 22-01	850	NA	170	4.9	5.1	14	260
Post "hi-vac"	12	Oct 26-01	770		86	5.5	9.6	8.5	310
(a)	13	Dec-01	1,300	NA	9.2	< 2.0	< 2.0	< 2.0	370
No	14	Mar-02	1,300	NA	76	3.8	21	15	460
No	15	May-02	320	NA	12	1.1	4.6	4.8	160
No	16	Jul-02	1,300		130	1.0	9.4	5.6	420
No	17	Oct-02	1,060		12	2.2	4.2	3.5	270
No	18	Jan-03	581	NA	6.5	< 5.0	< 5.0	< 5.0	130
No	19	Mar-03	1,250	NA	< 0.22	< 0.32	< 0.31	< 0.4	155
No	20	Aug-03	2,200	730	58	9.2	< 0.5	28	240
Pre-Purge	21	Dec-03	2,120	100	45	9.4	9.5	20	289
Post-Purge	21	Dec-03	1,980	100	29	22.0	7.4	13	295
Yes	22	Mar-04	2,700	100	12	16.0	9	12	249
Yes	23	Jun-04	1,200	370	42	0.7	2.6	0.9	170
Yes	24	Sep-04	1,500	280	14	< 0.5	< 0.5	0.6	130
Yes	25	Dec-04	1,400	540	26	1.1	1.8	3.5	91
Yes	26	Mar-05	2,300	420	5.3	< 1.0	3.7	< 2.0	120
Yes	27	Jun-05	1,600	500	14	< 0.5	1.8	0.68	66
Yes	28	Sep-05	1,400	210	30	1.3	12	26	58

(table continued on next page; footnotes on final page)

-

				М	W-3				
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	мтве
Yes	1	Aug-97	8,500	< 1,000	450	30	53	106	
Yes	2	Dec-97	5,200		180	6.0	5.0	9.3	N
Yes	3	Mar-98	1,000	NA	6.0	< 0.5	< 0.5	< 0.5	810
Yes	4	Jul-98	6,400	NA	490	57	23	78	220
Yes	5	Oct-98	2,100	NA	< 5.0	< 5.0	< 5.0	< 5.0	2,100
Yes	6	Jan-99	4,400	NA	450	65	26	42	1,300
(a)	7	Jun-00	1,700	NA	110	13	34	13	96
(a)	8	Dec-00	5,450	NA	445	< 7.5	23.8	< 7.5	603
(a)	9	Feb-01	NA	NA	NA	NA	NA NA	NA	N
(a)	10	May-01	1,900	NA	180	12	< 3.0	19	330
(a)	11	Jul-01	10,000	NA	830	160	150	260	560
Pre"hi-vac"	12	Oct 22-01	1,400	NA	240	7.8	4.1	15	220
Post "hi-vac"	12	Oct 26-01	1,900	NA	200	16	51	30	290
(a)	13	Dec-01	5,800	NA	93	< 20	31	< 20	330
No	14	Mar-02	1,900	NA	220	16	31	24	400
No	15	May-02	1,600	NA	110	3.4	29	14	320
No	16	Jul-02	1,900	NA	210	27	30	55	200
No	17	Oct. 2002	3,030	NA NA	178	19	6.2	36	178
No	18	Jan-03	2,980	NA	47	< 5.0	7.6	6.3	105
No	19	Mar-03	3,620	NA	124	< 0.32	22	12	139
No	20	Aug-03	3,800	2,400	170	28	31	31	170
Pre-Purge	21	Dec-03	5,550	400	311	20	41	48	357
Post-Purge	21	Dec-03	6,860	500	312	20	55	58	309
Yes	22	Mat-04	5,490	500	82	34	46	49	249
Yes	23	Jun-04	5,400	1,100	150	30	45	66	130
Yes	24	Sep-04	5,400	1,500	70	3.2	16	13	110
Yes	25	Dec-04	5,300	2,400	91	7.4	21	19	92
Yes	26	Mar-05	4,700	2,000	19	1.1	9.9	3.7	76
Yes	27	Jun-05	4,200	1,800	49	4.5	23.0	16.2	66
Yes	28	Sep-05	5,000	950	60	3	12	25.8	59

(table continued on next page; footnotes on final page)

TABLE C-1 (continued)

-.

				Μ	IW-4				
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Yes	1	Aug-97	< 500	< 1,000	< 0.5	< 0.5	< 0.5	< 1.5	NA NA
Yes	2	Dec-97	ND	NA	ND	ND	ND	ND	. NA
Yes	3	Mar-98	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	4	Jul-98	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	5	Oct-98	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	6	Jan-99	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	7	Jun-00	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	8	Dec-00	< 500	NA	< 0.3	< 0.3	< 0.6	< 0.3	< 0.3
(a)	9	Feb-01	NA	NA	NA	NA 🖃 NA	NA	NA	NA
(a)	10	May-01	< 50	NA	1,2	< 0,3	0.55	1.2	2.9
(a)	11	Jul-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre"hi-vac"	12	Oct 22-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Post "hi-vac"	12	Oct 26-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	13	Dec-01	ND	NA	ND	ND	ND	ND	ND
No	14	Маг-02	< 50	М	<]	<]	< 1	< 1	< 1
No	15	May-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	16	Jul-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	17	Oct-02	< 100	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 0.3
No	18	Jan-03	< 100	NA	< 0.3	< 0.3	< 0.3	< 0.6	14
No	19	Mar-03	< 15	NA	< 0.4	< 0.02	< 0.02	< 0.06	5.2
No	20	Aug-03	< 50	Ň	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre-Purge	21	Dec-03	71	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Post-Purge	21	Dec-03	63	NA.	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Yes	22	Mar-04	< 50	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Yes	23	Jun-04	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	0.9
Yes	24	Sep-04	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	2.3
Yes	25	Dec-04	< 50		NA	NA	NA	NA	NA
Yes	26	Mar-05	< 50		NA	NA	NA	NA	MA
Yes	27	Jun-05	< 50	NA	NA	NA	NA	- NA	NA
Yes	28	Sep-05	< 50	NA	NA	NA	NA	NA	NA

(table continued on next page; footnotes on final page)

				M	W-5				
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	мтве
. (a)	9	Feb-01	5,660	NA	76.9	21.1 •	47.3	312	< 0
(a)	10	May-01	22,000	N A	2,600	480	220	2,700	< 3
(a)	11	Jul-01	72,000	NA	3,500	1,100	4,300	22,000	2,500
Pre"hi-vac"	12	Oct 22-01	26,000	NA	2,800	980	6,000	950	2,300
Post "hi-vac"	12	Oct 26-01	17,000	NA NA	1,200	470	2,900	440	900
(a)	13	Dec-01	2,000	NA	620	190	110	910	< 20
No	14	Mar-02	8,800	NA NA	1,200	72	7.4	350	1,200
No	15	May-02	2,000	NA	150	38	21	260	13
No	16	Jul-02	4,200	NA	480	68	29	280	450
No	17	Oct-02	5,370	MA NA	236	45	23	39	135
No	18	Jan-03	8,270	M	615	156	174	1,010	< 10
No	19	Mar-03	12,400	M	824	195	213	1,070	< 0.18
No	20	Aug-03	18,000	10,000	950	290	330	1,820	< 2.0
Pre-Purge	21	Dec-03	12,800	600	1,140	327	354	1,530	682
Post-Purge	21	Dec-03	11,900	, 800	627	263	288	1,230	595
Yes	22	Mar-04	20,700	850	867	266	305	678	145
Yes	23	Jun-04	12,000	1,700	920	240	260	1,150	< 3.1
Yes	24	Sep-04	13,000	1,900	580	240	260	1,260	< 4.2
Yes	25	Dec-04	16,000	3,300	730	200	250	1,100	< 4.2
Yes	26	Mar-05	6,300	4,600	190	28	42	280	< 1.7
Yes	27	Jun-05	16,000	4,100	1,100	260	380	1,590	< 7.1
Yes	28	Sep-05	15,000	3,600	810	210	300	1,300	< 1.5

(table continued on next page; footnotes on final page)

•

				M	W-6				
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	МТВЕ
(a)	9	Feb-01	1,340	NA	17	0.967	11.1	51.4	< 0.3
(a)	10	May-01	610	NA	15	0.97	< 0.5	46	< 0.5
(a)	11	Jul-01	2,500	NA	130	4.7	53	170	120
Pre"hi-vac"	12	Oct 22-01	280	NA	18	1.2	6.2	4.7	6.0
Post "hi-vac"	12	Oct 26-01	3,600		210	20	170	62	120
(a)	13	Dec-01	5,300	NA	69	5.6	14	17	< 2.0
No	14	Mar-02	71	NA	54	4.2	27	17	8.5
No	15	May-02	150	NA	9.3	< 0.5	< 0.5	< 0.5	1.5
No	16	Jul-02	2,200	NA	98	32	46	150	66
No	17	Oct-02	786	NA	48	5.0	2.2	44	16
No	18	Jan-03	497	NA	6.8	< 5.0	< 5.0	11	< 1.(
No	19	Mar-03	258	NA	5.4	< 0.32	3.3	< 1.1	< 0.18
No	20	Aug-03	1,600	2,800	37	4.1	23	58	< 0.4
Pre-Purge	21	Dec-03	444	100	4.7	4.9	1.8	5.9	4.4
Post-Purge	21	Dec-03	365	200	2.5	3.8	1.4	6.1	< 5.0
Yes	22	Мат-04	215	140	4.0	1.2	1.4	1.4	3.7
Yes	23	Jun-04	710	830	14.0	0.7	5.2	6.6	< 0.5
Yes	24	Sep-04	350	600	< 0.5	2.4	< 0.5	< 0.5	< 0.5
Yes	25	Dec-04	280	1,100	4.9	< 0.5	1.4	4.4	< 0.5
Yes	26	Mar-05	300	980	5.4	< 0.5	3.3	2.3	< 0.
Yes	27	Jun-05	150	1,100	< 0.5	< 0.5	< 0.5	0.77	28
Yes	28	Sep-05	680	200	13	0.9	7	- 13	< 0.

(table continued on next page; footnotes on final page)

				М	W-7				
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
(a)	9	Feb-01	ND	NA	ND	ND	ND	ND	NL
(a)	10	May-01	< 50	NA	0.75	0.77	0.48	2.4	1.1
(a)	11	Ju!-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.:
Pre"hi-vac"	12	Oct 22-01	< 5.0	NA STA	< 0.5	< 0.5	· < 0.5	< 0.5	< 0.;
Post "hi-vac"	12	Oct 26-01	6,000	NA	170	550	110	120	970
(a)	13	Dec-01	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	43
No	14	Mar-02	< 50	NA NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
No	15	May-()2	< 50	M	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	16	Jul-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	17	Oct-02	< 100	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
No	18	Jan-03	NA.		NA	NA NA		NA	N
No	19	Mar-03	< 15	NA	< 0.04	< 0.02	< 0.02	< 0.06	< 0.0.
No	20	Aug-03	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.
Pre-Purge	21	Dec-03	< 50	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.6
Post-Purge	21	Dec-03	< 50	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Yes	22	Mar-04	86	- NA	< 0.3	< 0.3	< 0.3	< 0.6	57
Yes	23	Jun-04	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.:
Yes	24	Sep-04	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.:
Yes	25	Dec-04	< 50	NA	NA	NA		M	
Yes	26	Mar-05	< 50	NA	NA	NA	ини-ту 	NA NA	NA
Yes	27	Jun-05	< 50	NA	NA	NA	NA	NA	N/
Yes	28	Sep-05	< 50	NA	N4	<u> </u>	NA	NA	

(table continued on next page; footnotes on final page)

Historical GW-hydrocarbons.xls

•

				M	W-8				
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	МТВЕ
(a)	9	Feb-01	1,000	NA	3.97	< 0.3	3.78	1.63	620
(a)	10	May-01	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	4.4
(a)	11	Jul-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Pre"hi-vac"	12	Oct 22-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Post "hi-vac"	12	Oct 26-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
(a)	13	Dec-01	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.
No	14	Mar-02	< 50	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
No	15	May-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
No	16	Jul-02	< 50	N 4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.
No	17	Oct-02	458	NA	1.7	< 0.3	< 0.3	< 0.6	233
No	18	Jan-03	< 100	NA.	< 0.3	< 0.3	< 0.3	< 0.6	< 5.(
No	19	Mar-03	< 15	NA	< 0.22	< 0.32	< 0.31	< 0.4	< 0.18
No	20	Jul-03	190	< 50	< 0.5	< 0.5	< 0.5	0.6	< 0.4
Pre-Purge	21	Dec-03	144	< 100	< 0.3	< 0.3	< 0.3	< 0.6	7.6
Post-Purge	21	Dec-03	163	< 100	< 0.3	< 0.3	< 0.3	< 0.6	66
Yes	22	Mar-04	412	< 100	1.2	< 0.3	1.7	3.9	66
Yes	23	Jun-04	320	68	< 0.5	< 0.5	< 0.5	< 0.5	120
Yes	24	Sep-04	280	2600	< 0.5	< 0.5	< 0.5	< 0.5	120
Yes	25	Dec-04	270	84	< 0.5	< 0.5	< 0.5	< 0.5	94
Yes	26	Mar-05	270	120	< 0.5	< 0.5	< 0.5	< 1.0	66
Yes	27	Jun-05	510	63	6.8	< 0,5	2.4	5.3	< 0.5
Yes	28	Sep-05	520	< 50	< 0.5	< 0.5	< 0.5	< 1.0	65

Notes:

(a) Data not available to SES as to whether the samples were collected "post-purge" or without purging.

"No Purge" means no purging was conducted before the groundwater sample was collected.

 $TVH-g=Total \ volatile \ hydrocarbons-gasoline \ range. \ TEH-d-Total \ extractable \ hydrocarbons-diesel \ range.$

NA = Not analyzed for this constituent in this event.

ND = Not Detected (method reporting limit not specified in information available to SES).

				24	U WY. IVIA	carmur	Arthur Boulevard, Oakland, California							
Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4- TMB	1,3,5- TMB	t-Butanol	ТВА	DIPE	Naphthalene	cis-1,2- DCE	TCE	РСЕ	Others
	7	Jun-00	< 5.0	< 5.0	51	< 5	< 1,000	< 1000	< 50	<5	< 5	< 5	< 5	ND
	14	Mar-02	< 1.0	< 1.0	< 1	1.6	< 10	NA	< 2	<]	< 1	< 1	< 1	ND
	18	Jan-03	< 50	< 50	150	< 50	NA	68	< 10	< 50	< 50	< 50	< 50	ND
MW-1	19	Mar-03	< 0.26	< 0.17	373	< 0.49	NA	< 10	< 0.29	< 0.88	< 0.30	< 0.23	< 0.36	ND
	20	Aug-03	< 1.0	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	< 5.0	< 5.0	NA	NA NA	NA	NA	NA NA	NA	NA	NA	NA	NA
	22	Mar-04	< 0.26	< 0.17	INA.	NA	NA	NA	NA	NA	NA	NA NA	NA	NA
	23	Jun-04	< 5.0	< 5.0	NA	NA	NA	270	< 5.0	NA.	NA	NA	NA	M
	24	Sep-04	< 5.0	< 5.0	NA	NA	NA	120	< 5.0	NA	NA	NA	NA	NA
	25	Dec-04	< 1.3	< 1.3	NA	NA	ŇĂ	< 25	< 1.3	M	NA NA	ŇA	NA	and NA
	26	Mar-05	< 0.50	< 0.50	NA	NA	NA	< 10	< 0.50	NA	NA	NA	NA	NA
	27	Jun-05	< 13	< 13	NA	NA	NA	< 250	< 13	NA	s NA	NA	NA	NA NA
	28	Sep-05	< 2.5	6.5	NA	NA	NA	240	< 2.5	NA	NA	NA	NA	NA
	7	Jun-00	< 0.5	< 0.5	< 0.5	< 0.5	< 100	< 100	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	ND
	14	Mar-02	<u>< 1.0</u>	< 1.0	< 1	< 1	220	NA	< 2	< 1	< 1	< 1	< 1	ND
	18	Jan-03	< 5	< 5	< 5	< 5	NA NA	34	< 1	< 5	24	< 5	< 5	ND
	19	Mar-03	< 0.26	< 0.17	< 0.49	< 0.26	M	94	< 0.29	< 0.88	15	< 0.23	< 0.36	ND
MW-2	21	Dec-03	< 0.6	< 0.6	NA	NA	NA	NA	NA	NA	NA NA	NA	NA NA	NA
	20	Aug-03	NA	NA	NA	NA	NA	NA	NA	NA.	NA	NA	NA	NA
	21	Dec-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA.	NA	NA
	22	Mar-04	NA	NA NA	NA	NA	NA	NA	NA	NA	NA	M	NA	NA
	23	Jun-04	< 0.5	2.0	NA	NA	NA	190	1.1	NA	NA	NA NA	NA NA	NA
	24	Sep-04	< 0.5	1.2	NA	NA	NA	130	0.9	NA	NA	NA	NA	NA
	25	Dec-04	< 0.5	< 0.5	NA		NA	< 10	0.8	NA NA	NA.	NA	NA	NA
	26	Mar-05	< 1.0	< 10	NA	NA	NA	< 20	1.3	NA	NA	NA	NA	NA
	27	Jun-05	< 0.50	< 0.50	NA	NA	NA	200	0.79		NA	NA	NA	NA
	28	Sep-05	< 0.50	0.6	NA	NA	NA	150	0.8	NA	NA	NA	NA	NA

TABLE C-2Historical Groundwater Monitoring Well Groundwater Analytical ResultsFuel Oxygenates and VOCs (µg/L)

240 W. MacArthur Boulevard, Oakland, California

Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4- TMB	1,3,5- TMB	t-Butanol	ТВА	DIPE	Naphthalene	cis-1,2- DCE	тсе	PCE	Others
	14	Mar-02	< 1.0	< 1.0	1.8	4.7	180	NA	< 2	2.2	< 1	< 1	< 1	ND
	18	Jan-03	< 5	< 5	< 5	5.0	NA	76	< 1	< 5	21	< 5	< 5	(a)
	19	Mar-03	< 0.26	< 0.17	< 0.49	< 0.26	NA	< 10	< 0.29	< 0.88	24	< 0.23	< 0.36	ND
MW-3	20	Aug-03	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	radia NA
	21	Dec-03	NA	• • • • NA	NA	NA	NA	NA		NA	NA	NA	. NA	
	22	Mar-04		NA NA	NA	· NA	NA	NA	NA	NA	NA	NA	NA	alla NA
	23	Jun-04	< 0.5	< 0.5	NA	NA	NA.	130	1.9	NA	NA	NA	NA	NA NA
	24	Sep-04	< 0.5	< 0.5	NA	NA		82	1.5	NA		NA	NA	
	25	Dec-04	< 0.7	< 0.7	NA	NA	NA	< 14	1.3	M	NA	NA	NA	NA
	26	Mar-05	< 1.0	< 1.0	NA	NA	NA	< 20	1.1	NA	NA	NA	NA	i si NA
	27	Jun-05	< 0.5	< 0.5				160	1.4					
	28	Sep-05	< 0.5	1.5	NA	NA	NA	94	0.9	NA	NA	NA	NA	NA NA
					n al statu a sta		hander in gel Nach							d References
	7	Jun-00	< 0.5	< 0.5	< 0.5	< 0.5	< 100	< 100	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	ND
	14	Mar-02	< 1.0	< 1.0	< 1	< 1	< 10	NA	< 2	< 1	2.9	3.7	5.0	ND
	18	Jan-03	NA	NA	NA	NA	NA	NA	NA	NA.	NA	NA	NA	ND
MW-4	19	Mar-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
	20	Aug-03	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	NA	NA	NA	NA	NA	NA	NA		NA	NA	• • • • NA	NA NA
	22	Mar-04	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	1 NA
	23	Jun-04	< 0.5	< 0.5	NA NA	NA	NA	< 10	< 0.5	NA	NA	NA	NA NA	NA
	24	Sep-04	< 0.5	< 0.5	NA	NA	NA	< 10	< 0.5	NA	NA.	NA	NA	NA
· · ·	25	Dec-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	26	Mar-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	27	Jun-05	NA	NA	NA	NA				NA	NA	NA	NA NA	1990 - NA
	28	Sep-05	NA	NA		NA	NA	NA	NA	NA	NA	NA NA	NA NA	NA

Table C-2 Continued

Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4- TMB	1,3,5- TMB	t-Butanol	ТВА	DIPE	Naphthalene	cis-1,2- DCE	ТСЕ	PCE	Others
	14	Mar-02	< 1.0	< 1.0	< 1	2.7	640	NA	< 2	< 1	< 1	<]	< 1	ND
	18	Jan-03	< 50	< 50	512	122	NA	< 100	< 10	120	< 50	< 50	< 50	ND
	19	Mar-03	< 0.26	< 0.17	554	107	NA	< 10	< 0.29	251	< 0.3	< 0.23	< 0.36	(b)
MW-5	20	Aug-03	< 2.0	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	≤ 5.0	< 5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	22	Mar-04	< 0.26	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA NA	NA	NA
	23	Jun-04	< 3.1	< 3.1	NA	NA	NA	120	< 3.1	NA	NA	NA	NA	NA
	24	Sep-04	< 4,2	18	NA	NA	NA	87	< 4.2	NA	NA	NA	NA.	NA
	25	Dec-04	< 4.2	< 4.2	NA	NA	NA	< 83	< 4.2	NA	NA	NA	NA	NA
	26	Mar-05	< I.7	< 1.7	NA	NA	NA	< 33	< 1.7	NA	NA	• NA	NA	NA NA
	27	Jun-05	< 7.1	< 7.1	NA	NA	NA	< 140	< 7.1	NA	NA	NA	NA	NA
	28	Sep-05	< 1.3	7.7	NA	NA	NA	87	< 0.50	Ŵ	NA	NA	NA	NA
	14	Mar-02	< 1.0	< 1.0	< 1	2.2	< 10	NA	< 2	1.6	<]	< 1	< 1	ND
	18	Jan-03	< 5.0	< 5.0	13	< 5	NA	46	< 1	< 5	< 5	< 5	< 5	ND
	19	Mar-03	< 0.26	6.9	< 0.49	< 0.26		40	< 0.29	< 0.88	< 0.3	< 0.23	< 0.36	(c.)
	20	Aug-03	< 0.5	12.0	NA	ŇA	NA	NA	NA	NA	NA	NA	NA	NA
MW-6	21	Dec-03	< 5.0	11 / 17. 1 ^(d)	NA	NA	NA	NA	NA	NA	NA.	ŃА	NA	NA
	22	Mar-04	< 0.26	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	23	Jun-04	< 0.5	19	NA NA	MA	NA	54	1.0	NA	NA	NA	NA	NA
	24	Sep-04	< 0.5	31	NA	NA	NA	43	1.0	NA	NA	NA	NA	NA
	25	Dec-04	< 0.5	24	NA NA	NA	NA	32	0.7	NA	NA NA	NA	NA	NA
	26	Mar-05	NA	NA	NA	NA	NĂ	NA	NA	NA	NA	NA	NA	NA
	27	Jun-05	< 0.50	< 0.50	NA	NA	NA	26	< 0.50	NA	NA	NA	NA	NA
	28	Sep-05	< 0.50	15	NA	NA	* NA	43	0.7	NA	NA	NA	NA	NA NA

Table C-2 Continued

Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4- TMB	1,3,5- TMB	t-Butanol	ТВА	DIPE	Naphthalene	cis-1,2- DCE	TCE	РСЕ	Others
	14	Mar-02	< 1.0	< 1.0	< 1	< 1	< 10	NA	< 2	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
	19	Mar-03	NA	ŇĂ	NA	NA	NA NA	NA	NA		NA	NA	NA	ND
MW-7	20	Aug-03	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	NA			NA	NA	NA	NA	NA	NA	NA	NA	NA
	22	Mar-04	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA
	23	Jun-04	< 0.5	< 0.5	NA	NA	NA ⊨	< 10	< 0.5	NA	NA	NA	NA	
	24	Sep-04	< 0.5	< 0.5	NA	NA	NA	< 10	< 0.5	NA	NA	NA	NA	. NA
	25	Dec-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	26	Mar-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	- 16 NA
	27	Jun-05	NA	NA	NA	NA		NA	NA		NA	NA	NA	NA
	28	Sep-05	NA	NA	NA NA	NA	NA	NA	NA	NA	NA	NA	NA NA	NA
	14	Mar-02	< 1.0	< 1.0	< 1	<1	< 10	NA NA	< 2	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	ŇÁ	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
	19	Mar-03	< 0.26	< 0.17	< 0.49	< 0.26	NA.	< 10	< 0.29	< 0.88	< 0.3	< 0.23	< 0.36	ND
MW-8	20	Aug-03	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	NA NA	NA	NA	NA	NA NA	NA NA	NA	NA	NA	NA	NA	1993 NA
	22	Mar-04	NA	NA	NA	NA	NA NA	NA	NA	NA	NA	NA	NA	NA
	23	Jun-04	< 0.5	< 0.5	NA	NA	NA	61	1.0	NA	NA	NA	NA	NA
	24	Sep-04	< 0.5	< 0.5	NA	NA	NA	96	1.1	NA	NA	NA	NA	NA
	25	Dec-04	< 0.5	< 0.5	NA	NA	NA NA	< 10	1.0	NA	NA NA	NA	NA	NA NA
	26	Mar-05	< 0.5	< 0.5	NA	NA	NA	< 10	0.6	M	NA	NA	NA	NA
	27	Jun-05	< 0.50	25	NA	NA	NA	42	1.1	NA	NA	34846 NA	NA	ars an NA
	28	Sep-05	< 0.50	< 0.50	NA	NA	NA NA	120	1.4	NA	NA	NA	NA	NA NA

Table C-2 Continued

.

Table C-2 - Footnotes

Notes:

Table includes only detected contaminants.

EDB = Ethylene dibromide, aka 1,2-Dibromoethanc (lead scavenger)

EDC = Ethylene dichloride, aka 1,2-Dichloroethane (lead scavenger)

PCE = Tetrachloroethylene DCE = Dichloroethylene

TCE = Trichloroethyene TMB = Trimethylbenzene

DIPE = Isopropyl Ether (a.k.a. di-isopropyl ether) TBA = Tertiary butyl alcohol NLP = No Level Published NA = Not analyzed for this constituent. ND \approx Not Detected

(a) Also detected were: n-propylbenzene (5.4 μ g/L); p-Isopropyltoluene (14 μ g/L); sec-Butylbenzene (7.2 μ g/L)

(b) Also detected were: isopropylbenzene (38 µg/L); n-Butylbenzene (20 µg/L); n-propylbenzene (36 µg/L); p-lsopropyltoluene (14 µg/L).

(c.) Also detected were: isopropylbenzene (3.4 μ g/L); n-propylbenzene (2.3 μ g/L).

(d) Pre-purge / post-purge sampling, conducted in same event.