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FOURTH QUARTER 2005 GROUNDWATER MONITORING AND ANNUAL SUMMARY REPORT

REDWOOD REGIONAL PARK
SERVICE YARD
OAKLAND, CALIFORNIA

Prepared for:

EAST BAY REGIONAL PARK DISTRICT
OAKLAND, CALIFORNIA

January 2006

STELLAR
ENVIRONMENTAL SOLUTIONS, INC.
GEOSCIENCE & ENGINEERING CONSULTING

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January 20, 2005

Mr. Jerry Wickham, P.G.
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Department of Environmental Health, Hazardous Materials Division
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Fourth Quarter 2005 Groundwater Monitoring and Annual Summary Report
Redwood Regional Park Service Yard Site, Oakland, California
Alameda County Health Case No. RO0000246

Dear Mr. Wickham:

The attached Stellar Environmental Solutions, Inc. (SES) report is for the underground fuel storage tank (UFST) site at the Redwood Regional Park Service Yard, located at 7867 Redwood Road, Oakland, California. This project is being conducted for the East Bay Regional Park District, and follows previous site investigation and remediation activities associated with former leaking UFSTs, conducted since 1993. The key regulatory agencies for this investigation are the Alameda County Health Care Services Agency, the Regional Water Quality Control Board, and the California Department of Fish and Game.

This report summarizes activities conducted from October through December 2005, including groundwater monitoring and sampling of site wells and surface water sampling. This report also presents an evaluation of hydrochemical trends over the year of monitoring, including an evaluation of the plume extent and stability. In our professional opinion, continued groundwater monitoring is warranted to evaluate plume stability over time. I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

If you have any questions regarding this report, please contact Mr. Neal Fujita of the East Bay Regional Park District, or contact us directly at (510) 644-3123.

Sincerely,

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

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

cc: Carl Wilcox, California Department of Fish and Game; Chuck Headlee, Regional Water Quality Control Board; Neal Fujita, East Bay Regional Park District

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Project No. 2005-02

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1.0 INTRODUCTION

PROJECT BACKGROUND

The subject property is the East Bay Regional Park District (EBRPD) Redwood Regional Park Service Yard located at 7867 Redwood Road in Oakland, Alameda County, California. The site has undergone site investigations and remediation since 1993 to address subsurface contamination caused by leakage from one or both of two former underground fuel storage tanks (UFSTs) that contained gasoline and diesel fuel. The Alameda County Health Care Services Agency, Environmental Health Department (Alameda County Health) has provided regulatory oversight of the investigation since its inception. Other regulatory agencies with historical involvement in site review include the California Regional Water Quality Control Board, San Francisco Bay Region (Water Board) and the California Department of Fish and Game (CDFG).

OBJECTIVES AND SCOPE OF WORK

This report discusses the following activities conducted/coordinated by Stellar Environmental Solutions, Inc. (SES) between October 1 and December 31, 2005:

- Decommissioning one groundwater monitoring well (MW-4) and replacing it with a comparably-constructed well (MW-12);
- Disposing of waste soil from well installation and decommissioning activities;
- Surveying all groundwater monitoring elevations and locations per State Water Resources Control Board "GeoTracker" requirements;
- Collecting water levels in site wells to determine shallow groundwater flow direction;
- Sampling site wells for contaminant analysis;
- Collecting surface water samples for contaminant analysis; and
- Evaluating hydrochemical and groundwater elevation trends.

Previous SES reports (see Section 8.0, References and Bibliography) have provided a full discussion of prior site remediation and investigations; site geology and hydrogeology; residual site contamination; conceptual model for contaminant fate and transport; and evaluation of

hydrochemical trends and plume stability. Historical site groundwater and surface water analytical results are presented in Appendix A. The following major phases of site work have been conducted:

- An October 2000 Feasibility Study report for the site, submitted to Alameda County Health, provided detailed analyses of the regulatory implications of the site contamination and an assessment of viable corrective actions (SES, 2000d).
- Two instream bioassessment events were conducted in April 1999 and January 2000 to evaluate potential impacts to stream biota associated with the site contamination (no impacts were documented).
- Additional monitoring well installations and corrective action by ORC™ injection proposed by SES were approved by the Alameda County Health, in its January 8, 2001 letter to the EBRPD. Two phases of ORC™ injection were conducted: September 2001 and July 2002.
- A total of 36 groundwater monitoring events have been conducted on a quarterly basis since inception (November 1994), and a total of 11 groundwater monitoring wells are currently available for monitoring.
- A bioventing pilot test was conducted in September and October 2004 to evaluate the feasibility of this corrective action strategy, and the full-scale bioventing system was installed in November and December 2005. Bioventing activities conducted to date have been, and will continue to be, discussed in bioventing-specific technical reports, and updates will be provided in groundwater monitoring progress reports as they relate to this ongoing program.

SITE DESCRIPTION

Figure 1 shows the location of the project site. The site slopes to the southwest, from an elevation of approximately 564 feet above mean sea level (amsl) at the eastern edge of the service yard, to approximately 545 feet amsl at Redwood Creek. Figure 2 shows the site plan.

REGULATORY OVERSIGHT

The lead regulatory agency for the site investigation and remediation is Alameda County Health. (Case No. RO0000246), with oversight provided by the Water Board. The CDFG is also involved with regard to water quality impacts to Redwood Creek. All workplans and reports have been submitted to these agencies. Historical Alameda County Health-approved revisions to the groundwater sampling program have included:

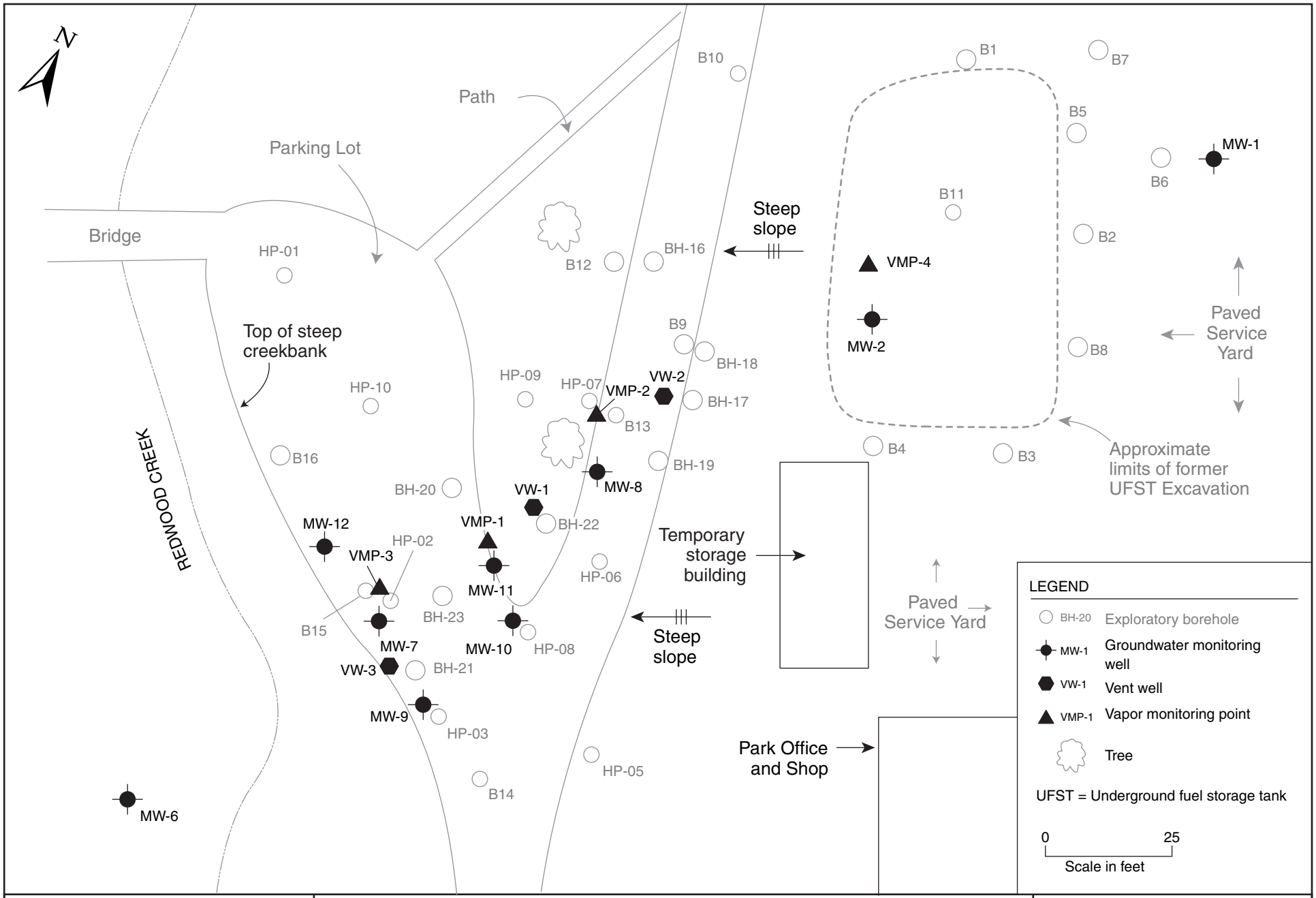
- Discontinuing hydrochemical sampling and analysis in wells MW-1, MW-3, MW-5, and MW-6;
- Discontinuing creek surface water sampling at upstream location SW-1;

N

SITE LOCATION ON U.S.G.S. TOPOGRAPHIC MAP

Redwood Reg. Park Service Yard Oakland, CA	By: MJC	APRIL 2004	★ Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
	Figure 1		

2004-02-01



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SITE PLAN AND WELL LOCATIONS
Redwood Regional Park Service Yard, Oakland, CA

Figure 2

by: MJC | JANUARY 2006

2005-02-20

- Discontinuing field measurement and laboratory analyses for natural attenuation indicators, to be re-implemented following the bioventing corrective action; and

- Reducing the frequency of creek surface water sampling from quarterly to semi-annually. The latter recommendation has not yet been implemented due to the EBRPD's continued concern over potential impacts to Redwood Creek.

Electronic Data Format (EDF) groundwater analytical results from the groundwater monitoring events beginning in the third quarter of 2001 have been successfully uploaded to the GeoTracker database, in accordance with the State Water Resources Control Board's requirements for EDF submittals. Since Q2 2005, electronic copies of technical documentation reports have also been uploaded to Alameda County Health's Electronic Report Upload file transfer protocol (ftp) system.

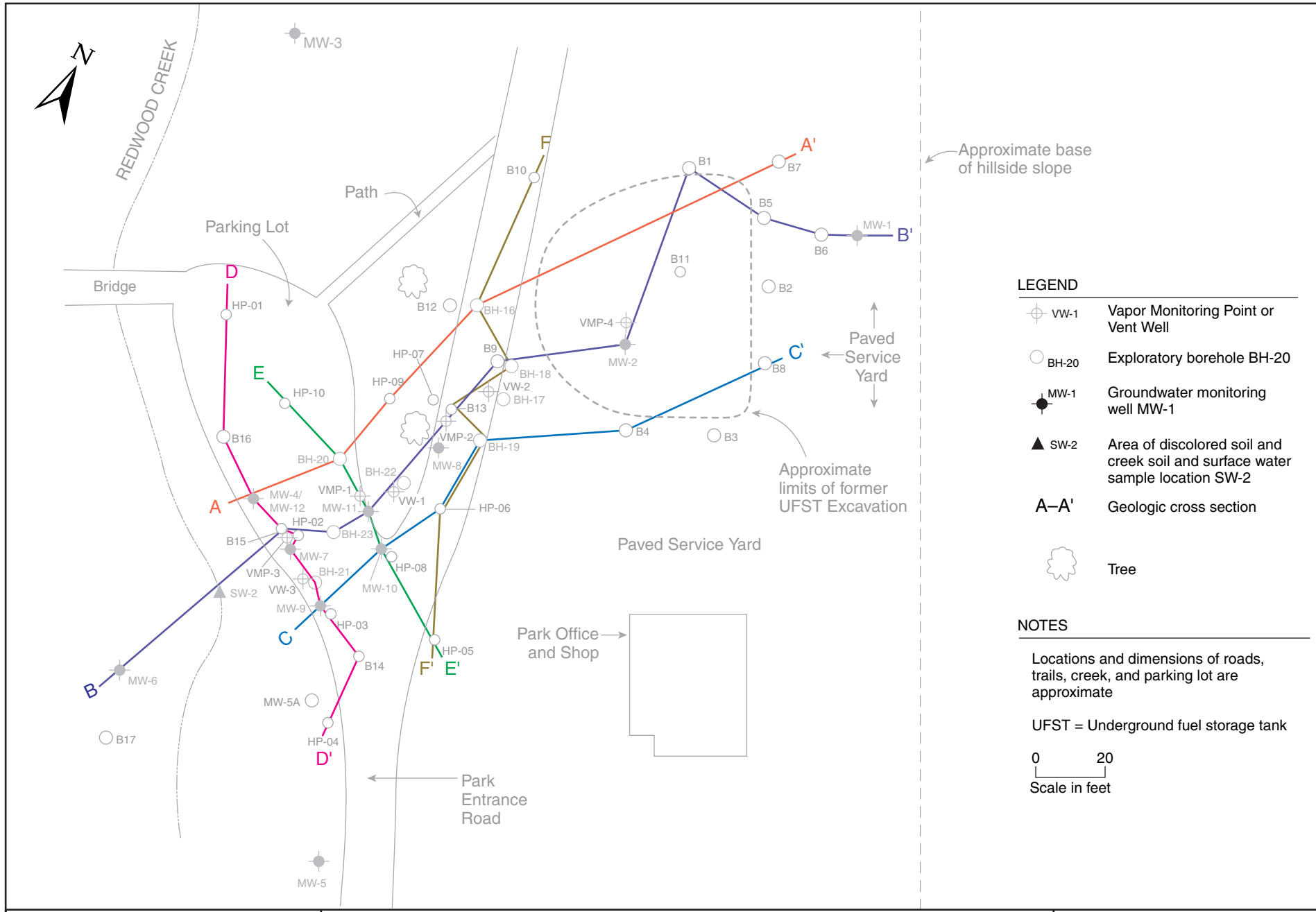
2.0 PHYSICAL SETTING

Following is a brief summary of the site hydrogeologic conditions based on geologic logging and water level measurements collected at the site since September 1993. Section 4.0 contains a discussion of historical groundwater elevations, flow direction, and seasonal trend analysis.

Shallow soil stratigraphy consists of a surficial 3- to 10-foot-thick clayey silt unit underlain by a 5- to 15-foot-thick silty clay unit. In the majority of boreholes, a 5- to 10-foot-thick clayey coarse-grained sand and clayey gravel unit that laterally grades to a clay or silty clay was encountered. This unit overlies a weathered siltstone at the base of the observed soil profile. Soils in the vicinity of MW-1 are inferred to be landslide debris. Figure 3 shows the locations of six site geologic cross-sections; Figures 4 and 5 depict the cross-sections.

Groundwater at the site occurs under unconfined and semi-confined conditions, generally within the clayey, silty sand-gravel zone. The top of this zone varies between approximately 12 and 19 feet below ground surface (bgs), and the bottom of the water-bearing zone (approximately 25 to 28 feet bgs) corresponds to the top of the siltstone bedrock unit. Seasonal fluctuations in groundwater depth create a capillary fringe of several feet that is saturated in the rainy period (late fall through early spring) and unsaturated during the remainder of the year. The thickness of the saturated zone plus the capillary fringe varies between approximately 10 and 15 feet in the area of contamination. Local perched water zones have been observed above the top of the capillary fringe.

Figure 6 is a groundwater elevation map constructed from the current event monitoring well static water levels, and Table 1 (in Section 3.0) summarizes current event groundwater elevation data. The groundwater gradient is relatively steep—approximately 2 feet per foot—between well MW-1 and the former UFST source area, resulting from the steep topography immediately upgradient, and the highly disturbed nature of sediments in the landslide debris. Downgradient from (west of) the UFST source area (between MW-2 and Redwood Creek), the groundwater gradient is approximately 0.1 feet per foot. The direction of shallow groundwater flow during the current event was to the west-southwest (toward Redwood Creek), which is consistent with historical site groundwater flow direction (discussed in detail in Section 4.0).



LEGEND

VW-1	Vapor Monitoring Point or Vent Well
BH-20	Exploratory borehole BH-20
MW-1	Groundwater monitoring well MW-1
SW-2	Area of discolored soil and creek soil and surface water sample location SW-2
A–A'	Geologic cross section
	Tree

NOTES

Locations and dimensions of roads, trails, creek, and parking lot are approximate

UFST = Underground fuel storage tank

0 20

Scale in feet

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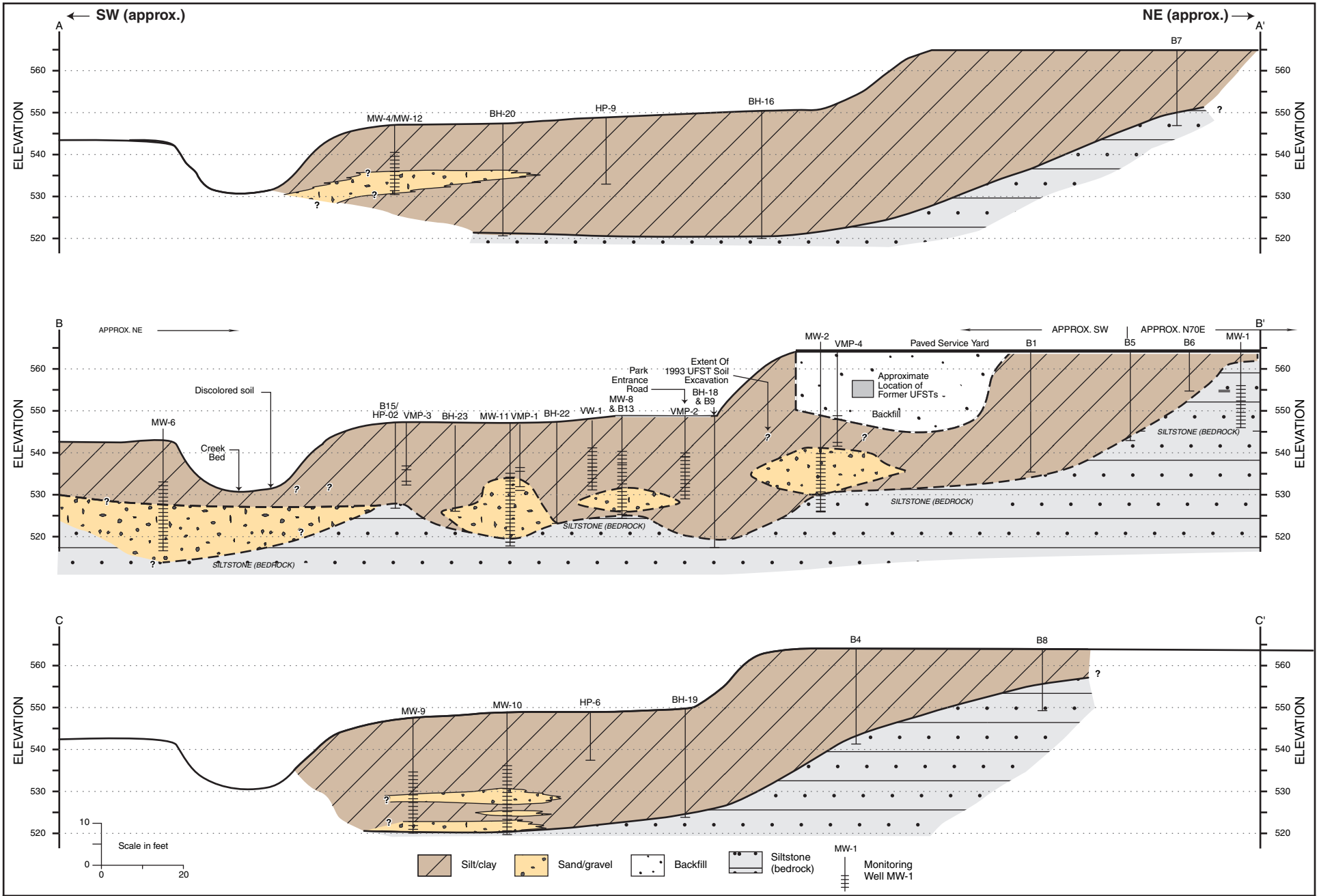
GEOLOGIC CROSS-SECTION LOCATIONS
Redwood Regional Park Service Yard, Oakland, CA

Figure 3

by: MJC | DECEMBER 2005

2005-66-11



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GEOLOGIC CROSS SECTIONS — A-A' through C-C'
Redwood Regional Park Service Yard, Oakland, CA

Figure 4

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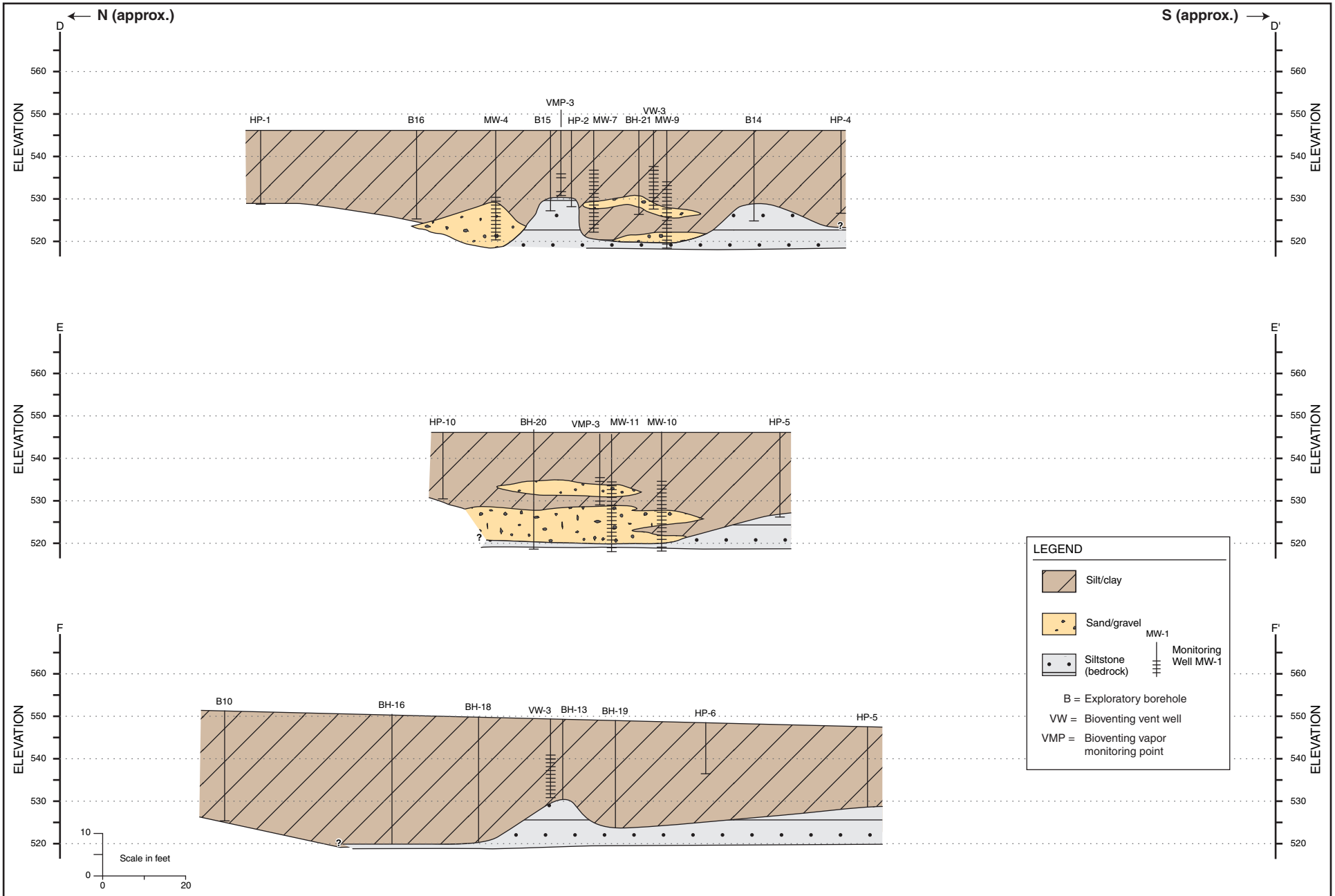

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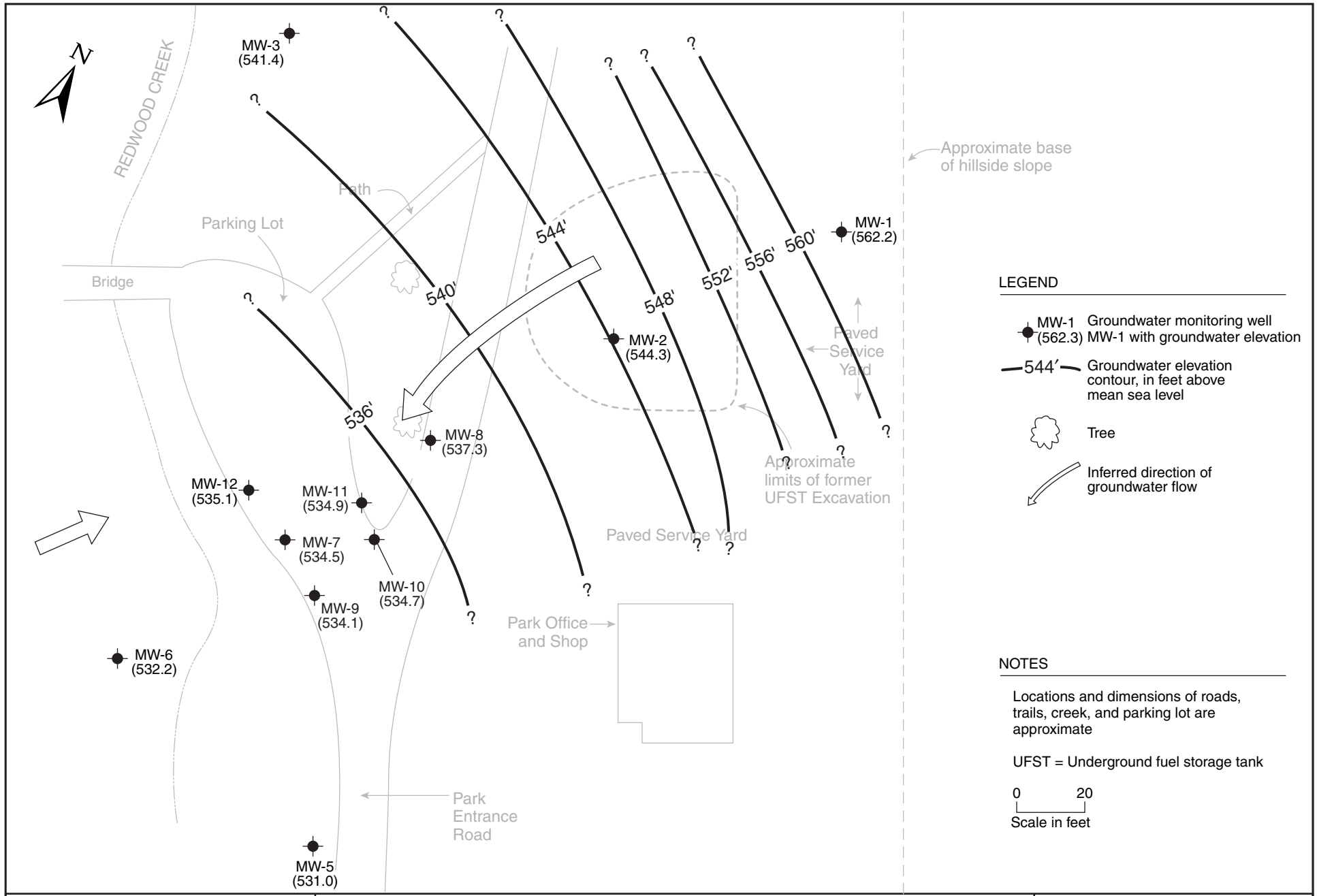
GEOLOGIC CROSS SECTIONS — D-D' through F-F'
Redwood Regional Park Service Yard, Oakland, CA

Figure 5

by: MJC | DECEMBER 2005

2005-66-13



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GROUNDWATER ELEVATION MAP–December 15, 2005
Redwood Regional Park Service Yard, Oakland, CA

Figure 6

by: MJC | JANUARY 2006

2005-02-19

We estimate site groundwater velocity to be at least 7 to 10 feet per year using site-specific empirical data, from the date of UST installation (late 1970s) to the date when contamination was first observed in Redwood Creek (1993). Actual groundwater velocity could be variable and faster.

Redwood Creek, which borders the site to the west, is a seasonal creek known for the occurrence of rainbow trout. Creek flow in the vicinity of the site shows significant seasonal variation, with little to no flow during the summer and fall dry season, and vigorous flow with depths exceeding 1 foot during the winter and spring wet season. The creek is a gaining stream (i.e., it is recharged by groundwater) in the vicinity of the site, and discharges into Upper San Leandro Reservoir located approximately 1 mile southeast of the site.

3.0 GROUNDWATER MONITORING WELL REPLACEMENT AND SURVEYING

This section discuses the replacement of groundwater monitoring well MW-4 with newly installed well MW-12, as requested by Alameda County Health. Well MW-4 was decommissioned due to its inability to properly recharge, and because it was considered not to be adequately characterizing local groundwater conditions. It is believed that well MW-4 may have been impacted by ORC™ injected in previous site remedial activities. The decommissioning of groundwater monitoring well MW-4 and installation of the "replacement" well MW-12 was performed concurrently with the installation of two bioventing vent wells and one vapor monitoring point (as part of the full-scale bioventing remedial system). This section also discusses the surveying of all site groundwater monitoring well elevations and locations, per GeoTracker requirements.

The well replacement was conducted by HEW Drilling (East Palo Alto, CA) under the direct supervision of Bruce Rucker, the SES California Registered Geologist. Prior to installation, well installation permits were obtained from Alameda County Public Works Agency (ACPWA). The well permits are contained in Appendix B. Appendix C contains photodocumentation of the well destruction and installation activities.

MW-4 DECOMMISSIONING

On November 28, 2005, monitoring well MW-4 was properly decommissioned by over-drilling the annulus with a 10-inch hollow stem auger. Upon reaching total depth of the completed well, 25 feet bgs, the well casing was removed intact. Cuttings from the destruction of the well were emplaced into labeled, steel 55-gallon drums and stored onsite for subsequent disposal. The resultant borehole was grouted to surface with a slurry of potable water and neat Portland cement. In accordance with regulatory requirements, a DWR Well Completion Report was filed with the ACPWA, which will copy them to the State of California Department of Water Resources (DWR). Permit and DWR form copies are included in Appendix B.

MW-12 INSTALLATION

On November 30, 2005, well MW-12 was installed adjacent to the location of former monitoring well MW-4. The borehole was drilled with truck-mounted, hollow-stem augers (8-inch-diameter). During drilling, continuous soil cores were collected (for geologic logging and screening for

evidence of contamination) by advancing into undisturbed soil a 4-foot-long steel sampling barrel lined with acetate sampling sleeves. The borehole geologic log is included in Appendix B. Two soil samples were collected from the MW-12 borehole for laboratory analysis. The soil samples were collected at 13 and 16 feet bgs (unsaturated zone depths where residual soil contamination would be present). Soil samples selected for laboratory analysis were containerized in 8-ounce glass jars with Teflon lined lids, labeled, chilled, and shipped to the analytical laboratory under chain-of-custody documentation.

Monitoring well MW-12 was constructed in accordance with California Environmental Protection Agency (Cal/EPA) guidelines for sampling dissolved petroleum products in groundwater. There is no anticipated use of the well for groundwater extraction; therefore, the well was constructed with 2-inch-diameter casing. Well construction included:

- 15 feet of 2-inch-diameter PVC factory-slotted well screen (0.020 inch slots) from the base of the well to near surface (25 feet to 10 feet bgs);
- Annular sand pack from total well depth to 2 feet above the top of the well screen, overlain by 3 feet of hydrated bentonite pellets, overlain by neat Portland cement grout slurry;
- 2-inch-diameter PVC blank casing from top of well screen to surface with locking well caps; and
- Surface completion with flush-mounted, Christy-type, traffic-rated well boxes with locking caps.

The California DWR Well Completion Report for MW-12 is included in Appendix B.

On December 15, 2005, the well was developed (by Blaine Tech Services) by surging and bailing to set the annular sand pack and to reduce the potential for fine-grained native materials to infiltrate the sand pack. Approximately 23 gallons of well development purge water was generated and containerized onsite (see below). Appendix F contains the well development field records.

MONITORING WELL SURVEYING

On January 3, 2006, the horizontal coordinates and vertical elevations of all 11 site monitoring wells casing tops were surveyed by a licensed California land surveyor, in accordance with GeoTracker requirements. The "Geo Survey" data for this surveying event were uploaded as an Electronic Data Deliverable (EDD) to the GeoTracker on-line database. Appendix D contains the well surveyor's report.

WASTE SOIL DISPOSAL

Seven drums of waste soil from monitoring well and bioventing well installation activities in the current quarter were containerized in labeled, 55-gallon steel drums temporarily stored onsite with four drums of waste soil from the installation of the bioventing pilot test wells in September 2004. Following all drilling, one composite sample ("Soil Drum Comp.") from all 11 drums was collected for laboratory analysis, for the purpose of profiling the soil for disposal. Appendix G contains the certified analytical laboratory report and chain-of-custody record for that sample. The analytical results demonstrated that the soil is non-hazardous, and amenable for disposal at a permitted Class III or II landfill. All 11 drums of waste soil were profiled and hauled offsite on December 12, 2005 by Morgan Environmental (EPA ID No. CAT080013428) and disposed of at D/K Environmental in Vernon, California. A copy of the waste manifest is included in Appendix E.

SOIL SAMPLE ANALYTICAL RESULTS

Both soil samples collected during the MW-12 well installation activities were analyzed for:

- Total extractable hydrocarbons – diesel range (TEHd)—by modified EPA Method 8015;
- Total volatile hydrocarbons – gasoline range (TVHg)—by modified EPA Method 8015;
- Benzene, toluene, ethylbenzene, and xylenes (BTEX)—by EPA Method 8021; and
- Methyl *tertiary*-butyl ether (MTBE) fuel oxygenates (TAME, ETBE, DIPE, and TBA), and lead scavengers (EDB and EDC)—by EPA Method 8260.

All current investigation soil and groundwater samples were analyzed by Curtis & Tompkins, Ltd. (Berkeley, California), which maintains current ELAP certifications for all of the analytical methods utilized in this investigation. Appendix G contains the certified analytical laboratory report and chain-of-custody record for the MW-12 borehole soil samples.

Soil sample analytical results are summarized in Table 1.

Soil sample analytical results indicate trace concentrations of hydrocarbons in the diesel fuel range for both samples, and trace concentrations of hydrocarbons in the gasoline range in the deeper sample collected from 16 feet bgs. No BTEX, MTBE, fuel oxygenates, or lead scavengers were detected in either of the soil samples.

Table 1
December 2005 Well MW-12 Soil Analytical Results
Redwood Regional Park Corporation Yard, Oakland, California

Sample I.D.	Sample Depth (feet)	TEHd	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Fuel Oxygenates and Lead Scavengers [(b)]
MW-12-13'	13.0	22	*< 1.0*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*< 0.009*	*< 0.0045*	*All ND*
MW-12-16'	16.0	5.5	1.5	*< 0.0049*	*< 0.0049*	*< 0.0049*	*< 0.0098*	*< 0.0049*	*All ND*
	Soil ESLs	100	100	0.044	2.9	3.3	1.5	0.023	Not applicable

Notes:

[(a)] All concentrations in milligrams per kilogram (mg/kg).

[(b)] Full list of fuel oxygenates and lead scavengers is included in Appendix G.

ESLs = Water Board Environmental Screening Levels.

ND = Not detected above method reporting limits.

4.0 DECEMBER 2005 CREEK AND GROUNDWATER SAMPLING

This section presents the creek surface water and groundwater sampling and analytical methods for the current event. Groundwater and surface water analytical results are summarized in Section 4.0. Monitoring and sampling protocols were in accordance with the Alameda County Health-approved SES technical workplan (SES, 1998a). Activities included:

- Measuring static water levels in all site wells (MW-1 through MW-11);
- Collecting post-purge groundwater samples for laboratory analysis of site contaminants from wells located within the groundwater plume (MW-2, MW-4, and MW-7 through MW-11); and
- Collecting Redwood Creek surface water samples for laboratory analysis from locations SW-2 and SW-3.

Creek sampling and groundwater monitoring/sampling was conducted on December 15, 2004. The locations of all site monitoring wells and creek water sampling locations are shown on Figure 2 (in Section 1.0). Well construction information and water level data are summarized in Table 2. Appendix F contains the groundwater monitoring field records.

GROUNDWATER LEVEL MONITORING AND SAMPLING

Groundwater monitoring well water level measurements, purging, sampling, and field analyses were conducted by Blaine Tech Services under the direct supervision of SES personnel. Groundwater sampling was conducted in accordance with State of California guidelines for sampling dissolved analytes in groundwater associated with leaking UFSTs (State Water Resources Control Board, 1989), and followed the methods and protocols approved by the Alameda County Health in the SES 1998 workplan (SES, 1998a).

As the first task of the monitoring event, static water levels were measured using an electric water level indicator. The wells to be sampled for contaminant analyses were then purged (by bailing and/or pumping) of a minimum of three wetted casing volumes. Aquifer stability parameters (temperature, pH, and electrical conductivity) were measured after each purged casing volume to ensure that representative formation water would be sampled.

Table 2
Groundwater Monitoring Well Construction and Groundwater Elevation Data
Redwood Regional Park Corporation Yard, Oakland, California

Well	Well Depth	Screened Interval	TOC Elevation	Groundwater Elevation (12/15/04)
MW-1	18	7 to17	565.83	562.2
MW-2	36	20 to 35	566.42	544.3
MW-3	42	7 to 41	560.81	541.4
MW-5	26	10 to 25	547.41	531.0
MW-6	26	10 to 25	545.43	532.2
MW-7	24	9 to24	547.56	534.5
MW-8	23	8 to 23	549.13	537.3
MW-9	26	11 to 26	549.28	534.1
MW-10	26	11 to 26	547.22	534.7
MW-11	26	11 to 26	547.75	534.9
MW-12	25	10 to 25	544.67	535.1

Notes:

TOC = Top of casing.

Wells MW-1 through MW-6 are 4-inch diameter; all other wells are 2-inch diameter.

All elevations are feet above U.S. Geological Survey mean sea level.

Approximately 100 gallons of well purge water and decontamination rinseate from the current event were containerized in the onsite plastic tank. Purge water from future events will continue to be accumulated in the onsite tank until it is full, at which time the water will be transported offsite for proper disposal.

CREEK SURFACE WATER SAMPLING

Surface water sampling was conducted by SES on December 15, 2004. Surface water samples were collected from Redwood Creek location SW-2 (immediately downgradient of the former UFST source area and within the area of documented creek bank soil contamination) and location SW-3 (approximately 500 feet downstream from SW-2); see Figure 2 for surface water sample locations. In accordance with a previous Alameda County Health-approved SES recommendation, upstream sample location SW-1 was not sampled.

At the time of sampling, water in the creek was flowing briskly (between locations SW-2 and SW-3). Creek water depth was approximately 6 inches to 1 foot. Neither petroleum sheen nor odor were evident at either location. There was faint evidence of the orange algae on the eastern creekbank at SW-2, as has historically been observed.

5.0 CURRENT MONITORING EVENT ANALYTICAL RESULTS AND REGULATORY CONSIDERATIONS

This section presents the field and laboratory analytical results of the most recent monitoring event, preceded by a brief summary of regulatory considerations regarding surface water and groundwater contamination. Table 3 and Figure 7 summarize the contaminant analytical results of the current monitoring event; Appendix G contains the certified analytical laboratory report and chain-of-custody record. Section 5.0 contains a detailed discussion of hydrochemical trends, and Appendix A contains a tabular summary of historical groundwater and surface water analytical results and hydrochemical trend plots.

REGULATORY CONSIDERATIONS

Groundwater Contamination

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 approved by the Water Board, and are also assumed to ultimately discharge to a surface water body and potentially impact aquatic organisms. While it is likely that site groundwater would satisfy geology-related criteria for exclusion as a drinking water source (excessive total dissolved solids and/or insufficient sustained yield), Water Board approval for this exclusion has not been obtained for the site. As summarized in Table 3, site groundwater contaminant levels are compared to Water Board Tier 1 Environmental Screening Levels (ESLs) for groundwater (using the criteria for residential sites where groundwater is a known or potential drinking water resource) and for surface water (freshwater environment). For these contaminants, the groundwater and surface water ESLs are identical.

As stipulated in the ESL document (Water Board, 2003), 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 include one or more components, including ceiling value, human toxicity, indoor air impacts, and aquatic life protection. Exceedance of ESLs suggests that additional investigation and/or remediation is warranted. While drinking water standards (e.g., Maximum Contaminant Levels [MCLs]) are published for the site

Table 3
Groundwater and Surface Water Sample
Analytical Results – December 2005
Redwood Regional Park Corporation Yard, Oakland, California

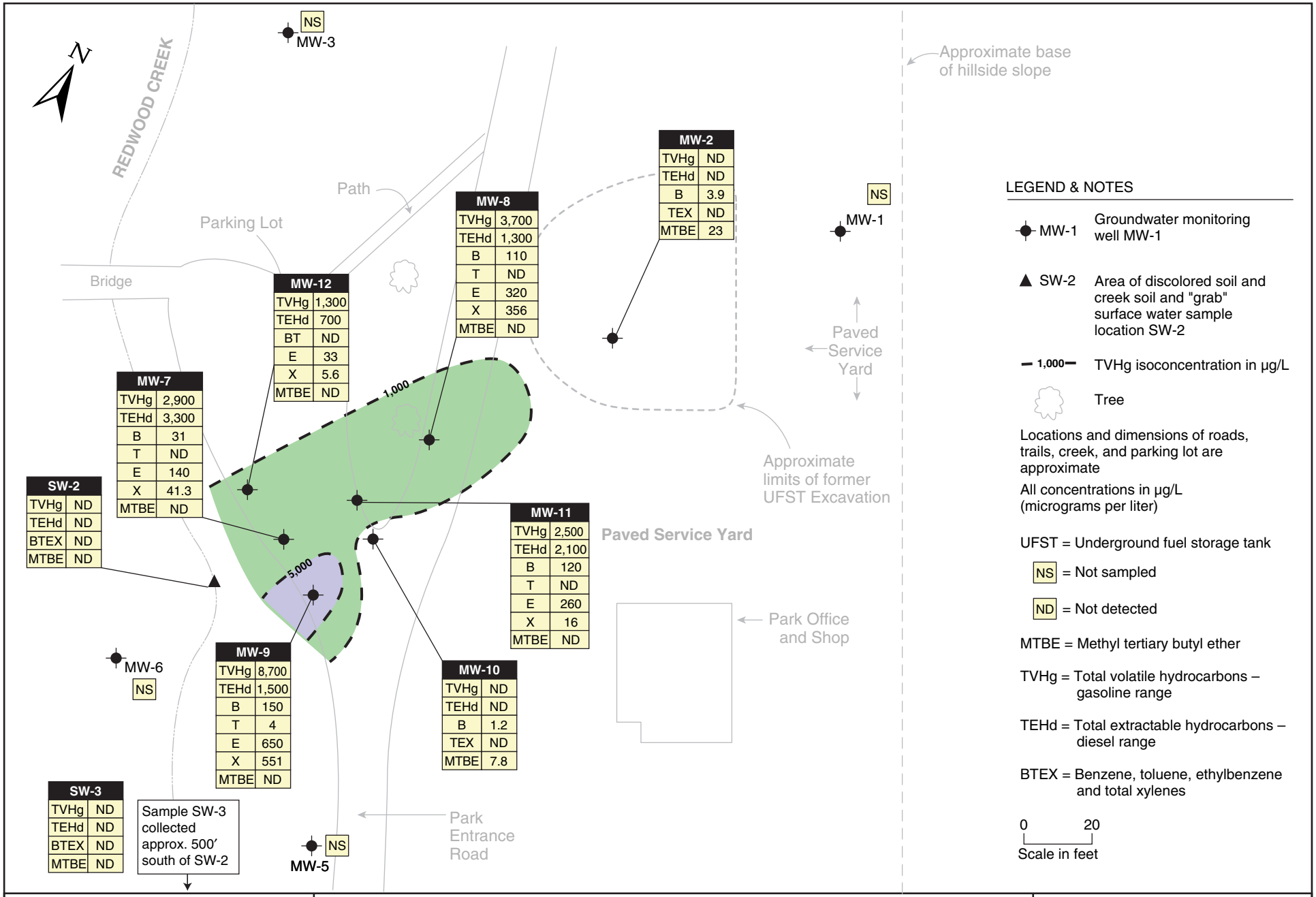
Compound	Results						
	TPHg	**TPHd**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Total Xylenes**	**MTBE**
GROUNDWATER SAMPLES							
MW-2	*<50*	*<50*	**3.9**	*<0.5*	*<0.5*	*<1.0*	**23**
MW-7	**2,900**	**3,300**	**31**	*< 1.0*	**140**	**41.3**	*< 4.0*
MW-8	**3,700**	**1,300**	**110**	*< 5.0*	**320**	**356**	*< 20*
MW-9	**8,700**	**1,500**	**150**	4.0	**650**	**551**	*< 4.0*
MW-10	*<50*	*<50*	**1.2**	*<0.5*	*<0.5*	*<1.0*	**7.8**
MW-11	**2,500**	**2,100**	**120**	*<2.5*	**260**	**16**	*<10*
MW-12	**1,300**	**700**	*<0.5*	*<0.5*	**33**	5.6	*<2.0*
Groundwater ESLs [(a)]	100	100	1.0	40	30	13	5.0
REDWOOD CREEK SURFACE WATER SAMPLES							
SW-2	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
SW-3	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
Surface Water ESLs	100	100	1.0	40	30	13	5.0

Notes:

[(a)] Water Board Environmental Screening Levels (for residential sites where groundwater is a known or potential drinking water resource (Water Board, 2005).

TPHg = Total petroleum hydrocarbons - gasoline range (equivalent to TVHg).
TPHd = Total petroleum hydrocarbons - diesel range (equivalent to TEHd).

All results in micrograms per liter (µg/L), equivalent to parts per billion (ppb). Concentrations in **bold face** exceed one or more ESL criteria.



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ANALYTICAL RESULTS AND GASOLINE PLUME—DECEMBER 2005
Redwood Regional Park Service Yard, Oakland, CA

Figure 7

by: MJC | DECEMBER 2005

2005-02-18

contaminants of concern, Alameda County Health has indicated that impacts to nearby Redwood Creek are of primary importance, and that site target cleanup standards should be evaluated primarily within the context of surface water quality criteria.

Surface Water Contamination

As discussed in the Water Board ESL document, benthic communities at the groundwater/surface water interface (e.g., at site groundwater discharge location SW-2) are assumed to be exposed to the full concentration of groundwater contamination prior to dilution/mixing with the surface water). This was also a fundamental assumption in the in-stream benthic macroinvertebrate bioassessment events, which documented no measurable impacts.

Historical surface water sampling in the immediate vicinity of contaminated groundwater discharge (SW-2) has sporadically documented petroleum contamination, usually in periods of low stream flow, and generally at concentrations several orders of magnitude less than adjacent (within 20 feet) groundwater monitoring well concentrations. It is likely that mixing/dilution between groundwater and surface water precludes obtaining an "instantaneous discharge" surface water sample that is wholly representative of groundwater contamination at the discharge location. Therefore, the most conservative assumption is that surface water contamination at the groundwater/surface water interface is equivalent to the upgradient groundwater contamination (e.g., site downgradient wells MW-12, MW-7, and MW-9).

While site target cleanup standards for groundwater have not been determined, it is likely that no further action will be required by regulatory agencies when groundwater (and surface water) contaminant concentrations are all below their respective screening level criteria. Residual contaminant concentrations in excess of screening level criteria might be acceptable to regulatory agencies if a more detailed risk assessment (e.g., Tier 2 and/or Tier 3) can demonstrate that no significant impacts are likely.

GROUNDWATER AND SURFACE WATER CONTAMINANT FINDINGS

Current event groundwater and surface water data indicate the following:

- Current site groundwater contaminant concentrations exceed their respective groundwater ESLs (for both cases, where drinking water resource *is* and *is not* threatened) and surface water screening levels for all site contaminants except toluene.
- Groundwater contaminant concentrations showed a strong correlation with distance from the source area, with higher concentrations farther from the source area (showing that the plume has been discontinued from the source area). Maximum contamination was detected in well MW-9 (at the extreme downgradient edge of the site, immediately upgradient of Redwood

Creek); lower concentrations were detected in upgradient wells. Trace to non-detectable groundwater contaminant concentrations were present in former source area well MW-2 (approximately 130 feet upgradient of Redwood Creek). Newly installed monitoring well MW-12 (northern boundary of the plume) showed elevated concentrations of petroleum hydrocarbons, but at lower concentrations than MW-9. Benzene and MTBE were detected above screening level criteria in MW-10 (southern boundary of the plume).

- Hydrocarbon concentration in the key groundwater wells MW-7, MW-8, and MW-11 decreased relative to the previous quarterly monitoring, while concentrations in MW-9 increased. These data likely reflect the seasonal desorption of residual contamination in the former source area and capillary fringe.
- The existing well layout adequately constrains the lateral extent of groundwater contamination. The vertical (lowest) limit of groundwater contamination is very likely the top of the siltstone bedrock, at a depth of approximately 25 to 28 feet. The saturated interval extends approximately 12 to 15 feet from top of bedrock upward through the capillary fringe.
- The plume of groundwater contamination above screening levels appears to be approximately 120 feet long and approximately 50 feet wide. The zone of greatest contamination is located in the downgradient portion of that plume.
- The groundwater contaminant plume has become disconnected from the former source, and the center of contaminant mass has migrated well beyond the former source area (represented by well MW-2) toward Redwood Creek.
- No contaminants were detected in either of the current event surface water samples, which historically has been the case during wet weather (high creek flow) periods.

QUALITY CONTROL SAMPLE ANALYTICAL RESULTS

Laboratory quality control (QC) samples (e.g., method blanks, matrix spikes, surrogate spikes, etc.) 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 (see Appendix G).

6.0 EVALUATION OF HYDROCHEMICAL TRENDS AND PLUME STABILITY

This section evaluates the observed hydrochemical trends with regard to plume stability and migration of the center of contaminant mass toward Redwood Creek. An assessment is made as to the nature of residual contaminated soil that acts as a continued source of groundwater contamination. A conceptual model (incorporating site lithology, hydrogeology, and hydrochemistry) is presented to explain the spatial extent and magnitude of the dissolved hydrocarbon plume.

CONTAMINANT SOURCE ASSESSMENT

Site UFSTs were removed (i.e., discharge was discontinued) in 1993, and some but not all of the source area excavation contaminated soil was removed. Borehole soil sampling has provided data on the extent and magnitude of soil contamination in the vicinity of the former UFSTs ("source area") and the outlying area (in the capillary fringe above the groundwater plume). Soil contamination is constrained to the unsaturated zone and the underlying saturated sediments on the weathered bedrock surface.

A large mass of residual TPH contamination in the unsaturated zone overlies the contaminant plume, primarily in the area between the former UFSTs and the park entrance roadway, with the contaminated zone thinning toward Redwood Creek. Seasonal desorption of contamination in this unsaturated zone occurs during the rainy season and during high-water periods, acting as a long-term source of dissolved contamination. Previous ORC™ injection programs—which resulted in permanent reductions at the peripheral plume margins, but were followed by rebound (to pre-injection conditions) within the central portions of the plume—indicate that site conditions support aerobic biodegradation. However, biodegradation is limited by oxygen deficiency in the unsaturated zone.

Based on this conceptual model—and using conservative assumptions for equilibrium partitioning, contaminant geometry, soil moisture, and previous laboratory analytical results for TPH in soil—estimates of TPH mass in soil were calculated. Residual TPH in vadose zone soil is estimated at 1,400 to 7,000 pounds (100 to 600 gallons of gasoline), compared to a mass of TPH in groundwater estimated at 1 to 10 pounds (0.1 to 1.0 gallon of gasoline).

Soil and groundwater contamination distribution and site lithologic and hydrogeologic conditions have shown that residual soil contamination will continue to be a source of long-term groundwater contamination via seasonal desorption and migration, unless abated.

WATER LEVEL TRENDS

Appendix H contains historical groundwater elevation data and flow direction maps. Figure 8 shows a trendline of site groundwater elevations in key wells (those within the contaminant plume). The data support the following conclusions:

- Groundwater elevations at all site wells have shown a seasonal fluctuation of 1.5 feet to 6.6 feet, with an average elevation change in individual wells of 3.9 feet. Wells within the plume have shown a similar range.
- In all wells, lowest elevations have generally been observed during the end of the dry season and highest elevations at the peak of the rainy season. This is a common seasonal trend observed in the upper water-bearing zone in the Bay Area.
- Groundwater elevation trends and magnitudes are similar between wells.
- Overall groundwater flow direction is consistently to the west-southwest (toward Redwood Creek). Localized (on the scale of tens of feet) groundwater flow direction appears to vary within the general flow direction, likely controlled by bedrock surface topography.
- Historical groundwater gradient is consistently approximately 0.1 feet/foot in the area of the contaminant plume.

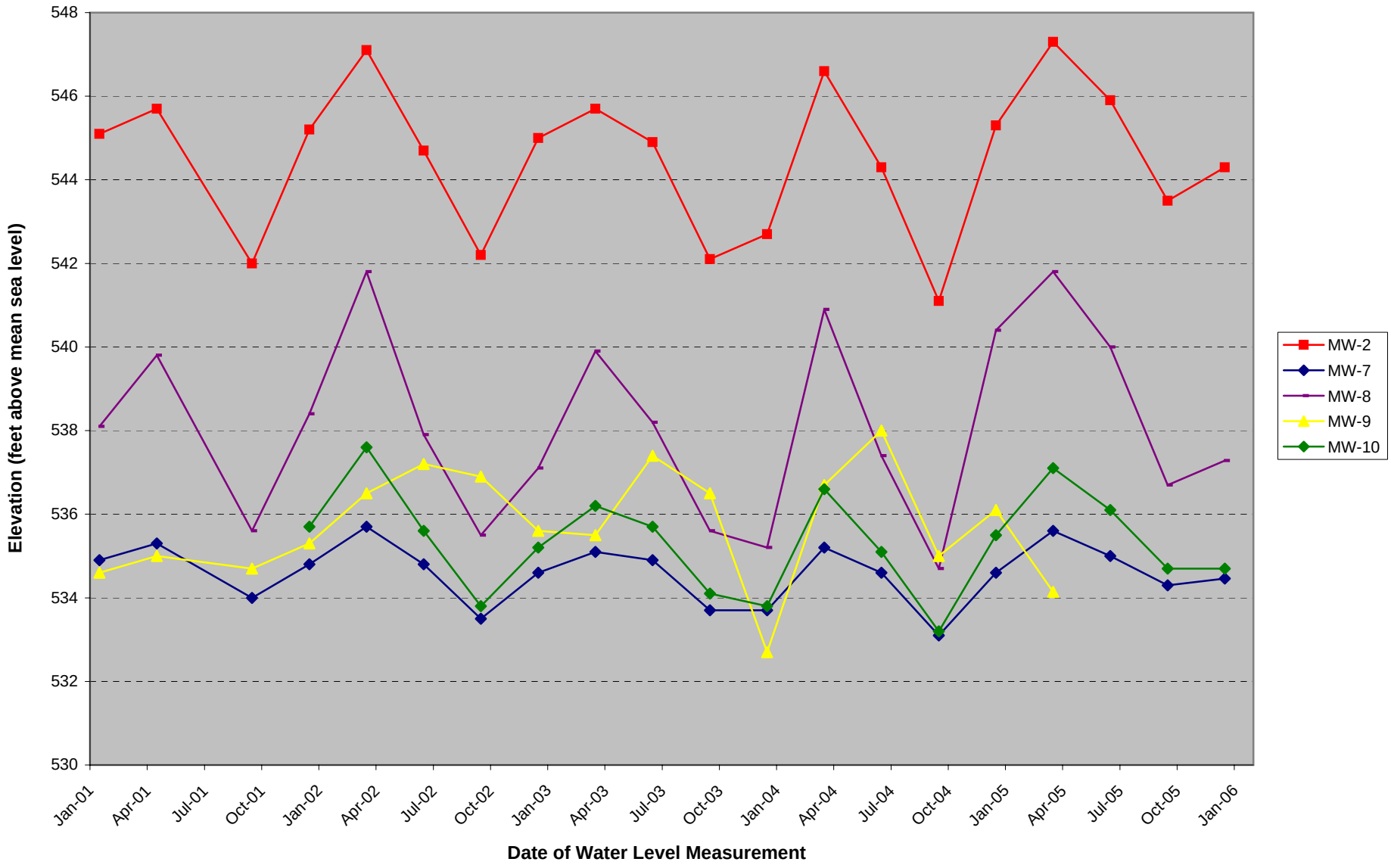
HYDROCHEMICAL TRENDS

Contaminant concentrations in an individual well can fluctuate over time for one or more reasons—contaminant migration, seasonal effects due to fluctuating groundwater levels (i.e., desorption from the unsaturated zone and/or dilution of saturated zone contamination), and/or natural attenuation (plus enhancement by active remediation such as ORC™ injection and bioventing). These hydrochemical trends can result in changes in the lateral extent and magnitude of a dissolved contaminant plume.

The most consistent trend over time in those wells within the centerline of the plume has been a seasonal influence of desorption following the winter rains, with a resultant increase in concentration of the dissolved hydrocarbon in the groundwater.

Because the quarter-to-quarter comparisons can be unduly influenced by seasonal effects that mask longer trends, it is useful to compare same-season data over time to determine if concentrations are

Figure 8: Historical Groundwater Elevations in Key Site Wells
Redwood Regional Park Service Yard - Oakland, California



increasing, decreasing, or remaining stable. Our evaluation of hydrochemical trends focuses on gasoline and diesel, which, when combined, represent the majority of contaminant mass. To more closely evaluate plume stability differences, the following discussion focuses on four separate portions of the plume relative to the long axis (along the hydraulic gradient): "upgradient" (trailing edge of plume); "mid-plume"; "downgradient"; and "plume fringe."

Important components of plume stability include: degree of contaminant fluctuations in individual wells over time; changes in the lateral extent of the plume; and changes in the location of the center of contaminant mass within the plume. Historical gasoline isoconcentration contour maps in Appendix A are presented to show temporal changes in plume lateral extent and center of contaminant mass, which are discussed below.

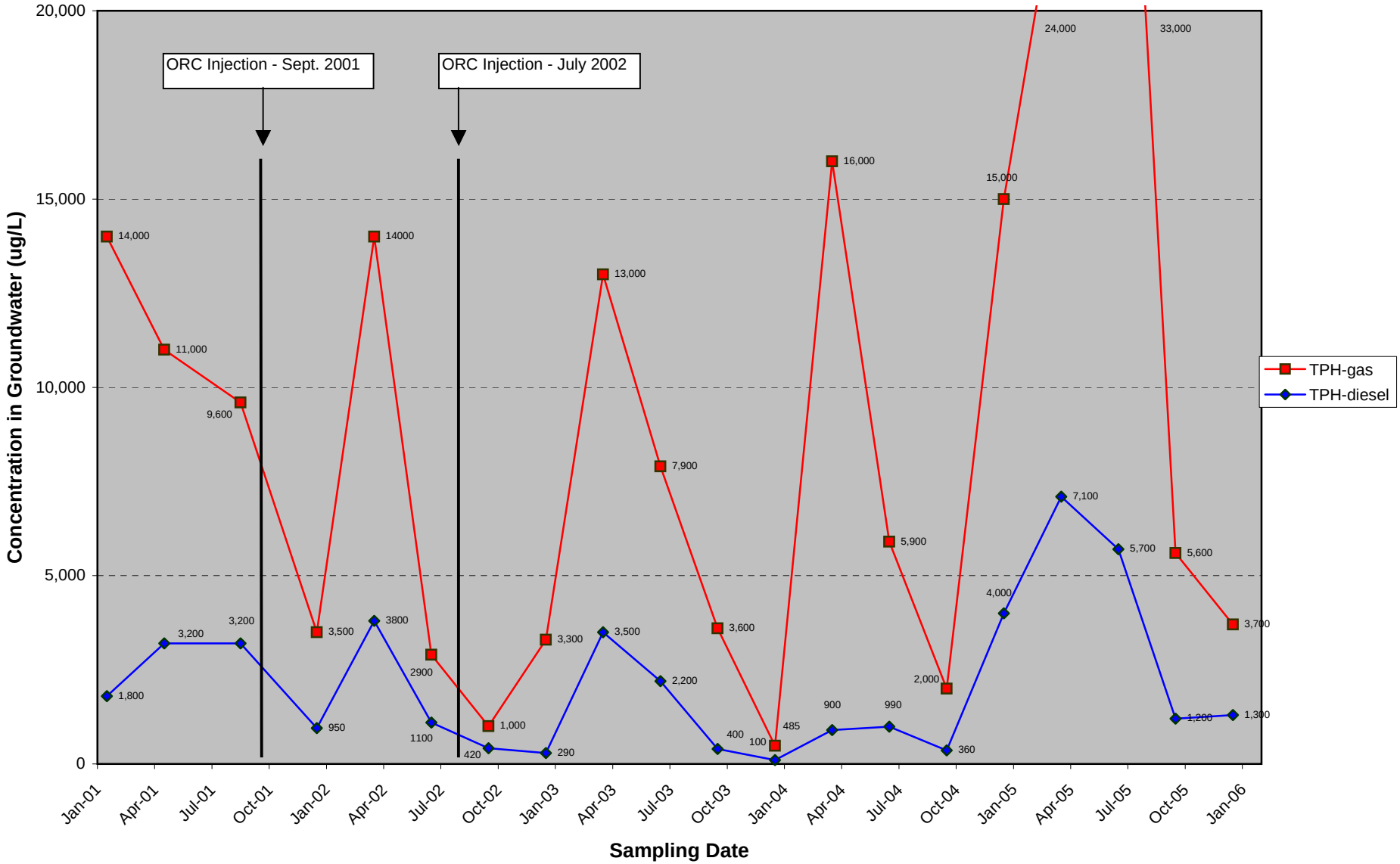
In general, the contaminant plume has disconnected from the source such that recent historical downgradient concentrations are higher than upgradient (near the source) concentrations. To evaluate plume stability with regard to changes in the center of contaminant mass, we evaluated concentrations of total petroleum hydrocarbons (gasoline and diesel combined) in individual wells over time. The data show no obvious correlation between maximum TPH concentrations and well location, suggesting high plume instability. Since January 2001, maximum TPH concentrations have been variously detected in upgradient, mid-plume, and downgradient wells. These variations are likely due in large part to differing contaminant mass in unsaturated zone soils at particular locations, resulting in variable amounts of desorbed mass to the plume during high water conditions. The following discusses hydrochemical trends in each of the upgradient, mid-plume, and downgradient portions of the site, as well as the fringes of the plume.

Upgradient Hydrochemical Trends

Well MW-2, installed in the area of the former UFSTs, historically has shown relatively low (sometimes non-detectable) contaminant levels. Well MW-8, located approximately 60 feet downgradient of MW-2, historically has shown much higher concentrations. These data suggest that the plume has become disconnected from the former source area near MW-2, and that the center of contaminant mass has moved downgradient, with significant contaminant mass entrained in the soil that continues to "feed" the dissolved concentration represented by MW-8 (the first well downgradient of MW-2 along the inferred centerline of the plume).

Figure 9 shows hydrochemical trends for gasoline and diesel in MW-8. Both gasoline and diesel concentrations have fluctuated widely, but follow a well established seasonal fluctuation pattern. The strong seasonal effect is visually apparent, with annual maximum concentrations generally occurring in late winter/early spring (usually the March event), and annual minimum concentrations

Figure 9: Gasoline and Diesel Hydrochemical Trends: Well MW-8
Redwood Regional Park Service Yard, Oakland, California



generally occurring in the fall/winter (usually the September or December events). Figure 9 trends show a strong correlation with the seasonal hydrologic trends shown in Figure 8. Neither contaminant has shown an overall reducing concentration trend (i.e., annual maxima and minima are approximately the same over the previous 3 years).

In the previous four March events (high water conditions), MW-8 has shown sitewide maxima (or near maxima) for gasoline, benzene, and MTBE. Maximum concentrations in other events have been in other wells. Current (December 2005) TPHg and TPHd concentrations in MW-8 are below their historical maxima, and have been between the historical maxima and minima over the past 3 years.

Mid-Plume Trends

Well MW-11 represents the high concentration centerline of the plume, approximately midway between upgradient well MW-8 and downgradient well MW-7. Figure 10 shows hydrochemical trends for gasoline and diesel for this well. Gasoline and diesel concentrations showed a large reduction in 2001, followed by an equally large increase by late 2002. Since that time, concentrations have fluctuated widely, with a strong seasonal effect. Overall, neither diesel nor gasoline concentrations in this well are showing a reducing or increasing trend. Current (December 2005) TPHg and TPHd concentrations in MW-11 are below their historical maxima, and have been between the historical maxima and minima over the past 3 years.

Downgradient Hydrochemical Trends

Wells MW-7 and MW-9 represent the high-concentration centerline of the plume at the downgradient area approximately 20 feet from Redwood Creek.

Figure 11 shows hydrochemical trends for gasoline and diesel for MW-7. Both gasoline and diesel have shown strong fluctuations in concentration. Current (December 2005) gasoline concentration in MW-9 is near historical maximum. Current diesel concentration is between the historical maximum and minimum.

Figure 12 shows hydrochemical trends for gasoline and diesel for MW-9. Beginning in January 2002 (between the two ORC™ injection phases), both gasoline and diesel concentrations have been relatively stable, with no obvious seasonal effects. A downward trend in gasoline concentration has been observed in the past three events. Current (December 2005) gasoline concentration in MW-7 is a historical minimum. Current diesel concentration is between the historical maximum and minimum.

Figure 10: Gasoline and Diesel Hydrochemical Trends: Well MW-11
Redwood Regional Park Service Yard, Oakland, California

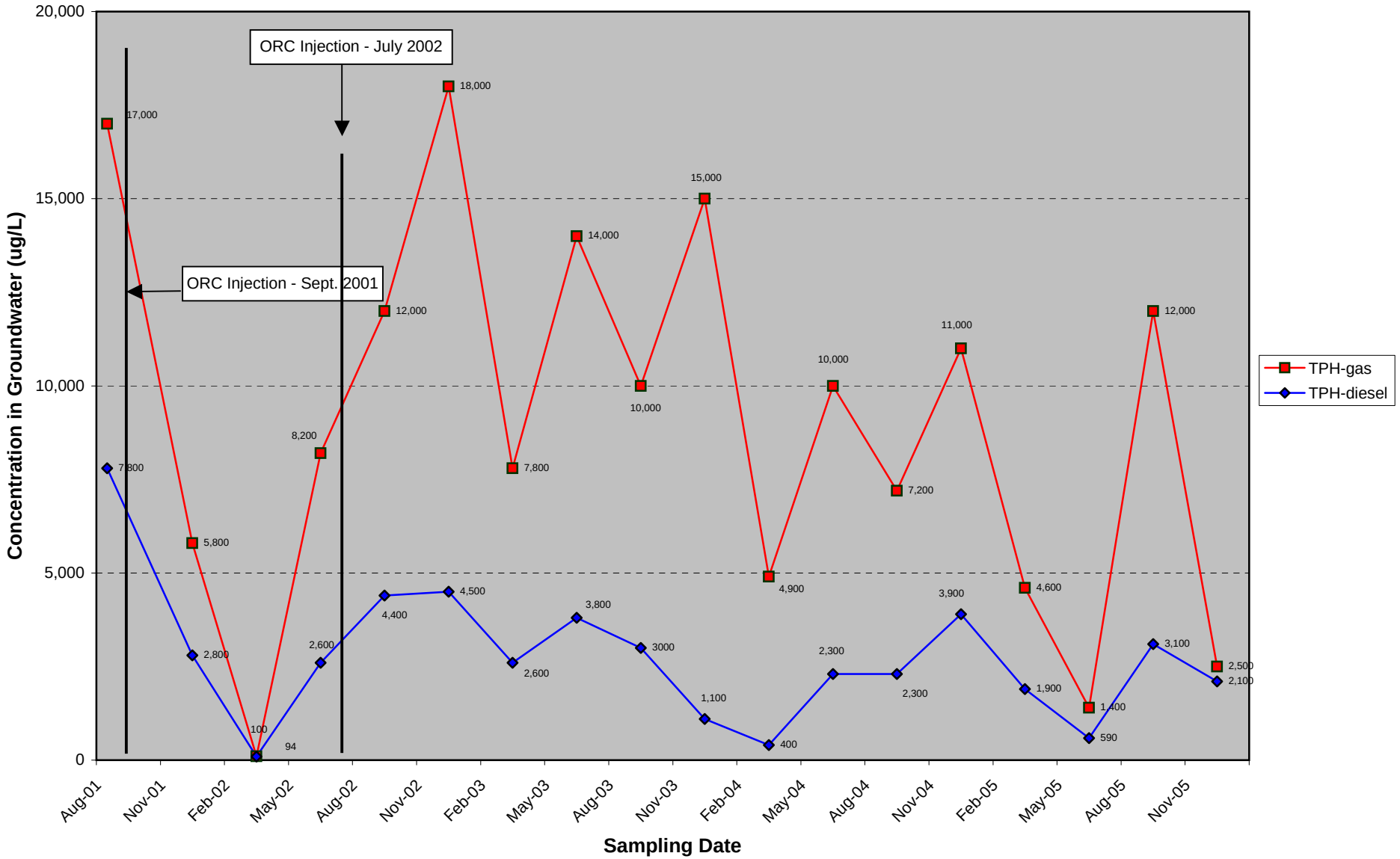


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Figure 11: Gasoline and Diesel Hydrochemical Trends: Well MW-7
Redwood Regional Park Service Yard, Oakland, California

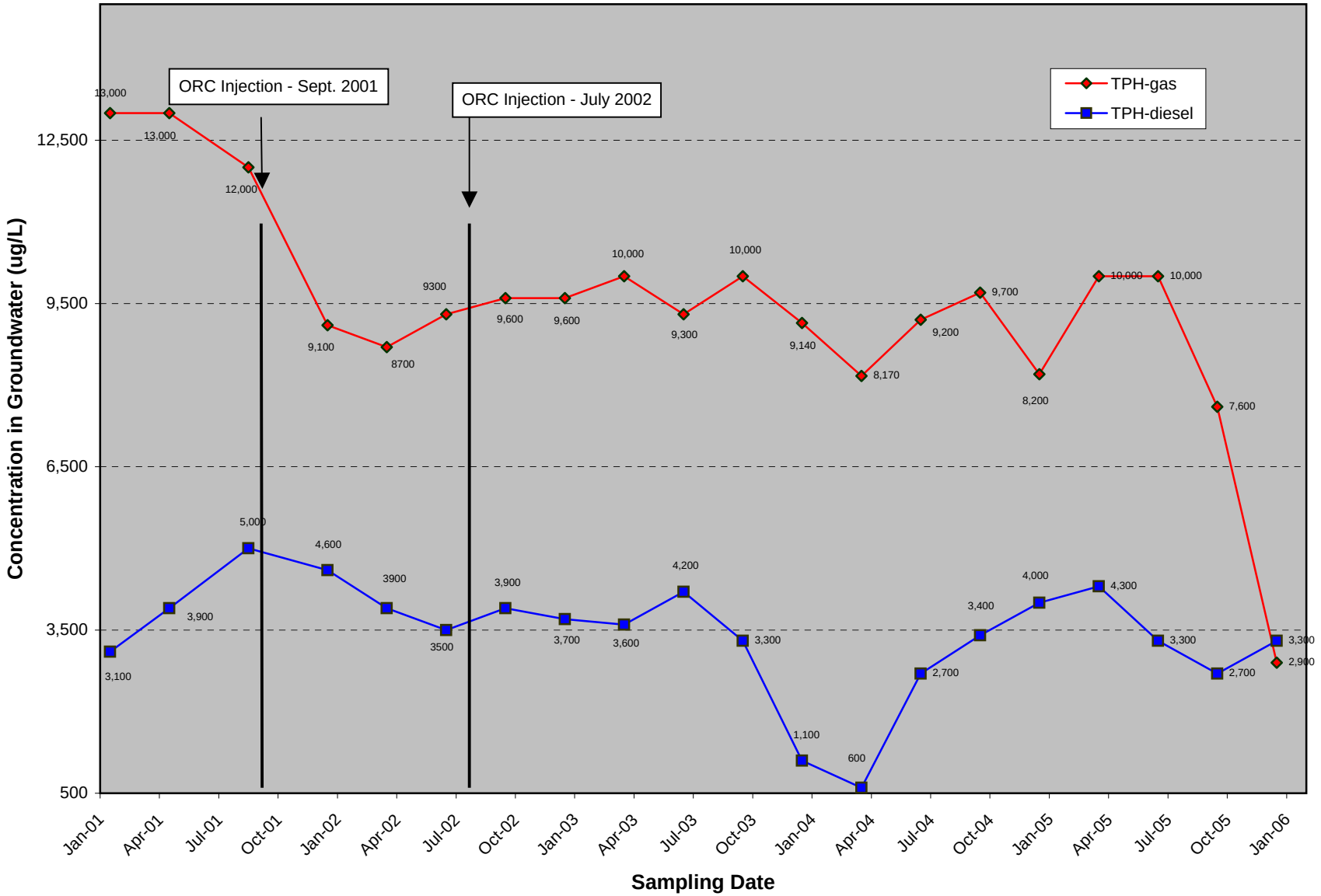
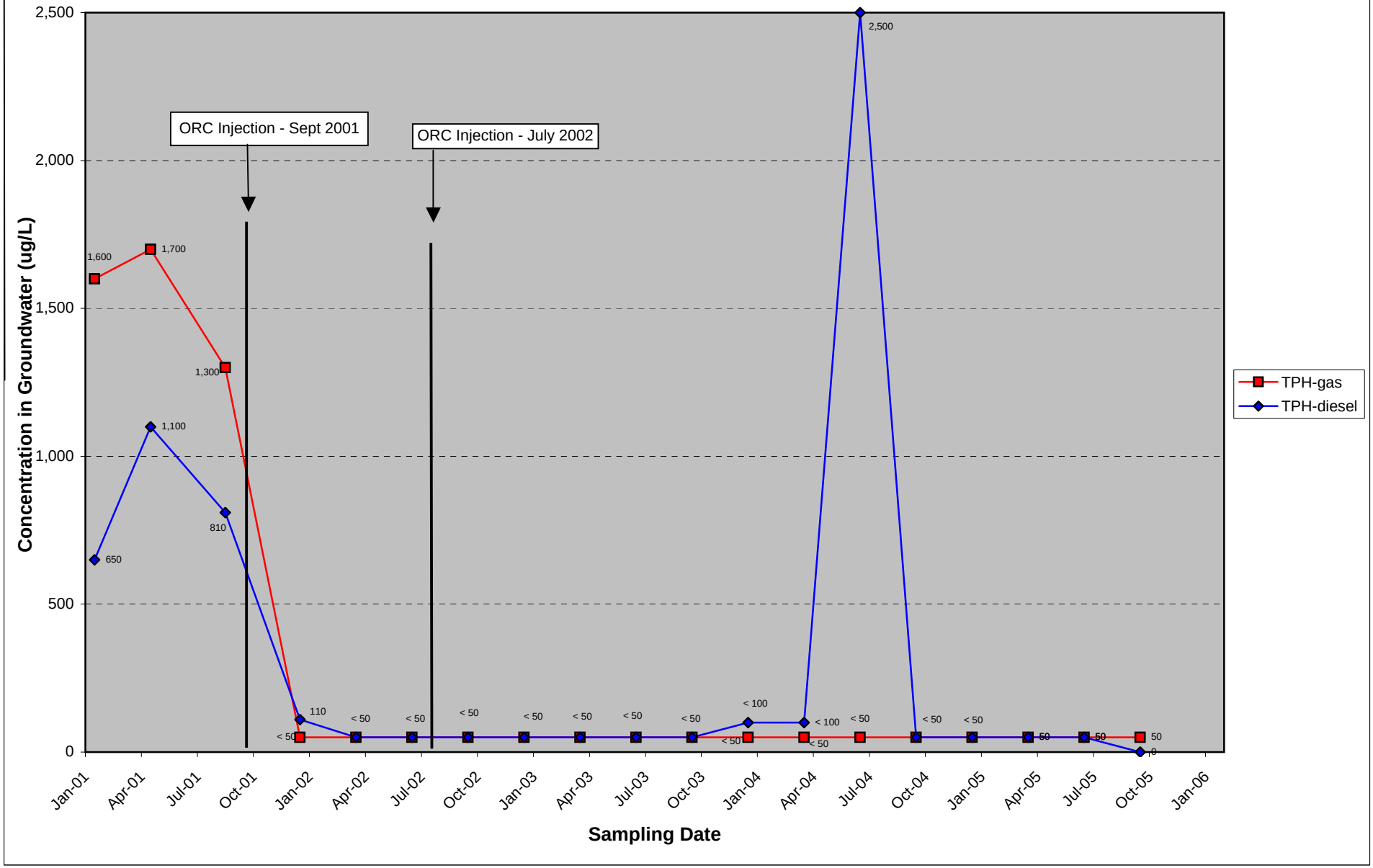


Figure 12: Gasoline and Diesel Hydrochemical Trends: Well MW-4
Redwood Regional Park Service Yard, Oakland, California



Plume Fringe Zone Trends

Well MW-4 is located on the northern edge of the plume, just upgradient of Redwood Creek. Concentrations of both gasoline and diesel showed a sharp reduction beginning in April 2001. Other than an apparent anomalous diesel detection in June 2004, no contamination has been detected in this well since December 2001. Due to apparent poor recharge in this well, the well was replaced in November 2005, and the replacement well (MW-12) shows elevated petroleum concentrations.

Well MW-10 is located on the southern edge of the plume, in the mid-plume portion relative to the longitudinal axis. Figure 13 shows hydrochemical trends for gasoline and diesel for this well. Concentrations of both gasoline and diesel showed a sharp reduction between the August and December 2001 events (following the first ORC™ injection phase). Since that time, gasoline has been detected at or below approximately 160 micrograms per liter (µg/L), and diesel has been detected above 100 µg/L only once.

These two plume fringe zone wells show the positive effect of ORC™ injection in areas with low to moderate contamination, on the lateral edge of the plume, where natural attenuation is not overwhelmed by continued contaminant input.

As of the most recent groundwater monitoring event, over 3½ years have passed since the second phase of ORC™ injection. This is well beyond the useful life of injected ORC™ (generally 6 to 9 months), and the data reflect that the previously-injected ORC™ is no longer substantially contributing to contamination reduction.

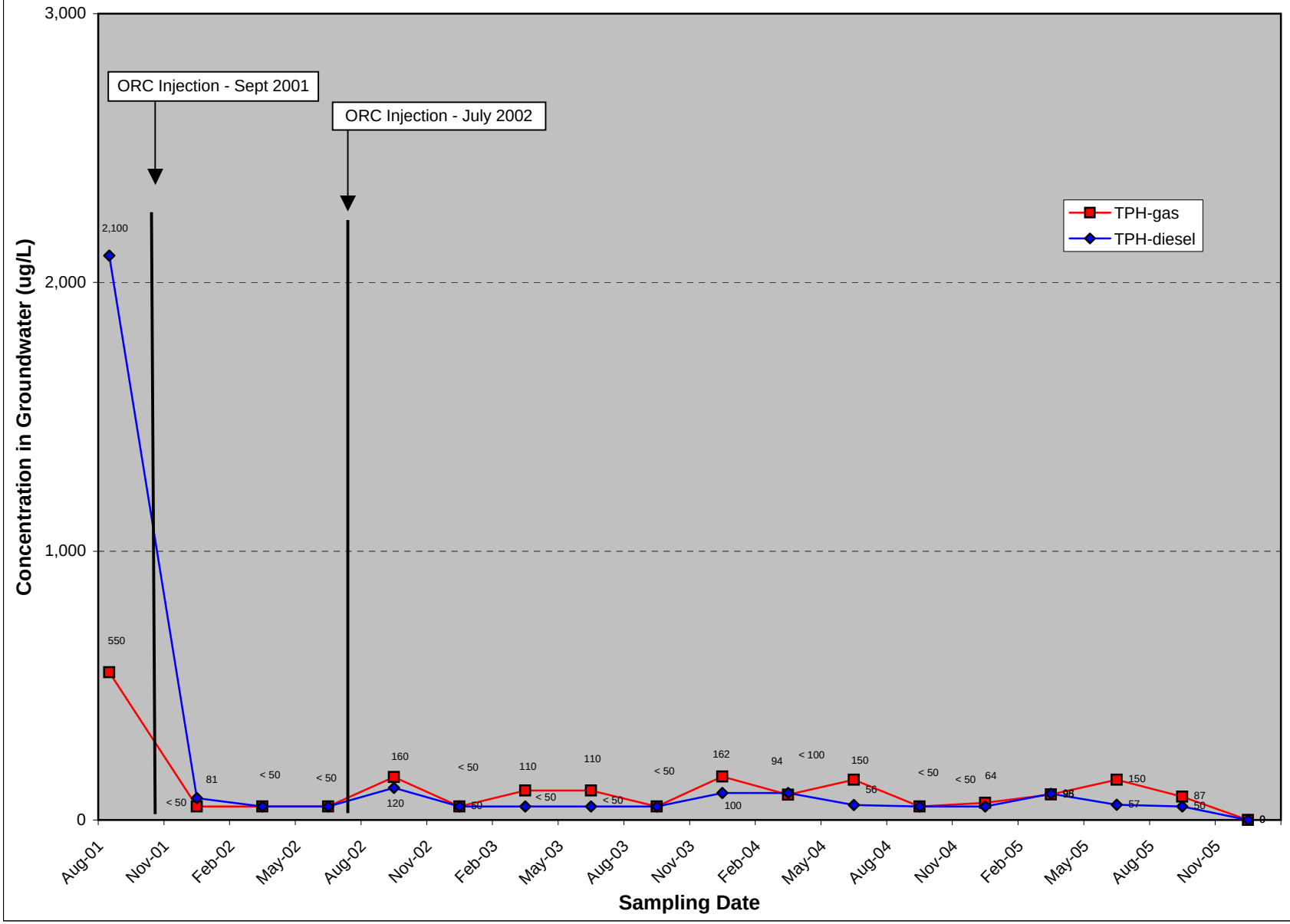
PLUME GEOMETRY AND MIGRATION INDICATIONS

As discussed in detail in Section 4.0, the plume of groundwater contamination above screening levels appears to be approximately 120 feet long and approximately 50 feet wide. The zone of greatest contamination fluctuates between the mid-portion of the plume (near MW-8) and the downgradient portion of the plume (at MW-7 and MW-9).

As shown on the historical plume contour maps in Appendix A, the plume geometry has not varied substantially over the past 4 years of monitoring, although seasonal fluctuations in contaminant concentrations have been observed. This is exhibited by higher concentrations in downgradient wells in some events, and in mid-plume or upgradient wells in other events.

Over the past 2 years, maximum sitewide contaminant concentrations have remained approximately the same, including at downgradient wells, suggesting that “worst-case” groundwater contaminant concentrations have been reached across the lateral extent of the plume.

Figure 13: Gasoline and Diesel Hydrochemical Trends: Well MW-10
Redwood Regional Park Service Yard, Oakland, California



CLOSURE CRITERIA ASSESSMENT AND PROPOSED ACTIONS

The Water Board and Alameda County Health generally require that the following criteria be met before issuing regulatory closure of contaminant cases:

1. ***The contaminant source has been removed (i.e., the source of the discharge and obviously-contaminated soil).*** This criterion has not been fully met. While the UFSTs have been removed, borehole soil sampling has shown a substantial mass of residual source area soil contamination that will act as an ongoing source of groundwater contamination. As discussed below, a soil bioventing system has been installed as a corrective action to reduce contaminant mass. The bioventing system began operating in December 2005.

2. ***The groundwater contaminant plume is well characterized, and is stable or reducing in magnitude and extent.*** As discussed above, in our professional opinion, this criterion has not been met, and continued groundwater monitoring will be needed to demonstrate plume stability.

3. ***If residual contamination (soil or groundwater) exists, there is no reasonable risk to sensitive receptors (i.e., contaminant discharge to surface water or water supply wells) or to site occupants***. This criterion is generally met by conducting a Risk-Based Corrective Action (RBCA) assessment that models the fate and transport of residual contamination in the context of potential impacts to sensitive receptors (e.g., water wells, residential land use). For this site, Redwood Creek is considered the primary sensitive receptor. The proposed corrective action is designed specifically to reduce the magnitude and duration of future contaminated groundwater discharge to Redwood Creek.

7.0 SUMMARY CONCLUSIONS AND PROPOSED ACTIONS

SUMMARY AND CONCLUSIONS

- Groundwater sampling has been conducted on an approximately quarterly basis since November 1994 (36 events in the initial site wells). A total of 11 site wells are available for monitoring; 7 of the available wells are currently monitored for contamination.
- Site contaminants of concern include gasoline, diesel, BTEX, and MTBE. Current groundwater concentrations exceed applicable regulatory agency screening levels for all constituents except toluene.
- The primary environmental risk is discharge of contaminated groundwater to the adjacent Redwood Creek. A stream bioassessment concluded that there were no direct impacts to the surface water benthic community; however, groundwater contamination is sporadically detected in surface water samples, and there is historical visual evidence of plume discharge at the creek/groundwater interface. Surface water samples have sporadically exceeded surface water ESL criteria for gasoline, diesel, and benzene, and generally only in low creek flow conditions. An in-stream bioassessment evaluation in 1999-2000 determined no impacts to the benthic macroinvertebrate community.
- The existing well layout adequately constrains the lateral extent of groundwater contamination, and the vertical limit is very likely the top of the near-surface (25 to 28 feet) siltstone bedrock. The saturated interval extends approximately 12 to 15 feet from top of bedrock through the capillary fringe. Groundwater elevations fluctuate seasonally, creating a capillary fringe that varies seasonally in thickness.
- The groundwater contaminant plume has become disconnected from the former source, and has migrated well beyond the former source area (represented by well MW-2) toward Redwood Creek. The plume of groundwater contamination above screening levels appears to be approximately 120 feet long and approximately 50 feet wide. The zone of greatest contamination is an approximately 20- to 30-foot-wide by 50-foot-long area extending from just downgradient of MW-8 to the most downgradient well MW-7.
- The contaminant plume is neither stable nor reducing, as groundwater contaminant concentrations fluctuate seasonally, and the center of mass of the contaminant plume (represented by maximum concentrations) has alternated between mid-plume and downgradient wells in recent history. While recent groundwater contaminant concentrations

are at or near sitewide historical maxima, there is no indication that maximum site groundwater concentrations are increasing, suggesting that "worst-case" contaminant concentrations have been reached.

- A two-phase ORC™ injection corrective action program was implemented at the site. In September 2001, approximately 3,000 pounds of ORC™ was injected into 44 boreholes over a 4,400-square foot area of the maximum groundwater contamination. In June 2002, approximately 1,000 pounds of ORC™ was injected in 30 boreholes over a smaller area that showed residual high contaminant concentrations following the initial injection phase. The ORC™ was injected over the full saturated interval (including the capillary fringe). The findings indicate that the corrective action was partially effective in reducing the lateral extent of the groundwater contaminant plume; however, initial contaminant reductions were followed by rebounding to pre-injection concentrations. The data suggest that site conditions support aerobic biodegradation when not limited by oxygen concentrations, notably on the plume margins and upgradient former source area, but not along the centerline of the contaminant plume.
- A September 2003 exploratory borehole program confirmed that sorbed-phase contamination in the seasonally-unsaturated zone is a primary source of long-term contaminant contribution to the groundwater plume. Reduction/removal of this contamination will be necessary to eliminate continued discharge of contaminated groundwater to Redwood Creek, and ultimately to obtain site closure.
- Soil bioventing is a proven technology for contaminant mass removal in the unsaturated zone, under conditions similar to the site, and appears to be the most appropriate corrective action strategy giving consideration to technical, cost, safety, and aesthetic issues. A 2- to 3-year program of bioventing will likely reduce unsaturated zone contamination such that it will no longer be a long-term source of contamination to groundwater. A full-scale bioventing system was installed in November/December 2005, and began operating in December 2005.

PROPOSED ACTIONS

The EBRPD proposes to implement the following actions to address regulatory concerns:

- Continue the quarterly program of creek and groundwater sampling and reporting.
- Continue to inform regulators of site progress and seek their concurrence with proposed actions.
- Operate the bioventing system as a corrective action to move the site toward closure, and report those results in bioventing-specific technical reports.
- Continue to evaluate analytical results (and bioventing contaminant removal data) in the context of hydrochemical trends, impacts of groundwater contamination on Redwood Creek, and the effectiveness of the corrective action.

8.0 LIMITATIONS

This report has been prepared for the exclusive use of the East Bay Regional Park District, its authorized representatives, and the regulatory agencies. 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 onsite activities conducted by SES since September 1998. 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. The SES personnel who performed these activities 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.

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SES, 2000c. Site Monitoring Report, Redwood Regional Park Service Yard, Oakland, California. October 19.

SES, 2000d. Site Feasibility Study Report, Redwood Regional Park Service Yard, Oakland, California. October 20.

SES, 1999a. Workplan for Subsurface Investigation, Redwood Regional Park Service Yard, Oakland, California. April 8.

SES, 1999b. Residual Contamination Investigation and Remedial Action Assessment Report, Redwood Regional Park Service Yard, Oakland, California. June 9.

SES, 1998a. Workplan for Continued Site Investigation and Closure Assessment, Redwood Regional Park Service Yard, Oakland, California. October 9.

SES, 1998b. Site Investigation and Closure Assessment Report, Redwood Regional Park Service Yard, Oakland, California. December 4.

APPENDIX A

Historical Analytical Results and Plume Maps

HISTORICAL GROUNDWATER MONITORING WELLS ANALYTICAL RESULTS

REDWOOD REGIONAL PARK SERVICE YARD, OAKLAND, CALIFORNIA

(all concentrations in ug/L, equivalent to parts per billion [ppb])

Well MW-2									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Nov-94	**66**	*< 50*	**3.4**	*< 0.5*	*< 0.5*	**0.9**	**4.3**	*NA*
2	Feb-95	**89**	*< 50*	**18**	**2.4**	**1.7**	**7.5**	**30**	*NA*
3	May-95	*< 50*	*< 50*	**3.9**	*< 0.5*	**1.6**	**2.5**	**8.0**	*NA*
4	Aug-95	*< 50*	*< 50*	**5.7**	*< 0.5*	*< 0.5*	*< 0.5*	**5.7**	*NA*
5	May-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**—**	*NA*
6	Aug-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**—**	*NA*
7	Dec-96	*< 50*	*< 50*	**6.3**	*< 0.5*	**1.6**	*< 0.5*	**7.9**	*NA*
8	Feb-97	*< 50*	*< 50*	**0.69**	*< 0.5*	**0.55**	*< 0.5*	**1.2**	*NA*
9	May-97	**67**	*< 50*	**8.9**	*< 0.5*	**5.1**	*< 1.0*	**14**	*NA*
10	Aug-97	*< 50*	*< 50*	**4.5**	*< 0.5*	**1.1**	*< 0.5*	**5.6**	*NA*
11	Dec-97	**61**	*< 50*	**21**	*< 0.5*	**6.5**	**3.9**	**31**	*NA*
12	Feb-98	**2,000**	**200**	**270**	**92**	**150**	**600**	**1,112**	*NA*
13	Sep-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**—**	**7.0**
14	Apr-99	**82**	**710**	**4.2**	*< 0.5*	**3.4**	**4.0**	**12**	**7.5**
15	Dec-99	**57**	*< 50*	**20**	**0.6**	**5.9**	*<0.5*	**27**	**4.5**
16	Sep-00	*< 50*	*< 50*	**0.72**	*< 0.5*	*< 0.5*	*< 0.5*	**0.7**	**7.9**
17	Jan-01	**51**	*< 50*	**8.3**	*< 0.5*	**1.5**	*< 0.5*	**9.8**	**8.0**
18	Apr-01	**110**	*< 50*	**10**	*< 0.5*	**11**	**6.4**	**27**	**10**
19	Aug-01	**260**	**120**	**30**	**6.7**	**1.6**	**6.4**	**45**	**27**
20	Dec-01	**74**	**69**	**14**	**0.8**	**3.7**	**3.5**	**22**	**6.6**

Well MW-2 (continued)									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
21	Mar-02	*< 50*	*< 50*	**2.3**	**0.51**	**1.9**	**1.3**	**8.3**	**8.2**
22	Jun-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	**7.7**
23	Sep-02	**98**	*< 50*	**5.0**	*< 0.5*	*< 0.5*	*< 0.5*	—	**13**
24	Dec-02	*< 50*	*< 50*	**4.3**	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
25	Mar-03	**130**	**82**	**39**	*< 0.5*	**20**	**4.1**	**63**	**16**
26	Jun-03	*< 50*	*< 50*	**1.9**	*< 0.5*	*< 0.5*	*< 0.5*	**1.9**	**8.7**
27	Sep-03	**120**	*< 50*	**8.6**	**0.51**	**0.53**	*< 0.5*	**9.6**	**23**
28	Dec-03	**282**	*<100*	**4.3**	**1.6**	**1.3**	**1.2**	**8.4**	**9.4**
29	Mar-04	**374**	*<100*	**81**	**1.2**	**36**	**7.3**	**126**	**18**
30	Jun-04	*< 50*	*< 50*	**0.75**	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**15**
31	Sep-04	**200**	*< 50*	**23**	*< 0.5*	*< 0.5*	**0.70**	**24**	**16**
32	Dec-04	**80**	*< 50*	**14**	*< 0.5*	*2.9*	**0.72**	**18**	**20**
33	Mar-05	**190**	**68**	**27**	*<0.5*	**14**	**11**	**52**	**26**
34	Jun-05	**68**	*< 50*	**7.1**	*< 0.5*	**6.9**	**1.8**	**16**	**24**
35	Sep-05	*< 50*	*< 50*	**2.5**	*< 0.5*	*< 0.5*	*< 1.0*	**2.5**	**23**
36	Dec-05	*< 50*	*< 50*	**3.9**	*< 0.5*	*< 0.5*	*< 1.0*	**3.9**	**23**
Well MW-4									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Nov-94	**2,600**	**230**	**120**	**4.8**	**150**	**88**	**363**	*NA*
2	Feb-95	**11,000**	**330**	**420**	**17**	**440**	**460**	**1,337**	*NA*
3	May-95	**7,200**	**440**	**300**	**13**	**390**	**330**	**1,033**	*NA*
4	Aug-95	**1,800**	**240**	**65**	**6.8**	**89**	**67**	**227**	*NA*
5	May-96	**1,100**	**140**	**51**	*< 0.5*	*< 0.5*	**47**	**98**	*NA*
6	Aug-96	**3,700**	**120**	**63**	**2.0**	**200**	**144**	**409**	*NA*
7	Dec-96	**2,700**	**240**	**19**	*< 0.5*	**130**	**93**	**242**	*NA*
8	Feb-97	**3,300**	*< 50*	**120**	**1.0**	**150**	**103**	**374**	*NA*
9	May-97	**490**	*< 50*	**2.6**	**6.7**	**6.4**	**6.7**	**22**	*NA*
10	Aug-97	**1,900**	**150**	**8.6**	**3.5**	**78**	**53**	**143**	*NA*
11	Dec-97	**1,000**	**84**	**4.6**	**2.7**	**61**	**54**	**123**	*NA*
12	Feb-98	**5,300**	**340**	**110**	**24**	**320**	**402**	**856**	*NA*
13	Sep-98	**1,800**	*< 50*	**8.9**	*< 0.5*	**68**	**27**	**104**	**23**
14	Apr-99	**2,900**	**710**	**61**	**1.2**	**120**	**80**	**263**	**32**
15	Dec-99	**1,000**	**430**	**4.0**	**2.0**	**26**	**14**	**46**	*< 2.0*

Well MW-4 (continued)									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
16	Sep-00	**570**	**380**	*< 0.5*	*< 0.5*	**16**	**4.1**	**20**	**2.4**
17	Jan-01	**1,600**	**650**	**4.2**	**0.89**	**46**	**13.8**	**65**	**8.4**
18	Apr-01	**1,700**	**1,100**	**4.5**	**2.8**	**48**	**10.7**	**66**	**5.0**
19	Aug-01	**1,300**	**810**	**3.2**	**4.0**	**29**	**9.7**	**46**	*< 2.0*
20	Dec-01	*< 50*	**110**	*< 0.5*	*< 0.5*	*< 0.5*	**1.2**	**1.2**	*< 2.0*
21	Mar-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
22	Jun-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
23	Sep-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
24	Dec-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
25	Mar-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
26	Jun-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
27	Sep-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
28	Dec-03	*<50*	*<100*	*<0.3*	*<0.3*	*<0.3*	*<0.6*	—	*< 5.0*
29	Mar-04	*<50*	*<100*	*<0.3*	*<0.3*	*<0.3*	*<0.6*	—	*< 5.0*
30	Jun-04	*<50*	**2,500**	*<0.3*	*<0.3*	*<0.3*	*<0.6*	—	*< 5.0*
31	Sep-04	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*
32	Dec-04	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*
33	Mar-05	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*
34	Jun-05	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*
35	Sep-05	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*

Well MW-5									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Nov-94	**50**	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
2	Feb-95	**70**	*< 50*	**0.6**	*< 0.5*	*< 0.5*	*< 0.5*	**0.6**	*NA*
3	May-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
4	Aug-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
5	May-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
6	Aug-96	**80**	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
7	Dec-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
8	Feb-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
9	May-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
10	Aug-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
11	Dec-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
12	Feb-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
13	Sep-98	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2*
Groundwater monitoring in this well discontinued in 1998 with Alameda County Health Care Services Agency approval. Subsequent groundwater monitoring conducted to confirm plume's southern limit									
14	Jun-04	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	**5.9**
15	Sep-04	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*

Well MW-7									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Jan-01	**13,000**	**3,100**	**95**	**4**	**500**	**289**	**888**	**95**
2	Apr-01	**13,000**	**3,900**	**140**	*< 0.5*	**530**	**278**	**948**	**52**
3	Aug-01	**12,000**	**5,000**	**55**	**25**	**440**	**198**	**718**	**19**
4	Dec-01	**9,100**	**4,600**	**89**	*< 2.5*	**460**	**228**	**777**	*< 10*
5	Mar-02	**8,700**	**3,900**	**220**	**6.2**	**450**	**191**	**867**	**200**
6	Jun-02	**9,300**	**3,500**	**210**	**6.3**	**380**	**155**	**751**	**18**
7	Sep-02	**9,600**	**3,900**	**180**	*< 0.5*	**380**	**160**	**720**	*< 2.0*
8	Dec-02	**9,600**	**3,700**	**110**	*< 0.5*	**400**	**189**	**699**	*< 2.0*
9	Mar-03	**10,000**	**3,600**	**210**	**12**	**360**	**143**	**725**	**45**
10	Jun-03	**9,300**	**4,200**	**190**	*< 10*	**250**	**130**	**570**	**200**
11	Sep-03	**10,000**	**3,300**	**150**	**11**	**300**	**136**	**597**	*< 2.0*
12	Dec-03	**9,140**	**1,100**	**62**	**45**	**295**	**184**	**586**	**89**
13	Mar-04	**8,170**	**600**	**104**	**41**	**306**	**129**	**580**	**84**
14	Jun-04	**9,200**	**2,700**	**150**	*< 0.5*	**290**	**91**	**531**	*< 2.0*
15	Sep-04	**9,700**	**3,400**	**98**	*< 0.5*	**300**	**125**	**523**	*< 2.0*
16	Dec-04	**8200**	**4,000**	**95**	*< 0.5*	**290**	**124**	**509**	*< 2.0*
17	Mar-05	**10,000**	**4,300**	**150**	*<0.5*	**370**	**71**	**591**	*<2.0*
18	Jun-05	**10,000**	**3,300**	**210**	*<1.0*	**410**	**56**	**676**	*<4.0*
19	Sep-05	**7,600**	**2,700**	**110**	*<1.0*	**310**	**54**	**474**	*<4.0*
20	Dec-05	**2,900**	**3,300**	**31**	*<1.0*	**140**	**41**	**212**	*<4.0*

Well MW-8									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Jan-01	**14,000**	**1,800**	**430**	**17**	**360**	**1230**	**2,037**	**96**
2	Apr-01	**11,000**	**3,200**	**320**	**13**	**560**	**1,163**	**2,056**	**42**
3	Aug-01	**9,600**	**3,200**	**130**	**14**	**470**	**463**	**1,077**	**14**
4	Dec-01	**3,500**	**950**	**69**	**2.4**	**310**	**431**	**812**	*< 4.0*
5	Mar-02	**14,000**	**3,800**	**650**	**17**	**1,200**	**1,510**	**3,377**	**240**
6	Jun-02	**2,900**	**1,100**	**70**	**2.0**	**170**	**148**	**390**	**19**
7	Sep-02	**1,000**	**420**	**22**	*< 0.5*	**64**	**50**	**136**	*< 2.0*
8	Dec-02	**3,300**	**290**	**67**	*< 0.5*	**190**	**203**	**460**	*< 2.0*
9	Mar-03	**13,000**	**3,500**	**610**	**12**	**1,100**	**958**	**2,680**	*< 10*
10	Jun-03	**7,900**	**2,200**	**370**	**7.4**	**620**	**562**	**1,559**	*< 4.0*
11	Sep-03	**3,600**	**400**	**120**	**3.3**	**300**	**221**	**644**	*< 2.0*
12	Dec-03	**485**	**100**	**19**	**1.5**	**26**	**36**	**83**	*< 5.0*

Well MW-8 (continued)									
Event	Date	TVHg	TEHd	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	MTBE
13	Mar-04	16,000	900	592	24	1,060	1,870	3,546	90
14	Jun-04	5,900	990	260	9.9	460	390	1,120	< 10
15	Sep-04	2,000	360	100	< 2.5	180	102	382	< 10
16	Dec-04	15,000	4,000	840	21	1,200	1,520	3,581	< 10
17	Mar-05	24,000	7,100	840	51	1,800	2,410	5,101	<10
18	Jun-05	33,000	5,700	930	39	2,500	3,860	7,329	<20
19	Sep-05	5,600	1,200	270	6.6	400	390	1,067	<20
20	Dec-05	3,700	1,300	110	< 5.0	320	356	786	<20

Well MW-9									
Event	Date	TVHg	TEHd	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	MTBE
1	Aug-01	11,000	170	340	13	720	616	1,689	48
2	Dec-01	9,400	2,700	250	5.1	520	317	1,092	< 10
3	Mar-02	1,700	300	53	4.2	120	67	244	20
4	Jun-02	11,000	2,500	200	16	600	509	1,325	85
5	Sep-02	3,600	2,800	440	11	260	39	750	< 4.0
6	Dec-02	7,000	3,500	380	9.5	730	147	1,266	< 10
7	Mar-03	4,400	1,400	320	6.9	400	93	820	< 2.0
8	Jun-03	7,600	1,600	490	10	620	167	1,287	< 4.0
9	Sep-03	8,300	2,900	420	14	870	200	1,504	< 10
10	Dec-03	7,080	700	287	31	901	255	1,474	< 10
11	Mar-04	3,550	600	122	15	313	84	534	35
12	Jun-04	6,800	1,700	350	< 2.5	620	99	1,069	< 10
13	Sep-04	7,100	1,900	160	8.1	600	406	1,174	< 10
14	Dec-04	4,700	2,800	160	< 2.5	470	< 0.5	630	< 10
15	Mar-05	4,200	1,600	97	<2.5	310	42	449	< 10
16	Jun-05	9,900	2,000	170	<2.5	590	359	1,119	< 10
17	Sep-05	3,600	1,200	250	<0.5	330	36	616	< 2.0
18	Dec-05	8,700	1,500	150	4	650	551	1,355	< 4.0

Well MW-10									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Aug-01	**550**	**2,100**	**17**	*< 0.5*	**31**	**44**	**92**	**40**
2	Dec-01	*< 50*	**81**	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	**25**
3	Mar-02	*< 50*	*< 50*	**0.61**	*< 0.5*	*< 0.5*	*< 0.5*	**0.61**	**6.0**
4	Jun-02	*< 50*	*< 50*	**0.59**	*< 0.5*	**0.58**	*< 0.5*	**1.2**	**9.0**
5	Sep-02	**160**	**120**	**10**	*< 0.5*	**6.7**	**3.6**	**20**	**26**
6	Dec-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	**16**
7	Mar-03	**110**	*< 50*	**11**	*< 0.5*	**12**	**1.3**	**24**	**15**
8	Jun-03	**110**	*< 50*	**9.6**	*< 0.5*	**6.8**	*< 0.5*	**16**	**9.0**
9	Sep-03	*< 50*	*< 50*	**1.1**	*< 0.5*	**1.5**	*< 0.5*	**2.6**	**7.0**
10	Dec-03	**162**	*<100*	**6.9**	*<0.3*	**8.0**	*<0.6*	**15**	**9.9**
11	Mar-04	**94**	*<100*	**2.8**	*<0.3*	**5.7**	**7.0**	**16**	*<5.0*
12	Jun-04	**150**	**56**	**11**	*< 0.5*	**12**	*< 0.5*	**23**	**15**
13	Sep-04	*< 50*	*< 50*	**1.6**	*< 0.5*	**1.9**	*< 1.0*	**3.5**	**5.8**
14	Dec-04	**64**	*< 50*	**3.7**	*< 0.5*	**3.7**	**0.7**	**8.1**	**10**
15	Mar-05	**95**	**98**	**8.3**	*<0.5*	**7.7**	**0.77**	**17**	**13**
16	Jun-05	**150**	**57**	**14**	*<0.5*	**10**	**1.0**	**25**	*<2.0*
17	Sep-05	**87**	*< 50*	**5.0**	*<0.5*	**3.6**	*<1.0*	**9**	*<2.0*
18	Dec-05	*< 50*	*< 50*	**1.2**	*<0.5*	*<0.5*	*<1.0*	**1**	**7.8**

Well MW-11									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Aug-01	**17,000**	**7,800**	**390**	**17**	**820**	**344**	**1,571**	*< 10*
2	Dec-01	**5,800**	**2,800**	**280**	**7.8**	**500**	**213**	**1,001**	*< 10*
3	Mar-02	**100**	**94**	*< 0.5*	*< 0.5*	**0.64**	*< 0.5*	**0.64**	**2.4**
4	Jun-02	**8,200**	**2,600**	**570**	**13**	**560**	**170**	**1,313**	*< 4*
5	Sep-02	**12,000**	**4,400**	**330**	**13**	**880**	**654**	**1,877**	*< 10*
6	Dec-02	**18,000**	**4,500**	**420**	*< 2.5*	**1,100**	**912**	**2,432**	*< 10*
7	Mar-03	**7,800**	**2,600**	**170**	**4.7**	**530**	**337**	**1,042**	**53**
8	Jun-03	**14,000**	**3,800**	**250**	*< 2.5*	**870**	**693**	**1,813**	*< 10*
9	Sep-03	**10,000**	**3,000**	**250**	**9.9**	**700**	**527**	**1,487**	*< 4*
10	Dec-03	**15,000**	**1,100**	**314**	**60**	**1,070**	**802**	**2,246**	**173**
11	Mar-04	**4,900**	**400**	**72**	**17**	**342**	**233**	**664**	**61**
12	Jun-04	**10,000**	**2,300**	**210**	**2.8**	**690**	**514**	**1,417**	*< 10*
13	Sep-04	**7,200**	**2,300**	**340**	*< 2.5*	**840**	**75**	**1,255**	*< 10*
14	Dec-04	**11,000**	**3,900**	**180**	**5.1**	**780**	**695**	**1,660**	*< 10*
15	Mar-05	**4,600**	**1,900**	**69**	*<2.5*	**300**	**206**	**575**	*< 10*
16	Jun-05	**1,400**	**590**	**85**	*<0.5*	**110**	**8.2**	**203**	*< 2.0*
17	Sep-05	**12,000**	**3,100**	**220**	*< 1.0*	**840**	**762**	**1,822**	*< 4.0*
18	Dec-05	**2,500**	**2,100**	**120**	*< 2.5*	**260**	**16**	**396**	*< 10*

Well MW-12									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Dec-05	**1,300**	**700**	*< 0.5*	*< 0.5*	**33**	**5.6**	**39**	*< 2.0*

HISTORICAL SURFACE WATER ANALYTICAL RESULTS

REDWOOD REGIONAL PARK SERVICE YARD, OAKLAND, CALIFORNIA

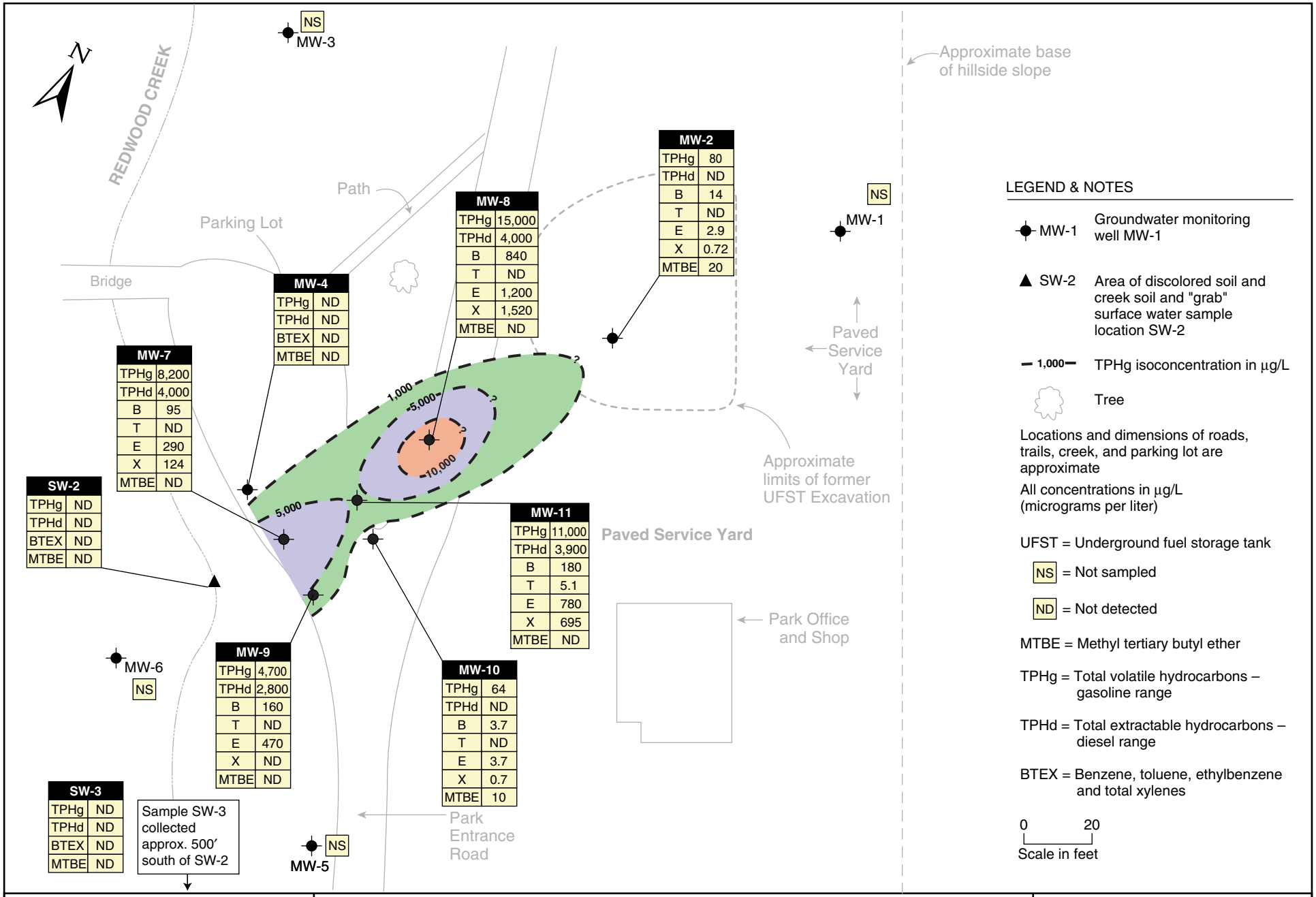
(all concentrations in ug/L, equivalent to parts per billion [ppb])

Sampling Location SW-1 (Upstream of Contaminated Groundwater Discharge Location SW-2)									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Feb-94	**50**	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
2	May-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
3	May-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
4	Aug-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
5	Dec-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
6	Feb-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
7	Aug-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
8	Dec-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
9	Feb-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
10	Sep-98	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
11	Apr-99	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
Sampling at this location discontinued after April 1999 with Alameda County Health Services Agency approval.									

Sampling Location SW-2 (Area of Historical Contaminated Groundwater Discharge)									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Feb-94	**130**	*< 50*	**1.9**	*< 0.5*	**4.4**	**3.2**	**9.5**	*NA*
2	May-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
3	Aug-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
4	May-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
5	Aug-96	**200**	*< 50*	**7.5**	*< 0.5*	**5.4**	*< 0.5*	**13**	*NA*
6	Dec-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
7	Feb-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
8	Aug-97	**350**	**130**	**13**	**0.89**	**19**	**11**	**44**	*NA*
9	Dec-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
10	Feb-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
11	Sep-98	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
12	Apr-99	**81**	*<50*	**2.0**	*< 0.5*	**2.5**	**1.3**	**5.8**	**2.3**
13	Dec-99	**1,300**	**250**	**10**	**1.0**	**47**	**27**	**85**	**2.2**
14	Sep-00	**160**	**100**	**2.1**	*< 0.5*	**5.2**	**1.9**	**9.2**	**3.4**
15	Jan-01	*< 50*	*< 50*	*< 0.5*	*< 0.5*	**0.53**	*< 0.5*	**0.5**	*< 2.0*
16	Apr-01	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
17	Sep-01	**440**	**200**	**2.1**	*< 0.5*	**17**	**1.3**	**20**	**10**
18	Dec-01	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**—**	*< 2.0*
19	Mar-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**—**	*< 2.0*
20	Jun-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**—**	*< 2.0*
21	Sep-02	**220**	**590**	**10**	*< 0.5*	**13**	*< 0.5*	**23**	*< 2.0*
22	Dec-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**—**	*< 2.0*
23	Mar-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	**0.56**	*< 0.5*	**0.56**	**2.8**
24	Jun-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**—**	*< 2.0*
25	Sep-03	**190**	**92**	**2.1**	*< 0.5*	**4.2**	*< 0.5*	**6.3**	*< 2.0*
26	Dec-03	**86**	*< 100*	*< 0.3*	*< 0.3*	*< 0.3*	*< 0.6*	**—**	*< 5.0*
27	Mar-04	*<50*	*<100*	*<0.3*	*<0.3*	**1.1**	*<0.6*	**1.1**	*< 5.0*
28	Jun-04	*<50*	*<50*	*<0.5*	*<0.5*	**0.83**	*<0.5*	**0.83**	*< 2.0*
29	Sep-04	**260**	**370**	**4.4**	*<0.5*	**6.3**	*< 1.0*	**11**	*< 2.0*
30	Dec-04	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	**—**	*< 2.0*
31	Mar-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	**—**	*< 2.0*
32	Jun-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	**—**	*< 2.0*
33	Sep-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	**—**	*< 2.0*
34	Dec-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	**—**	*< 2.0*

Sampling Location SW-3 (Downstream of Contaminated Groundwater Discharge Location SW-2)									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	May-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
2	Aug-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
3	May-96	*< 50*	**74**	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
4	Aug-96	**69**	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
5	Dec-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
6	Feb-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
7	Aug-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
8	Dec-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
9	Feb-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
10	Sep-98	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
11	Apr-99	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
12	Dec-99	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
13	Sep-00	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	—	*NS*
14	Jan-01	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
15	Apr-01	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
16	Sep-01	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	—	*NS*
17	Dec-01	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
18	Mar-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
19	Jun-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	**2.4**
20	Sep-02	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	—	*NS*
21	Dec-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
22	Mar-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
23	Jun-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
24	Sep-03	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	—	*NS*
25	Dec-03	**60**	*< 100*	*< 0.3*	*< 0.3*	*< 0.3*	*< 0.6*	—	*< 5.0*
26	Mar-04	*<50*	*<100*	*<0.3*	*<0.3*	*<0.6*	*<0.6*	—	*< 5.0*
27	Jun-04	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	—	*NS*
28	Sep-04	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	—	*NS*
29	Dec-04	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	—	*< 2.0*
30	Mar-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	—	*< 2.0*
31	Jun-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	—	*< 2.0*
32	Sep-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	—	*< 2.0*
33	Dec-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	—	*< 2.0*

NS = Not Sampled (no surface water present during sampling event)



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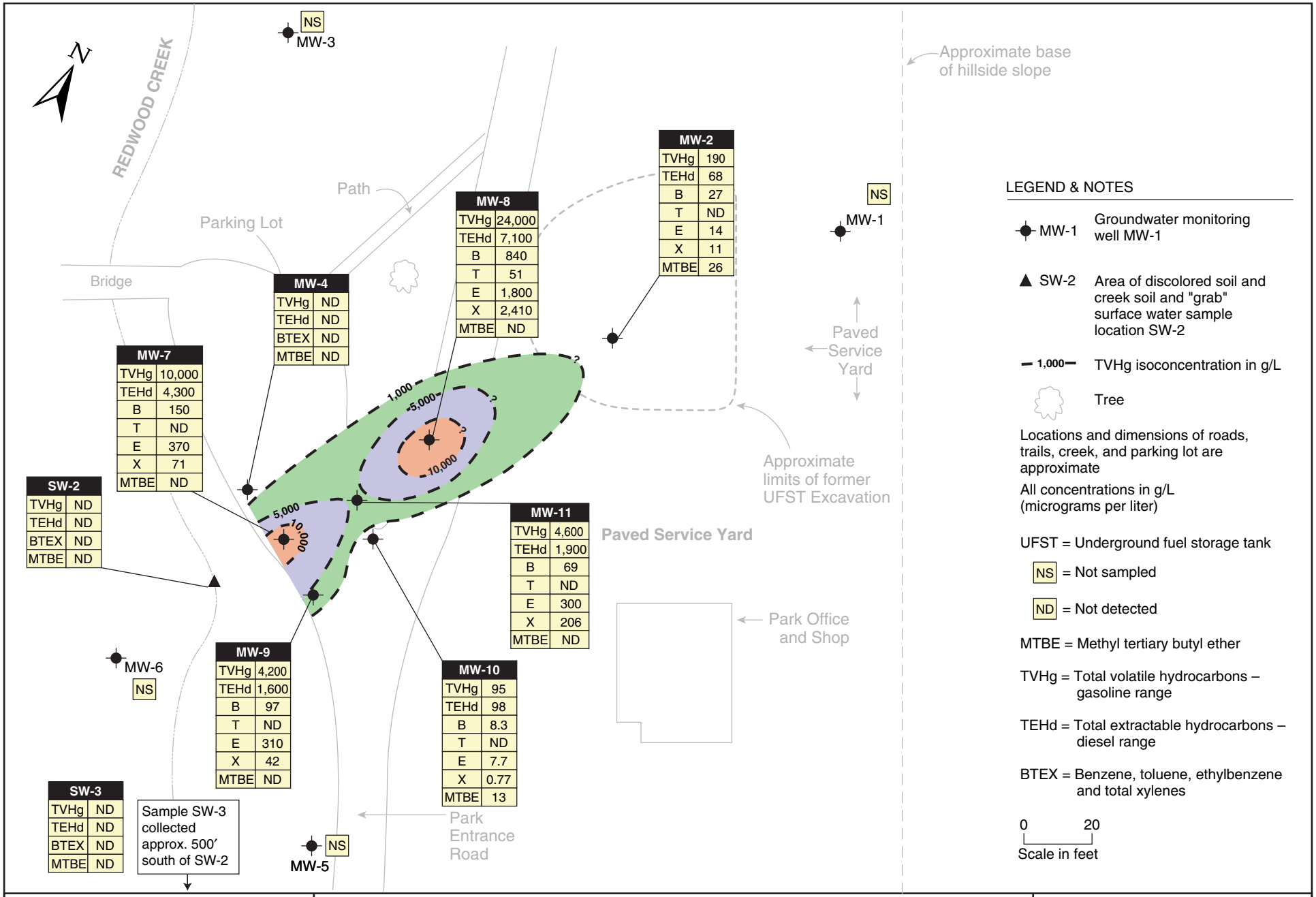
ANALYTICAL RESULTS AND GASOLINE PLUME—DECEMBER 2004
Redwood Regional Park Service Yard, Oakland, CA

Figure 7

by: MJC | JANUARY 2005

2004-02-20



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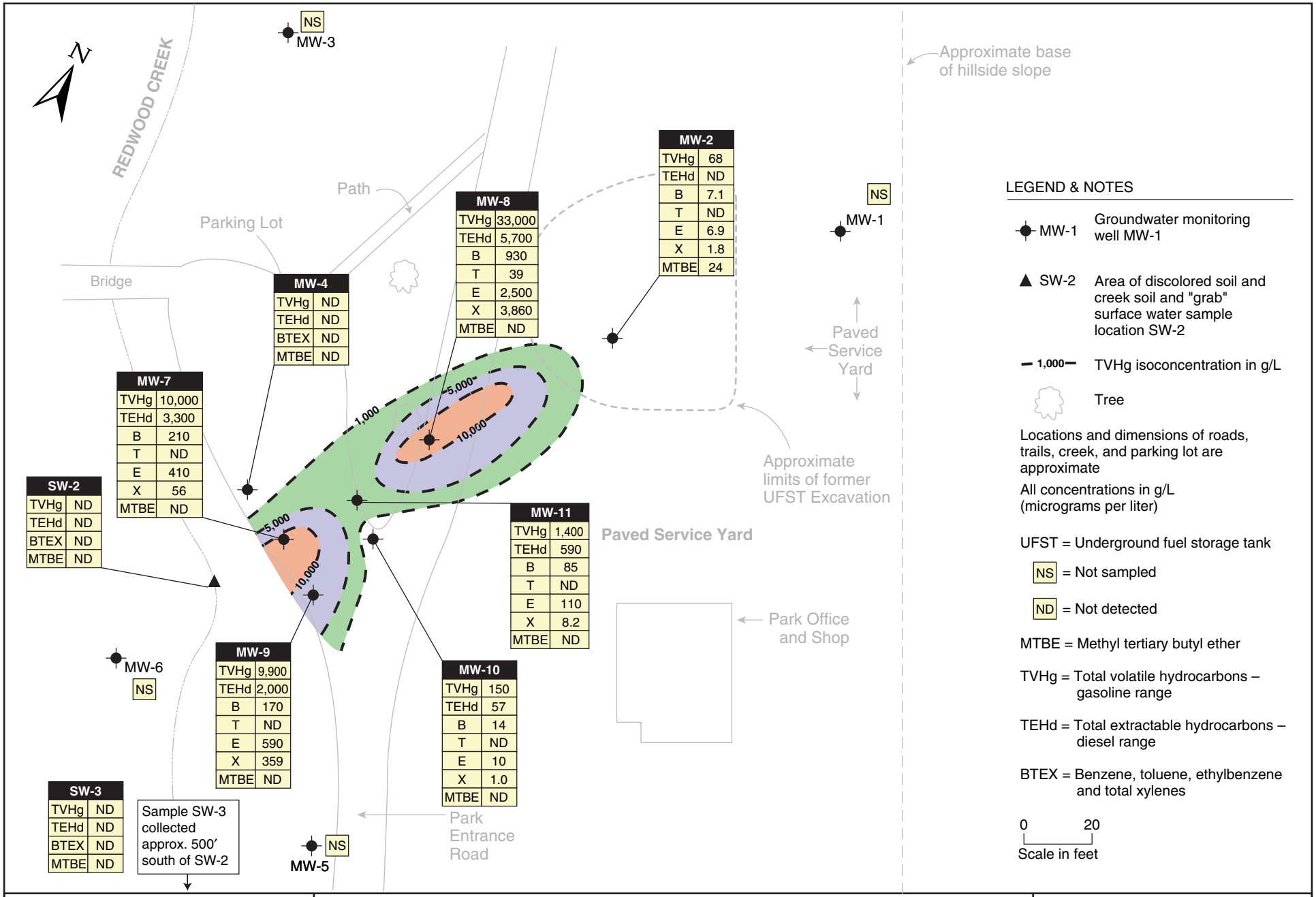
ANALYTICAL RESULTS AND GASOLINE PLUME—MARCH 2005
Redwood Regional Park Service Yard, Oakland, CA

Figure 7

by: MJC | MARCH 2005

2005-02-03



LEGEND & NOTES

- MW-1 — Groundwater monitoring well MW-1
- SW-2 — Area of discolored soil and creek soil and "grab" surface water sample location SW-2
- 1,000 — TVHg isoconcentration in g/L
- Tree

Locations and dimensions of roads, trails, creek, and parking lot are approximate

All concentrations in g/L (micrograms per liter)

UFST = Underground fuel storage tank

NS = Not sampled

ND = Not detected

MTBE = Methyl tertiary butyl ether

TVHg = Total volatile hydrocarbons – gasoline range

TEHd = Total extractable hydrocarbons – diesel range

BTEX = Benzene, toluene, ethylbenzene and total xylenes

0 20
Scale in feet

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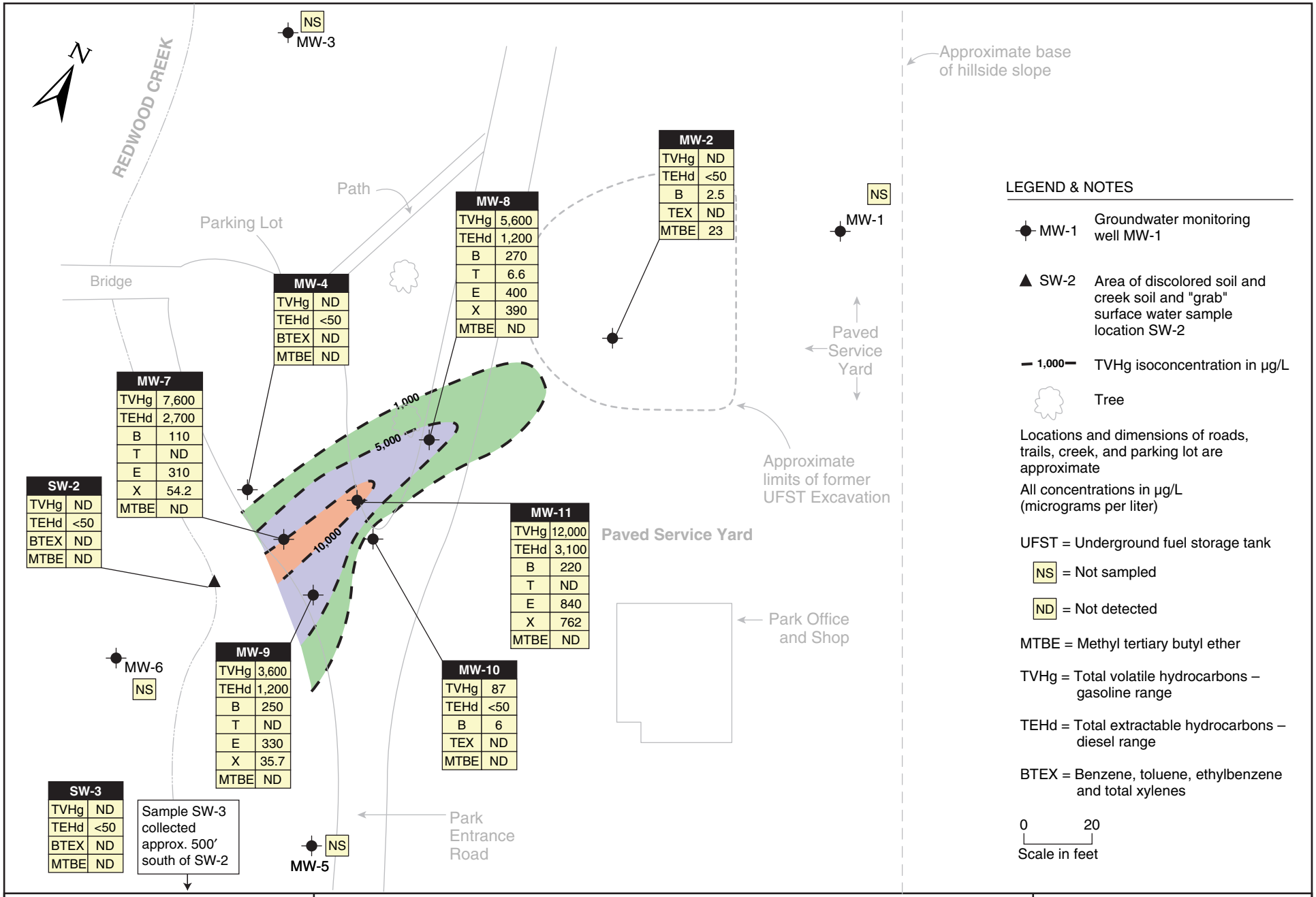
ANALYTICAL RESULTS AND GASOLINE PLUME—JUNE 2005
Redwood Regional Park Service Yard, Oakland, CA

Figure 7

by: MJC | JUNE 2005

2005-02-10



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ANALYTICAL RESULTS AND GASOLINE PLUME—SEPTEMBER 2005
Redwood Regional Park Service Yard, Oakland, CA

Figure 7

by: MJC | SEPTEMBER 2005

2005-02-17

APPENDIX B

Groundwater Monitoring Well Permits, Borehole Geologic Log, and DWR Forms

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

TRANSMITTAL MEMORANDUM		
TO: ALAMEDA COUNTY PUBLIC WORKS AGENCY 399 ELMHURST STREET HAYWARD, CA 94544-1395		**DATE:** DECEMBER 14, 2005
ATTENTION: WATER RESOURCES SECTION		FILE: SES-2005-66 / 2005-02
SUBJECT: REDWOOD REGIONAL PARK 7867 REDWOOD ROAD OAKLAND, CALIFORNIA		
WE ARE SENDING:	☐ HEREWITH	☐ UNDER SEPARATE COVER
	☐ VIA MAIL	☐ VIA
THE FOLLOWING:	(6) DWR WELL COMPLETION REPORTS (ORIGINAL FORMS) FOR WELLS MW-4, MW-12, VMP-4-15.5', VMP-4-20.5', VW-2 & VW-3 WITH BORING LOGS AND LOCATION MAPS	
	☐ AS REQUESTED	☐ FOR YOUR APPROVAL
	☐ FOR REVIEW	☐ FOR YOUR USE
	☐ FOR SIGNATURE	☐ FOR YOUR FILES
COPIES TO:		**BY:** Bruce Rucker
REMARKS: PER JAMES YOO'S INSTRUCTIONS, WE HAVE ENCLOSED THE "ORIGINAL" DWR FORMS, AND WE UNDERSTAND THAT ACPWA WILL FORWARD A COPY OF THE PACKAGE TO DWR, AS NECESSARY.		

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 10/31/2005 By jamesy **Receipt Number: WR2005-2171**
Permits Issued: W2005-1069 to W2005-1073 **Permits Valid from 11/28/2005 to 11/30/2005**

Application Id: 1130791965828 **City of Project Site:** Oakland
Site Location: 7867 Redwood Road, Oakland, 94546
(Redwood Park Service Yard)
Project Start Date: 11/28/2005 **Completion Date:** 11/30/2005

Applicant: Stellar Environmental Solutions - Bruce Rucker **Phone:** 510-644-3123
2198 6th St, Berkeley, CA 94710
Property Owner: East Bay Regional Park District **Phone:** 510-649-3313
PO Box 5382, Oakland, CA 94605
Client: ** same as Property Owner **

Total Due: $1200.00
Total Amount Paid: $1200.00
Paid By: CHECK **PAID IN FULL**

Works Requesting Permits:

Well Construction-Monitoring-Monitoring - 1 Wells
Driller: HEW Drilling - Lic #: 604987 - Method: auger **Work Total: $300.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2005-1069	10/31/2005	02/26/2006	MW-12	8.00 in.	0.00 in.	0.00 ft	26.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained.

4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.

5. Applicant shall contact James Yoo for an inspection time at 510-670-6633 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

6. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

7. Minimum surface seal thickness is two inches of cement grout placed by tremie

8. Minimum seal depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.

9. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

Well Destruction-Monitoring - 1 Wells
Driller: HEW Drilling - Lic #: 604987 - Method: auger **Work Total: $300.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth	State Well #	Orig. Permit #	DWR #
W2005-1070	10/31/2005	02/26/2006	MW-4	8.00 in.	0.00 in.	0.00 ft	26.00 ft			

Specific Work Permit Conditions

1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

2. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost and liability in connection with or resulting from the exercise of this Permit including, but not limited to, property damage, personal injury and wrongful death.

4. Applicant shall contact James Yoo for an inspection time at 510-670-6633 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

7. Drill out & Replace with New Well

Remedian Well Construction-Injection - 1 Wells
Driller: HEW Drilling - Lic #: 604987 - Method: auger **Work Total: $200.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2005-1071	10/31/2005	02/26/2006	VMP-4	8.00 in.	0.00 in.	0.00 ft	22.00 ft

Specific Work Permit Conditions

1. Applicant shall contact James Yoo for an inspection time at 510-670-6633 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

2. Minimum seal depth is 2 feet below ground surface (BGS).

3. Minimum surface seal thickness is two inches of cement grout placed by tremie

4. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

5. Compliance with the above well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate state reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.

6. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

7. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained.

8. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

Remedian Well Construction-Extraction - 1 Wells
Driller: HEW Drilling - Lic #: 604987 - Method: auger **Work Total: $200.00**

Alameda County Public Works Agency - Water Resources Well Permit

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2005-1072	10/31/2005	02/26/2006	VW-2	8.00 in.	0.00 in.	0.00 ft	18.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.

4. Applicant shall contact James Yoo for an inspection time at 510-670-6633 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Minimum seal depth is 2 feet below ground surface (BGS).

6. Minimum surface seal thickness is two inches of cement grout placed by tremie

7. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

Remedian Well Construction-Extraction - 1 Wells
Driller: HEW Drilling - Lic #: 604987 - Method: auger **Work Total: $200.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2005-1073	10/31/2005	02/26/2006	VW-3	8.00 in.	0.00 in.	0.00 ft	18.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled,

properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.

4. Applicant shall contact James Yoo for an inspection time at 510-670-6633 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Minimum seal depth is 2 feet below ground surface (BGS).

6. Minimum surface seal thickness is two inches of cement grout placed by tremie

7. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

ORIGINAL
File with DWR

Page 1 of 3

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. e033615

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. MW-4
Date Work Began November 28, 2005, Ended November 28, 2005
Local Permit Agency Alameda County Public Works Agency
Permit No. W2005-1070 Permit Date October 31, 2005

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Hollow Stem FLUID ___

DEPTH FROM SURFACE Ft. to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
	Well was destroyed by over drilling with 10-inch auger to depth of 26 feet below ground surface. Casing was then removed intact and the borehole was grouted to surface with a slurry of neat Portland cement.

TOTAL DEPTH OF BORING 26 (Feet)
TOTAL DEPTH OF COMPLETED WELL 25 (Feet)

WELL OWNER

Name East Bay Regional Parks District
Mailing Address P.O. Box 5381
Oakland, California 94605
CITY STATE ZIP

WELL LOCATION

Address 7867 Redwood Road
City Oakland
County Alameda County
APN Book ___ Page ___ Parcel ___
Township ___ Range ___ Section ___
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH

NORTH
WEST — Please See Attached Site Plan — EAST
SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. ***PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

___ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
X DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

PLANNED USES (✓)

WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING X
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER ___ (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL ___ (Ft.) & DATE MEASURED ___
ESTIMATED YIELD * ___ (GPM) & TEST TYPE ___
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
* *May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft. to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0 to 10	8-inch	X				PVC	2-inch	Schedule 40	
10 to 25	8-inch		X			PVC	2-inch	Schedule 40	0.020 inch

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft. to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
X Other Site Plan

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Bruce Rucker of Stellar Environmental Solutions, Inc. California R.G. #6814
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 2198 Sixth Street, Suite 201 CITY Berkeley, STATE California 94710

Signed Bruce M. Rucker
WELL DRILLER/AUTHORIZED REPRESENTATIVE

HEW Drilling Co.

December 14, 2005
DATE SIGNED

604987
C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page 1 of 3

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. e0336l6

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. MW-12
Date Work Began November 30, 2005, Ended November 30, 2005
Local Permit Agency Alameda County Public Works Agency
Permit No. W2005-1069 Permit Date October 31, 2005

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Hollow Stem FLUID ___

DEPTH FROM SURFACE Ft. to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
	Please see attached geologic log and well construction diagram.

TOTAL DEPTH OF BORING 25 (Feet)
TOTAL DEPTH OF COMPLETED WELL 25 (Feet)

WELL OWNER

Name East Bay Regional Parks District
Mailing Address P.O. Box 5381
Oakland, California 94605
CITY STATE ZIP

WELL LOCATION

Address 7867 Redwood Road
City Oakland
County Alameda County
APN Book ___ Page ___ Parcel ___
Township ___ Range ___ Section ___
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH

NORTH
WEST — Please See Attached Site Plan — EAST
SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. ***PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

PLANNED USES (✓)

WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING X
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 17 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL ___ (Ft.) & DATE MEASURED ___
ESTIMATED YIELD * ___ (GPM) & TEST TYPE ___
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
* *May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft. to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0 to 10	8-inch	X				PVC	2-inch	Schedule 40	
10 to 25	8-inch		X			PVC	2-inch	Schedule 40	0.020 inch

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft. to Ft.	TYPE CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0 to 5	X			
5 to 8		X		
8 to 25			X	Monterey sand

ATTACHMENTS (✓)

X Geologic Log
X Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
X Other Site Plan

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Bruce Rucker of Stellar Environmental Solutions, Inc. California R.G. #6814
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 2198 Sixth Street, Suite 201 CITY Berkeley, STATE California 94710

Signed Bruce M. Rucker WELL DRILLER/AUTHORIZED REPRESENTATIVE

HEW Drilling Co.

December 14, 2005 DATE SIGNED

604987 C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

Soil Boring Log

BORING NUMBER MW-12 Page 1 of 2

PROJECT Redwood Park Service Yard
OWNER East Bay Regional Park District
LOCATION 7867 Redwood Road, Oakland, CA
PROJECT NUMBER 2005-66
TOTAL DEPTH 25 feet bgs
BOREHOLE DIA. 8 inch
SURFACE ELEV. ~545' amsl
WATER FIRST ENCOUNTERED ~17'
DRILLING COMPANY HEW Drilling
DRILLING METHOD Hollow Stem Auger
DRILLER Manuel
GEOLOGIST B. Rucker
DATE DRILLED 11/30/2005

DEPTH (feet)	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0		Brown clayey silt (ML), dry, dense, friable, stiff	No petroleum odor observed in borehole
2			
4			
6			
8			
10			
12	MW-12-13'		
14		Light brown sandy clay (CL), minor small gravel, sl. moist, minor blue-grey discoloration	
16	MW-12-16'		
18		Grey clayey sand (SC), minor small gravel, mod. stiff, friable, wet	
20			

2005-66-05

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

Soil Boring Log

BORING NUMBER MW-12 Page 2 of 2

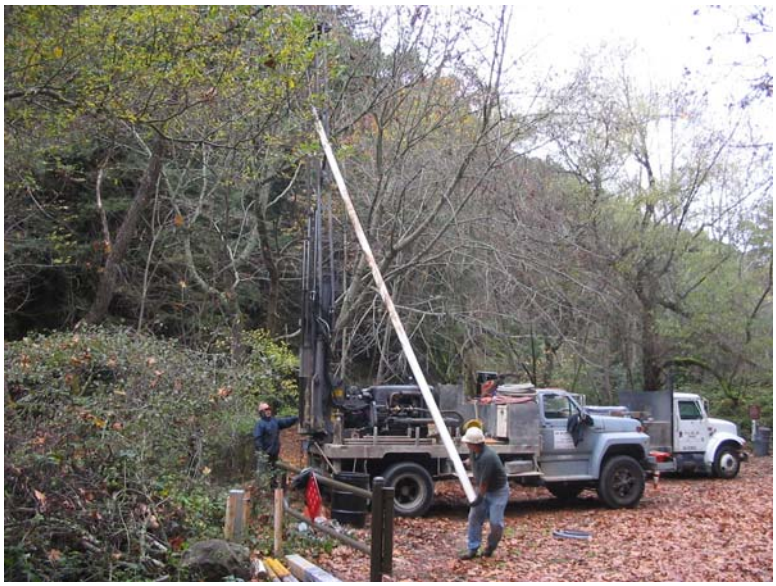
PROJECT Redwood Park Service Yard
OWNER East Bay Regional Park District
LOCATION 7867 Redwood Road, Oakland, CA
PROJECT NUMBER 2005-66
TOTAL DEPTH 25 feet bgs
BOREHOLE DIA. 8 inch
SURFACE ELEV. ~545' amsl
WATER FIRST ENCOUNTERED ~17'
DRILLING COMPANY HEW Drilling
DRILLING METHOD Hollow Stem Auger
DRILLER Manuel
GEOLOGIST B. Rucker
DATE DRILLED 11/30/2005

DEPTH (feet)	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
20		Red and yellow siltstone cobbles from 22' to 25'	
22			
24			
26		Bottom of borehole = 25'	
28			
30			
32			
34			
36			
38			
40			

2005-66-06

APPENDIX C

Monitoring Well Decommissioning and Installation Photodocumentation



Subject: Removing PVC well casing from former well MW-4 (casing was pulled intact), looking to the northwest.	
Site: 7867 Redwood Road, Oakland, Alameda County, California	
Date Taken: November 28, 2005	Project No.: SES 2005-02
Photographer: Bruce Rucker	Photo No.: 01

Subject: Preparing to install PVC well casing into groundwater monitoring well MW-12, looking to the northwest.	
Site: 7867 Redwood Road, Oakland, Alameda County, California	
Date Taken: November 30, 2005	Project No.: SES 2005-02
Photographer: Bruce Rucker	Photo No.: 02

APPENDIX D

Groundwater Monitoring
Well Surveyor's Report

Virgil Chavez Land Surveying
721 Tuolumne Street
Vallejo, California 94590
(707) 553-2476 • Fax (707) 553-8698

January 5, 2006
Project No.: 1929-01

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

Subject: Monitoring Well Survey
Redwood Regional Park Service Yard
7867 Redwood Road
Oakland, CA

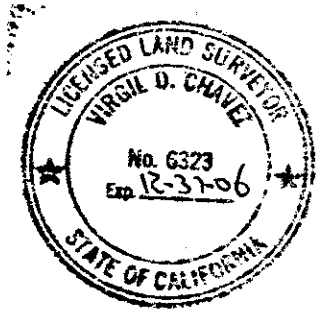
Dear Bruce:

This is to confirm that we have proceeded at your request to survey the ground water monitoring wells located at the above referenced location. The survey was completed on January 3, 2006. The benchmark for this survey was a cut square on top of curb at the northeast corner of Redwood Road and Skyline Boulevard. The latitude, longitude and coordinates are for top of casings and are based on the California State Coordinate System, Zone III (NAD83).
Benchmark Elevation = 980.69 feet (NGVD 29).

Latitude	Longitude	Northing	Easting	Elev.	Desc.
37.8032203	-122.1449915	2119109.37	6086433.98	565.83	TOC MW-1
				563.70	GRD MW-1
37.8030762	-122.1451534	2119057.75	6086386.29	566.42	TOC MW-2
				564.53	GRD MW-2
37.8032056	-122.1455729	2119106.97	6086265.93	560.81	TOC MW-3
				558.19	GRD MW-3
37.8025998	-122.1452011	2118884.54	6086369.48	547.41	TOC MW-5
				545.13	GRD MW-5
37.8026541	-122.1454800	2118905.71	6086289.25	545.43	TOC MW-6
				543.49	GRD MW-6
37.8028052	-122.1453716	2118960.20	6086321.52	547.56	TOC MW-7
				546.25	GRD MW-7
37.8029337	-122.1452622	2119006.43	6086353.94	549.13	TOC MW-8
				549.70	RIM MW-8
37.8027745	-122.1453186	2118948.75	6086336.65	549.28	TOC MW-9
				546.92	GRD MW-9
37.8028365	-122.1452718	2118971.08	6086350.54	547.22	TOC MW-10
				547.74	RIM MW-10

Virgil Chavez Land Surveying
721 Tuolumne Street
Vallejo, California 94590
(707) 553-2476 • Fax (707) 553-8698

Latitude	Longitude	Northing	Easting	Elev.	Desc.
37.8028650	-122.1453245	2118981.70	6086335.51	547.75	TOC MW-11
				546.10	GRD MW-11
37.8028383	-122.1454144	2118972.45	6086309.38	544.67	TOC MW-12
				545.44	RIM MW-12



Sincerely,

Virgil D. Chavez, PLS 6323

APPENDIX E

Waste Soil Disposal Documentation

Morgan Environmental Services, Inc.-P.M. Sheet

PH# (510)-267-0134 FX# (510)-267-0140

DATE:	12/12/05	**Start Time:**	1300	☐	**Emergency Response**
ME#	4380	**Meal:**	0	☐	**Special**
Customer:	Stellar Environmental	**Stop Time:**	1630	☒	**NON-ER**
Site Address:	7867 Redwood Rd. Oakland, Ca.	**P.M. Signature:**		☐	**Bill Per Quote**

Code	Title	Name / Item	Unit#	Leave Yard	Arrive Site	Leave Site	Arrive Yard	Restock Start	Restock Stop	Total Hours
5635459	PM									
5635460	PM-OT									
5635465	Super									
5635466	Sup-OT									
5635486	Tech	W. Young								3.5
5635487	Tech-ot									
5635486	Tech									
5635487	Tech-ot									
5635486	Tech									
5635487	Tech-ot									
		ERT	26							3.5
5630498	Pick-Up	¾ Ton Pickup W/ O Operator								
5630498	Pick-Up	¾ Ton Pickup W/ O Operator								

COMMENTS: Manifest# N/A
Non-Haz. Waste Man. #4380A
Pkd Drums of Non-Haz Dirt

Contact Name:	
Contact Phone#:	
Contact Fax#:	
Job Site:	Redwood Park
Site Contact:	Joseph Phan
Site Contact Phone#:	510-644-3123

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NON Applicable | Manifest Doc. No. 4380A | 2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address
East Bay Regional Park District
P.O. Box 5381 — Oakland, Ca. 94605-0381

4. Generator's Phone (510) 649 - 3313

5. Transporter 1 Company Name: Morgan Environmental, Inc.
6. US EPA ID Number: CAT 080013428
A. Transporter's Phone: 510-267-0134

7. Transporter 2 Company Name
8. US EPA ID Number
B. Transporter's Phone

9. Designated Facility Name and Site Address
~~ALTAMONT LANDFILL~~ D/K Environmental
~~10840 ALTAMONT PASS RD.~~ 3650 East 26th St
~~LIVERMORE, CA 94550~~ Vernon, Ca. 90023
10. US EPA ID Number: ~~CAT080033681~~ ~~CAD981382732~~
C. Facility's Phone: 323-268-5056 ~~(925) 449-6349~~

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous Waste Solid	001	DM	07700	P
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a) Soil Cuttings

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
PROFILE # _____
CUSTOMER NAME _____
MF# 4380
Site: 7867 Redwood Rd.
Oakland, Ca.

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: ~~ESCH~~ Dwayne - Stellar Environmental | Signature | Month 12 | Day 12 | Year 05

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Warren A. Young | Signature | Month | Day | Year

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name | Signature | Month | Day | Year

Printed by: KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

TRANSPORTER #1

APPENDIX F

Groundwater Well Monitoring
Field Records

WELLHEAD INSPECTION CHECKLIST

Date 12/15/05 Client Stellar

Site Address Redwood Regional park Dist.

Job Number 05215-MJ1 Technician MJ

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
MW-2	X							
MW-7	X							
MW-8	X							
MW-11	X							
MW-10	X							
MW-9	X							
MW-12	X					X		
MW-1	X							
MW-3	X							
MW-5	X							
MW-6	X							

NOTES:

WELL GAUGING DATA

Project # 051215-MO1 Date 12/15/05 Client Stellar Envr.

Site Oakland Regional Park Service Yard

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOS	
MW-2	4					22.12	38.87		
MW-7	2					13.10	25.38		
MW-8	2					11.85	22.30		
MW-11	2					12.83	27.41		
MW-10	2					12.52	28.31		
MW-9	2					15.14	30.26		
MW-12	2					9.56	23.83		
MW-1	4					3.61	19.06		
MW-3	4					19.39	45.07		
MW-5	4					16.37	26.96		
MW-6	4					13.22	27.43		

W L MONITORING DATA SHE

Project #: 051215-MP1	Client: Stellar Env
Sampler: MD	Date: 12/15/05
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 38.87	Depth to Water (DTW): 22.12
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other ___

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: ___

1 Case Volume	Specified Volumes	Calculated Volume
10.9 (Gals.) X	3	= 32.7 Gals.

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or (uS))	Turbidity (NTUs)	Gals. Removed	Observations
1020	57.8	7.3	887	30	11	clear
1028	58.5	7.2	884	93	22	↓
1035	59.1	7.1	880	105	33	↓

Did well dewater? Yes (No) Gallons actually evacuated: 33

Sampling Date: 12/15/05 Sampling Time: 1045 Depth to Water: 33.22

Sample I.D.: MW2 Laboratory: Kiff CalScience Other CFT

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See Sept

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'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 051215-MO1	Client: Stellar Env
Sampler: MP	Date: 12/15/05
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 25.38	Depth to Water (DTW): 13.10
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer; Disposable Bailer; (Positive Air Displacement); Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: _____

2 (Gals.) X	3	=	6 Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1245	56.9	7.1	823	71000	2	Cloudy, odor
1248	56.1	7.0	859	714	4	↓ ↓
1251	56.2	6.9	856	522	6	↓ ↓

Did well dewater? Yes (No) Gallons actually evacuated: 6

Sampling Date: 12/15/05 Sampling Time: 1300 Depth to Water: 14.71

Sample I.D.: MW-7 Laboratory: Kiff CalScience Other CTT

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SeeScope

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'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 051215-MJ1	Client: Stellar Envr
Sampler: MJ	Date: 12/15/05
Well I.D.: MW-8	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 22.30	Depth to Water (DTW): 11.85
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer; Disposable Bailer; (Positive Air Displacement); Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other:_____

1.7 (Gals.) X	3	= 5.1 Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1148	57.0	7.2	807	408	1.7	cloudy, odor
1150	57.5	7.1	810	407	3.4	" "
1153	56.8	7.0	842	207	5.1	" "

Did well dewater? Yes (No) Gallons actually evacuated: 5.1

Sampling Date: 12/15/05 Sampling Time: 1200 Depth to Water: 13.25

Sample I.D.: MW-8 Laboratory: Kiff CalScience Other CET

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'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 05125-M01	Client: Stellar Env.
Sampler: MS	Date: 12/15/05
Well I.D.: MW-9	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 30.26	Depth to Water (DTW): 15.14
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer; Disposable Bailer; (Positive Air Displacement); Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other:_____

2.4 (Gals.) X 3 = 7.2 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1217	56.8	7.0	1052	214	2.4	cloudy/odor
1219	56.9	6.9	1077	189	4.8	↓ ↓
1223	56.7	6.9	1063	266	7.2	

Did well dewater? Yes (No) Gallons actually evacuated: 7.2

Sampling Date: 12/15/05 Sampling Time: 1235 Depth to Water: 17.75

Sample I.D.: MW-9 Laboratory: Kiff CalScience Other CFT

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'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 051215-MD1	Client: Stellar Env
Sampler: MP	Date: 12/15/05
Well I.D.: MW-10	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 28.31	Depth to Water (DTW): 12.52
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer; Disposable Bailer; (Positive Air Displacement); Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: _____

2.5 (Gals.) X	3	=	7.5 Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1102	59.5	7.6	765	286	2.5	cloudy
1104	59.2	7.8	784	208	5	↓
1107	59.1	7.9	797	164	7.5	↓

Did well dewater? Yes (No) Gallons actually evacuated: 7.5

Sampling Date: 12/15/05 Sampling Time: 1115 Depth to Water: 20.02

Sample I.D.: MW-10 Laboratory: Kiff CalScience Other CFT

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SVOCs 8270

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'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 051215-MD1	Client: Stellar Env
Sampler: MD	Date: 12/15/05
Well I.D.: MW-X-11	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 27.41	Depth to Water (DTW): 12.83
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer; Disposable Bailer; (Positive Air Displacement); Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other ____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: ____

2.3 (Gals.) X	3	=	6.9 Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1123	58.3	7.7	711	>1000	2.3	Cloudy, tan, odor
1125	57.7	7.2	760	>1000	4.6	
1128	57.2	7.0	801	>1000	6.9	
1131	57.1	6.9	821	772	~~10~~ 9.2	

Did well dewater? Yes (No) Gallons actually evacuated: 9.2

Sampling Date: 12/15/05 Sampling Time: 1135 Depth to Water: 13.61

Sample I.D.: MW-X-11 Laboratory: Kiff CalScience Other CT

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SC-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'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL DEVELOPMENT DATA SHEET

Project #: 05215-M01	Client: Stellar Envr
Developer: MH	Date Developed: 12/15/05
Well I.D. MW-12	Well Diameter: (circle one) (2) 3 4 6
Total Well Depth: Before 23.83 After 23.85	Depth to Water: Before 9.56 After 19.65
Reason not developed:	If Free Product, thickness:
Additional Notations: Surged well for 15min prior to purging	

Volume Conversion Factor (VCF):	Well dia.		VCF
{12 x (d^2/4) x π} /231	(2")	=	0.16
where	3"	=	0.37
12 = in / foot	4"	=	0.65
d = diameter (in.)	6"	=	1.47
π = 3.1416	10"	=	4.08
231 = in 3/gal	12"	=	6.87

2.3	X	10	=	23
1 Case Volume		Specified Volumes		gallons

Purging Device:
- ☐ Bailer
- ☐ Suction Pump
- ☐ Electric Submersible
- ☐ Positive Air Displacement

Type of Installed Pump
Other equipment used 2" surge Block

TIME	TEMP (F)	pH	Cond. (mS or µS)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
	Began	purging	using	Middlebury	on Bottom	
0926	53.6	6.9	935	>1000	2.3	cloudy, turbid, Brown
0928	55.0	6.8	939	>1000	4.6	hard Bottom, cloudy
0931	54.7	6.9	969	>1000	6.9	cloudy, turbid
0934	55.1	7.0	838	>1000	9.2	
0939	54.9	7.0	783	>1000	11.5	
0943	55.3	7.0	791	>1000	13.8	
0948	54.6	7.0	800	>1000	16.1	
0952	54.7	7.1	809	>1000	18.4	less turbid
0958	54.7	7.1	785	>1000	20.7	cloudy, tan
1002	54.7	7.0	784	>1000	23	cloudy, tan
		Sample taken @ time 1315			ID= MW-12	
		DTW=				

Did Well Dewater? No	If yes, note above.	Gallons Actually Evacuated: 23

APPENDIX G

Analytical Laboratory Reports and Chain-of-Custody Records

MW-12 Installation Soil Samples

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

A N A L Y T I C A L R E P O R T

Prepared for:

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

Date: 06-DEC-05
Lab Job Number: 183496
Project ID: 2005-66
Location: Redwood Park ServiceYard

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

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	183496
Client:	Stellar Environmental Solutions
Project:	2005-66
Location:	Redwood Park ServiceYard
Request Date:	11/30/05
Samples Received:	11/30/05

This hardcopy data package contains sample and QC results for two soil samples, requested for the above referenced project on 11/30/05. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):
Low recovery was observed for gasoline C7-C12 in the MSD for batch 108220; the parent sample was not a project sample, and the LCS was within limits. High RPD was also observed for gasoline C7-C12 in the MS/MSD for batch 108220. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

Tracy Babjar

From: "Bruce Rucker" <brucker@stellar-environmental.com>
To: "Tracy Babjar" <tracy@ctberk.com>
Sent: Thursday, December 01, 2005 11:24 AM
Subject: RE: 2005-66 - C&T Login Summary (183496)

Oops! I need to add TEHd to both the samples. Your log-in summary is a great idea, for this very reason.

-----Original Message-----
From: Tracy Babjar [mailto:tracy@ctberk.com]
Sent: Thursday, December 01, 2005 11:17 AM
To: brucker@stellar-environmental.com
Subject: 2005-66 - C&T Login Summary (183496)

C&T Login Summary for 183496

Project: 2005-66 **Site:** Redwood Park ServiceYard **Lab Login #:** 183496 **Report Due:** 12/07/05 **PO#:** **C&T Proj Mgr:** Tracy Babjar	**Report To:** Stellar Environmental Solutions 2198 6th Street Suite 201 Berkeley, CA 94710 ATTN: Bruce Rucker (510) 644-3123	**Bill**

Client ID	Lab ID	Sampled	Received	Matrix	Analyses	COC #	Comments
MW-12-13'	001	11/30	11/30				
				Soil	BTOX		Mtbe, Pb Scavengers
				Soil	TVH		
MW-12-16'	002	11/30	11/30				
				Soil	BTOX		Mtbe, Pb Scavengers
				Soil	TVH		

Chain of Custody Record

8347

Lab job no. _____

Date _____

Page 1 of 1

Laboratory Curtis and Tompkins, Ltd.
Address 2323 Fifth Street
Berkeley, California 94710
510-486-0900

Project Owner East Bay Regional Park District
Site Address 7867 Redwood Road
Oakland, California

Project Name Redwood Park Service Yard
Project Number 2005-66

Method of Shipment Hand Delivery
Shipment No. _____
Airbill No. _____
Cooler No. _____
Project Manager Bruce Rucker
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: *(Signature)* B M Rucker

Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	Analysis Required: TVHg&s (8015)	Analysis Required: MTBE, BTEX, Fuel Oxygenates + lead scavengers	Remarks
-1 MW-12-13'	13'	11/30	810	Soil	8 ounce glass jar	yes	none		1	X	X	
-2 MW-12-16'	16'	11/30	830	Soil	8 ounce glass jar	yes	none		1	X	X	

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature B M Rucker	11/30/05	Signature Lavanna Curtis	11/30/05	Signature		Signature	
Printed Bruce Rucker	Time	Printed Lavanna Curtis	Time	Printed	Time	Printed	Time
Company Stellar Environmental	1410	Company Curtis & Tompkins 1410 pm		Company		Company	

Turnaround Time: 5 Day TAT

Comments: _____

Relinquished by:	Date	Received by:	Date
Signature		Signature	
Printed	Time	Printed	Time
Company		Company	

2000-00-01

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Volatile Hydrocarbons

Lab #:	183496	Location:	Redwood Park ServiceYard
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-66	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	108220
Units:	mg/Kg	Sampled:	11/30/05
Basis:	as received	Received:	11/30/05
Diln Fac:	1.000	Analyzed:	11/30/05

Field ID: MW-12-13' Lab ID: 183496-001
Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	94	59-140
Bromofluorobenzene (FID)	101	62-149

Field ID: MW-12-16' Lab ID: 183496-002
Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	1.5 H Y	1.1

Surrogate	%REC	Limits
Trifluorotoluene (FID)	111	59-140
Bromofluorobenzene (FID)	107	62-149

Type: BLANK Lab ID: QC319066

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	97	59-140
Bromofluorobenzene (FID)	99	62-149

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

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	183496	Location:	Redwood Park ServiceYard
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-66	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC319068	Diln Fac:	1.000
Matrix:	Soil	Batch#:	108220
Units:	mg/Kg	Analyzed:	11/30/05

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	8.842	88	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	135	59-140
Bromofluorobenzene (FID)	105	62-149

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	183496	Location:	Redwood Park ServiceYard
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-66	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	183472-001	Batch#:	108220
Matrix:	Soil	Sampled:	11/29/05
Units:	mg/Kg	Received:	11/29/05
Basis:	as received	Analyzed:	12/01/05

Type: MS Lab ID: QC319195

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.07448	9.091	4.564	49	44-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	110	59-140
Bromofluorobenzene (FID)	95	62-149

Type: MSD Lab ID: QC319196

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.87	4.281	39 *	44-120	24 *	23

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	59-140
Bromofluorobenzene (FID)	99	62-149

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

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Extractable Hydrocarbons

Lab #:	183496	Location:	Redwood Park ServiceYard
Client:	Stellar Environmental Solutions	Prep:	SHAKER TABLE
Project#:	2005-66	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	11/30/05
Units:	mg/Kg	Received:	11/30/05
Basis:	as received	Prepared:	12/01/05
Batch#:	108295	Analyzed:	12/02/05

Field ID: MW-12-13' Lab ID: 183496-001
Type: SAMPLE Diln Fac: 5.000

Analyte	Result	RL
Diesel C10-C24	22 H Y	5.0

Surrogate	%REC	Limits
Hexacosane	92	48-132

Field ID: MW-12-16' Lab ID: 183496-002
Type: SAMPLE Diln Fac: 1.000

Analyte	Result	RL
Diesel C10-C24	5.5 H L Y	1.0

Surrogate	%REC	Limits
Hexacosane	106	48-132

Type: BLANK Diln Fac: 1.000
Lab ID: QC319372 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0

Surrogate	%REC	Limits
Hexacosane	93	48-132

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

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	183496	Location:	Redwood Park ServiceYard
Client:	Stellar Environmental Solutions	Prep:	SHAKER TABLE
Project#:	2005-66	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC319373	Batch#:	108295
Matrix:	Soil	Prepared:	12/01/05
Units:	mg/Kg	Analyzed:	12/02/05
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.58	46.64	94	54-137

Surrogate	%REC	Limits
Hexacosane	96	48-132

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	183496	Location:	Redwood Park ServiceYard
Client:	Stellar Environmental Solutions	Prep:	SHAKER TABLE
Project#:	2005-66	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	108295
MSS Lab ID:	183505-003	Sampled:	11/30/05
Matrix:	Soil	Received:	11/30/05
Units:	mg/Kg	Prepared:	12/01/05
Basis:	as received	Analyzed:	12/02/05
Diln Fac:	1.000		

Type: MS Lab ID: QC319374

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.4536	50.13	47.46	94	28-163

Surrogate	%REC	Limits
Hexacosane	92	48-132

Type: MSD Lab ID: QC319375

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.42	50.67	100	28-163	6	46

Surrogate	%REC	Limits
Hexacosane	97	48-132

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

BTXE & Oxygenates

Lab #:	183496	Location:	Redwood Park ServiceYard
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-66	Analysis:	EPA 8260B
Field ID:	MW-12-13'	Diln Fac:	0.9091
Lab ID:	183496-001	Batch#:	108281
Matrix:	Soil	Sampled:	11/30/05
Units:	ug/Kg	Received:	11/30/05
Basis:	as received	Analyzed:	12/01/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	91
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-120
1,2-Dichloroethane-d4	104	80-123
Toluene-d8	98	80-120
Bromofluorobenzene	102	80-124

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

BTXE & Oxygenates

Lab #:	183496	Location:	Redwood Park ServiceYard
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-66	Analysis:	EPA 8260B
Field ID:	MW-12-16'	Diln Fac:	0.9804
Lab ID:	183496-002	Batch#:	108281
Matrix:	Soil	Sampled:	11/30/05
Units:	ug/Kg	Received:	11/30/05
Basis:	as received	Analyzed:	12/01/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	98
MTBE	ND	4.9
Isopropyl Ether (DIPE)	ND	4.9
Ethyl tert-Butyl Ether (ETBE)	ND	4.9
1,2-Dichloroethane	ND	4.9
Benzene	ND	4.9
Methyl tert-Amyl Ether (TAME)	ND	4.9
Toluene	ND	4.9
1,2-Dibromoethane	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-120
1,2-Dichloroethane-d4	106	80-123
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-124

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

BTXE & Oxygenates

Lab #:	183496	Location:	Redwood Park ServiceYard
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-66	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC319322	Diln Fac:	1.000
Matrix:	Soil	Batch#:	108281
Units:	ug/Kg	Analyzed:	12/01/05

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	123.3	99	59-143
MTBE	25.00	21.78	87	72-121
Isopropyl Ether (DIPE)	25.00	21.48	86	68-127
Ethyl tert-Butyl Ether (ETBE)	25.00	23.73	95	73-127
1,2-Dichloroethane	25.00	28.84	115	74-120
Benzene	25.00	26.62	106	80-120
Methyl tert-Amyl Ether (TAME)	25.00	22.17	89	73-120
Toluene	25.00	28.35	113	80-120
1,2-Dibromoethane	25.00	29.13	117	80-120
Ethylbenzene	25.00	28.81	115	80-120
m,p-Xylenes	50.00	59.43	119	80-120
o-Xylene	25.00	30.04	120	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-120
1,2-Dichloroethane-d4	103	80-123
Toluene-d8	102	80-120
Bromofluorobenzene	96	80-124

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

BTXE & Oxygenates

Lab #:	183496	Location:	Redwood Park ServiceYard
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-66	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC319323	Diln Fac:	1.000
Matrix:	Soil	Batch#:	108281
Units:	ug/Kg	Analyzed:	12/01/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-120
1,2-Dichloroethane-d4	106	80-123
Toluene-d8	100	80-120
Bromofluorobenzene	102	80-124

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

BTXE & Oxygenates

Lab #:	183496	Location:	Redwood Park ServiceYard
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-66	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Dil'n Fac:	1.000
MSS Lab ID:	183505-001	Batch#:	108281
Matrix:	Soil	Sampled:	11/30/05
Units:	ug/Kg	Received:	11/30/05
Basis:	as received	Analyzed:	12/01/05

Type: MS Lab ID: QC319378

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<12.85	125.0	101.6	81	45-141
MTBE	<0.4305	25.00	19.38	78	58-124
Isopropyl Ether (DIPE)	<0.4781	25.00	19.17	77	57-126
Ethyl tert-Butyl Ether (ETBE)	<0.1965	25.00	21.12	84	61-129
1,2-Dichloroethane	<0.5077	25.00	22.50	90	59-120
Benzene	<0.5765	25.00	20.74	83	67-120
Methyl tert-Amyl Ether (TAME)	<0.4825	25.00	19.78	79	63-120
Toluene	<0.4705	25.00	21.80	87	63-120
1,2-Dibromoethane	<0.4215	25.00	23.39	94	61-120
Ethylbenzene	0.4756	25.00	21.48	84	60-120
m,p-Xylenes	<1.186	50.00	43.56	87	58-120
o-Xylene	<0.3297	25.00	21.73	87	58-120

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-120
1,2-Dichloroethane-d4	104	80-123
Toluene-d8	101	80-120
Bromofluorobenzene	105	80-124

Type: MSD Lab ID: QC319379

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	98.73	79	45-141	3	33
MTBE	25.00	18.95	76	58-124	2	20
Isopropyl Ether (DIPE)	25.00	18.19	73	57-126	5	23
Ethyl tert-Butyl Ether (ETBE)	25.00	20.93	84	61-129	1	21
1,2-Dichloroethane	25.00	23.46	94	59-120	4	20
Benzene	25.00	21.48	86	67-120	4	20
Methyl tert-Amyl Ether (TAME)	25.00	19.78	79	63-120	0	20
Toluene	25.00	22.71	91	63-120	4	20
1,2-Dibromoethane	25.00	23.53	94	61-120	1	20
Ethylbenzene	25.00	22.61	89	60-120	5	20
m,p-Xylenes	50.00	45.14	90	58-120	4	21
o-Xylene	25.00	23.00	92	58-120	6	21

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-120
1,2-Dichloroethane-d4	102	80-123
Toluene-d8	101	80-120
Bromofluorobenzene	104	80-124

RPD= Relative Percent Difference

December 2005 Groundwater and Surface Water Samples

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

A N A L Y T I C A L R E P O R T

Prepared for:

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

Date: 29-DEC-05
Lab Job Number: 183862
Project ID: 2005-02
Location: Redwood Regional Park

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

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	183862
Client:	Stellar Environmental Solutions
Project:	2005-02
Location:	Redwood Regional Park
Request Date:	12/15/05
Samples Received:	12/15/05

This hardcopy data package contains sample and QC results for nine water samples, requested for the above referenced project on 12/15/05. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):
High surrogate recovery was observed for trifluorotoluene (PID) in MW-12 (lab # 183862-009); the corresponding bromofluorobenzene (PID) surrogate recovery was within limits. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

Chain of Custody Record

Lab job no. _____
Date 12/15/05
Page 1 of 1

Laboratory Curtis and Tompkins, Ltd.
Address 2323 Fifth Street
Berkeley, California 94710
510-486-0900

Project Owner East Bay Regional Park District
Site Address 7867 Redwood Road
Oakland, California

Project Name Redwood Regional Park
Project Number 2005-02 (051285-MD1)

Method of Shipment Hand Delivery
Shipment No. _____
Airbill No. _____
Cooler No. _____
Project Manager Bruce Rucker
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: (Signature) Bruce Rucker / John DeJong

Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	TVH-G/BTEX/MTBE (8260)	TEPH-D (8015)	Remarks
-1 SW-2	Creek	12-15-05	850	H_2O	1-Lamber/40ml VOAs	✓	none/HCl		3	X	X	
-2 SW-3	Creek	"	900	H_2O	" "	✓	" "		3	X	X	
-3 MW-2		12/15/05	1045	W	1L Amber/3 VOAs	X	NP/HCl		4	X	X	
-4 MW-7			1300			X			4	X	X	
-5 MW-8			1200			X			4	X	X	
-6 MW-9			1235			X			4	X	X	
-7 MW-10			1115			X			4	X	X	
-8 MW-11			1135			X			4	X	X	
-9 MW-12			1315			X			4	X	X	

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature [signature]	12/15/05	Signature [signature]	12/15/05	Signature		Signature	
Printed John DeJong	Time 1415	Printed Lavanna Curtis	Time 2:10	Printed	Time	Printed	Time
Company BTS		Company Curtis & Tompkins		Company		Company	

Turnaround Time: 5 Day TAT

Comments: Please provide a GeoTracker EDD as well as hard copy of report.

SW-2 & SW-3 sampled by Bruce Rucker of Stellar Env. Solutions

Relinquished by:	Date	Received by:	Date
Signature		Signature	
Printed	Time	Printed	Time
Company		Company	

2000-00-01

★ Stellar Environmental Solutions

2198 Sixth Street #201, Berkeley, CA 94710

REC'D intact, on ice JL

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-02		
Matrix:	Water	Sampled:	12/15/05
Units:	ug/L	Received:	12/15/05

Field ID:	SW-2	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	108788
Lab ID:	183862-001	Analyzed:	12/16/05

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	99	62-141	EPA 8015B
Bromofluorobenzene (FID)	110	78-134	EPA 8015B
Trifluorotoluene (PID)	101	67-127	EPA 8021B
Bromofluorobenzene (PID)	110	80-122	EPA 8021B

Field ID:	SW-3	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	108788
Lab ID:	183862-002	Analyzed:	12/16/05

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	94	62-141	EPA 8015B
Bromofluorobenzene (FID)	95	78-134	EPA 8015B
Trifluorotoluene (PID)	97	67-127	EPA 8021B
Bromofluorobenzene (PID)	104	80-122	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-02		
Matrix:	Water	Sampled:	12/15/05
Units:	ug/L	Received:	12/15/05

Field ID:	MW-2	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	108788
Lab ID:	183862-003	Analyzed:	12/16/05

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	23	2.0	EPA 8021B
Benzene	3.9	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	98	62-141	EPA 8015B
Bromofluorobenzene (FID)	112	78-134	EPA 8015B
Trifluorotoluene (PID)	110	67-127	EPA 8021B
Bromofluorobenzene (PID)	119	80-122	EPA 8021B

Field ID:	MW-7	Diln Fac:	2.000
Type:	SAMPLE	Batch#:	108788
Lab ID:	183862-004	Analyzed:	12/16/05

Analyte	Result	RL	Analysis
Gasoline C7-C12	2,900	100	EPA 8015B
MTBE	ND	4.0	EPA 8021B
Benzene	31	1.0	EPA 8021B
Toluene	ND	1.0	EPA 8021B
Ethylbenzene	140	1.0	EPA 8021B
m,p-Xylenes	40	1.0	EPA 8021B
o-Xylene	1.3	1.0	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	106	62-141	EPA 8015B
Bromofluorobenzene (FID)	107	78-134	EPA 8015B
Trifluorotoluene (PID)	96	67-127	EPA 8021B
Bromofluorobenzene (PID)	107	80-122	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-02		
Matrix:	Water	Sampled:	12/15/05
Units:	ug/L	Received:	12/15/05

Field ID:	MW-8	Diln Fac:	10.00
Type:	SAMPLE	Batch#:	108788
Lab ID:	183862-005	Analyzed:	12/16/05

Analyte	Result	RL	Analysis
Gasoline C7-C12	3,700	500	EPA 8015B
MTBE	ND	20	EPA 8021B
Benzene	110	5.0	EPA 8021B
Toluene	ND	5.0	EPA 8021B
Ethylbenzene	320	5.0	EPA 8021B
m,p-Xylenes	340	5.0	EPA 8021B
o-Xylene	16	5.0	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	106	62-141	EPA 8015B
Bromofluorobenzene (FID)	108	78-134	EPA 8015B
Trifluorotoluene (PID)	101	67-127	EPA 8021B
Bromofluorobenzene (PID)	119	80-122	EPA 8021B

Field ID:	MW-9	Diln Fac:	2.000
Type:	SAMPLE	Batch#:	108810
Lab ID:	183862-006	Analyzed:	12/18/05

Analyte	Result	RL	Analysis
Gasoline C7-C12	8,700	100	EPA 8015B
MTBE	ND	4.0	EPA 8021B
Benzene	150	1.0	EPA 8021B
Toluene	4.0 C	1.0	EPA 8021B
Ethylbenzene	650	1.0	EPA 8021B
m,p-Xylenes	530	1.0	EPA 8021B
o-Xylene	21	1.0	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	121	62-141	EPA 8015B
Bromofluorobenzene (FID)	125	78-134	EPA 8015B
Trifluorotoluene (PID)	100	67-127	EPA 8021B
Bromofluorobenzene (PID)	109	80-122	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-02		
Matrix:	Water	Sampled:	12/15/05
Units:	ug/L	Received:	12/15/05

Field ID:	MW-10	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	108788
Lab ID:	183862-007	Analyzed:	12/16/05

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	7.8	2.0	EPA 8021B
Benzene	1.2	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	93	62-141	EPA 8015B
Bromofluorobenzene (FID)	104	78-134	EPA 8015B
Trifluorotoluene (PID)	95	67-127	EPA 8021B
Bromofluorobenzene (PID)	108	80-122	EPA 8021B

Field ID:	MW-11	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	108788
Lab ID:	183862-008	Analyzed:	12/16/05

Analyte	Result	RL	Analysis
Gasoline C7-C12	2,500	250	EPA 8015B
MTBE	ND	10	EPA 8021B
Benzene	120	2.5	EPA 8021B
Toluene	ND	2.5	EPA 8021B
Ethylbenzene	260	2.5	EPA 8021B
m,p-Xylenes	16	2.5	EPA 8021B
o-Xylene	ND	2.5	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	98	62-141	EPA 8015B
Bromofluorobenzene (FID)	106	78-134	EPA 8015B
Trifluorotoluene (PID)	100	67-127	EPA 8021B
Bromofluorobenzene (PID)	110	80-122	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-02		
Matrix:	Water	Sampled:	12/15/05
Units:	ug/L	Received:	12/15/05

Field ID:	MW-12	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	108788
Lab ID:	183862-009	Analyzed:	12/17/05

Analyte	Result	RL	Analysis
Gasoline C7-C12	1,300	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	33	0.50	EPA 8021B
m,p-Xylenes	5.6	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	99	62-141	EPA 8015B
Bromofluorobenzene (FID)	110	78-134	EPA 8015B
Trifluorotoluene (PID)	135 *	67-127	EPA 8021B
Bromofluorobenzene (PID)	121	80-122	EPA 8021B

Type:	BLANK	Batch#:	108788
Lab ID:	QC321402	Analyzed:	12/16/05
Diln Fac:	1.000		

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	93	62-141	EPA 8015B
Bromofluorobenzene (FID)	92	78-134	EPA 8015B
Trifluorotoluene (PID)	93	67-127	EPA 8021B
Bromofluorobenzene (PID)	100	80-122	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-02		
Matrix:	Water	Sampled:	12/15/05
Units:	ug/L	Received:	12/15/05

Type:	BLANK	Batch#:	108810
Lab ID:	QC321503	Analyzed:	12/18/05
Diln Fac:	1.000		

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	109	62-141	EPA 8015B
Bromofluorobenzene (FID)	114	78-134	EPA 8015B
Trifluorotoluene (PID)	104	67-127	EPA 8021B
Bromofluorobenzene (PID)	108	80-122	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-02	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC321403	Batch#:	108788
Matrix:	Water	Analyzed:	12/16/05
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	21.76	109	72-124
Benzene	20.00	21.50	107	80-120
Toluene	20.00	21.73	109	80-120
Ethylbenzene	20.00	21.31	107	80-120
m,p-Xylenes	20.00	20.47	102	80-120
o-Xylene	20.00	21.14	106	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	93	67-127
Bromofluorobenzene (PID)	101	80-122

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-02	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC321404	Batch#:	108788
Matrix:	Water	Analyzed:	12/16/05
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	1,974	99	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	111	62-141
Bromofluorobenzene (FID)	111	78-134

Curtis & Tompkins, Ltd.
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Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-02	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	108788
MSS Lab ID:	183868-002	Sampled:	12/15/05
Matrix:	Water	Received:	12/15/05
Units:	ug/L	Analyzed:	12/18/05
Diln Fac:	1.000		

Type: MS Lab ID: QC321483

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	26.01	2,000	1,946	96	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	131	62-141
Bromofluorobenzene (FID)	130	78-134

Type: MSD Lab ID: QC321484

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,897	94	80-120	3	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	123	62-141
Bromofluorobenzene (FID)	124	78-134

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-02	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC321504	Batch#:	108810
Matrix:	Water	Analyzed:	12/18/05
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	18.85	94	72-124
Benzene	20.00	19.85	99	80-120
Toluene	20.00	21.18	106	80-120
Ethylbenzene	20.00	19.04	95	80-120
m,p-Xylenes	20.00	20.08	100	80-120
o-Xylene	20.00	20.03	100	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	105	67-127
Bromofluorobenzene (PID)	108	80-122

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-02	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC321505	Batch#:	108810
Matrix:	Water	Analyzed:	12/18/05
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	1,911	96	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	124	62-141
Bromofluorobenzene (FID)	121	78-134

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-02	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	108810
MSS Lab ID:	183884-001	Sampled:	12/15/05
Matrix:	Water	Received:	12/16/05
Units:	ug/L	Analyzed:	12/19/05
Diln Fac:	1.000		

Type: MS Lab ID: QC321509

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	19.82	2,000	1,907	94	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	132	62-141
Bromofluorobenzene (FID)	129	78-134

Type: MSD Lab ID: QC321510

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,799	89	80-120	6	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	130	62-141
Bromofluorobenzene (FID)	117	78-134

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Extractable Hydrocarbons

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2005-02	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	12/15/05
Units:	ug/L	Received:	12/15/05
Diln Fac:	1.000	Prepared:	12/19/05
Batch#:	108847		

Field ID: SW-2 Lab ID: 183862-001
Type: SAMPLE Analyzed: 12/20/05

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
Hexacosane	93	60-135

Field ID: SW-3 Lab ID: 183862-002
Type: SAMPLE Analyzed: 12/20/05

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
Hexacosane	106	60-135

Field ID: MW-2 Lab ID: 183862-003
Type: SAMPLE Analyzed: 12/20/05

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
Hexacosane	93	60-135

Field ID: MW-7 Lab ID: 183862-004
Type: SAMPLE Analyzed: 12/20/05

Analyte	Result	RL
Diesel C10-C24	3,300 L Y	50

Surrogate	%REC	Limits
Hexacosane	98	60-135

Field ID: MW-8 Lab ID: 183862-005
Type: SAMPLE Analyzed: 12/20/05

Analyte	Result	RL
Diesel C10-C24	1,300 L Y	50

Surrogate	%REC	Limits
Hexacosane	91	60-135

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

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Extractable Hydrocarbons

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2005-02	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	12/15/05
Units:	ug/L	Received:	12/15/05
Diln Fac:	1.000	Prepared:	12/19/05
Batch#:	108847		

Field ID: MW-9 Lab ID: 183862-006
Type: SAMPLE Analyzed: 12/21/05

Analyte	Result	RL
Diesel C10-C24	1,500 L Y	50

Surrogate	%REC	Limits
Hexacosane	98	60-135

Field ID: MW-10 Lab ID: 183862-007
Type: SAMPLE Analyzed: 12/21/05

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
Hexacosane	104	60-135

Field ID: MW-11 Lab ID: 183862-008
Type: SAMPLE Analyzed: 12/21/05

Analyte	Result	RL
Diesel C10-C24	2,100 L Y	50

Surrogate	%REC	Limits
Hexacosane	99	60-135

Field ID: MW-12 Lab ID: 183862-009
Type: SAMPLE Analyzed: 12/21/05

Analyte	Result	RL
Diesel C10-C24	700 L Y	50

Surrogate	%REC	Limits
Hexacosane	100	60-135

Type: BLANK Analyzed: 12/20/05
Lab ID: QC321658 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
Hexacosane	97	60-135

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

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	183862	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2005-02	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	108847
Units:	ug/L	Prepared:	12/19/05
Diln Fac:	1.000	Analyzed:	12/20/05

Type: BS
Lab ID: QC321659
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,790	112	53-138

Surrogate	%REC	Limits
Hexacosane	115	60-135

Type: BSD
Lab ID: QC321660
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,267	91	53-138	21	36

Surrogate	%REC	Limits
Hexacosane	96	60-135

RPD= Relative Percent Difference

Waste Soil Disposal Profile Sample

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: 06-DEC-05
Lab Job Number: 183495
Project ID: STANDARD
Location: Redwood Park

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

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	183495
Client:	Stellar Environmental Solutions
Location:	Redwood Park
Request Date:	11/30/05
Samples Received:	11/30/05

This hardcopy data package contains sample and QC results for one soil sample, requested for the above referenced project on 11/30/05. The sample was received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

C & T LOGIN #: 183495

Sampler: B M. Flinn
Report To: Bruce Rucker
Company: Stellar Environmental Solutions
Telephone: 510-674-3123
Fax:

Project No.:
Project Name: Redwood Park
Project P.O.:
Turnaround Time: 5 day

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO_4	HNO_3	ICE	Analysis: TVH gas + BTEX + MTBE	TEH diesel
-1	Soil Drum Comp.	11/30/05 1215	X			1				✓	✓	✓

Notes:
Sample is a composite of 11 55-gal drums of soil (drill cuttings)

SAMPLE RECEIPT
☒ Intact ☒ Cold
☐ On ice ☐ Ambient
Preservative Correct?
☐ Yes ☐ No ☒ N/A

RELINQUISHED BY:
Bruce M. Flinn 11/30/05 1410 DATE / TIME
DATE / TIME
DATE / TIME

RECEIVED BY:
Lawanna Curtis 11/30/05 2:10 p.m. DATE / TIME
DATE / TIME
DATE / TIME

SIGNATURE

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183495	Location:	Redwood Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD		
Field ID:	SOIL DRUM COMP	Batch#:	108288
Matrix:	Soil	Sampled:	11/30/05
Basis:	as received	Received:	11/30/05
Diln Fac:	1.000	Analyzed:	12/01/05

Type: SAMPLE Lab ID: 183495-001

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	2.6	0.95	mg/Kg	EPA 8015B
MTBE	ND	19	ug/Kg	EPA 8021B
Benzene	ND	4.8	ug/Kg	EPA 8021B
Toluene	ND	4.8	ug/Kg	EPA 8021B
Ethylbenzene	28	4.8	ug/Kg	EPA 8021B
m,p-Xylenes	58	4.8	ug/Kg	EPA 8021B
o-Xylene	ND	4.8	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	105	59-140	EPA 8015B
Bromofluorobenzene (FID)	115	62-149	EPA 8015B
Trifluorotoluene (PID)	99	63-125	EPA 8021B
Bromofluorobenzene (PID)	114	71-129	EPA 8021B

Type: BLANK Lab ID: QC319347

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.20	mg/Kg	EPA 8015B
MTBE	ND	4.0	ug/Kg	EPA 8021B
Benzene	ND	1.0	ug/Kg	EPA 8021B
Toluene	ND	1.0	ug/Kg	EPA 8021B
Ethylbenzene	ND	1.0	ug/Kg	EPA 8021B
m,p-Xylenes	ND	1.0	ug/Kg	EPA 8021B
o-Xylene	ND	1.0	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	99	59-140	EPA 8015B
Bromofluorobenzene (FID)	104	62-149	EPA 8015B
Trifluorotoluene (PID)	101	63-125	EPA 8021B
Bromofluorobenzene (PID)	107	71-129	EPA 8021B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183495	Location:	Redwood Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8021B
Type:	LCS	Basis:	as received
Lab ID:	QC319348	Diln Fac:	1.000
Matrix:	Soil	Batch#:	108288
Units:	ug/Kg	Analyzed:	12/01/05

Analyte	Spiked	Result	%REC	Limits
MTBE	100.0	109.9	110	71-130
Benzene	100.0	107.4	107	80-120
Toluene	100.0	100.6	101	80-120
Ethylbenzene	100.0	103.6	104	80-120
m,p-Xylenes	100.0	103.2	103	80-120
o-Xylene	100.0	105.0	105	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	98	63-125
Bromofluorobenzene (PID)	110	71-129

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183495	Location:	Redwood Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC319349	Diln Fac:	1.000
Matrix:	Soil	Batch#:	108288
Units:	mg/Kg	Analyzed:	12/01/05

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	10.66	107	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	123	59-140
Bromofluorobenzene (FID)	118	62-149

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	183495	Location:	Redwood Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Field ID:	SOIL DRUM COMP	Diln Fac:	1.000
MSS Lab ID:	183495-001	Batch#:	108288
Matrix:	Soil	Sampled:	11/30/05
Units:	mg/Kg	Received:	11/30/05
Basis:	as received	Analyzed:	12/02/05

Type: MS Lab ID: QC319350

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	2.570	10.53	13.06	100	44-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	118	59-140
Bromofluorobenzene (FID)	115	62-149

Type: MSD Lab ID: QC319351

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.99	11.60	82	44-120	15	23

Surrogate	%REC	Limits
Trifluorotoluene (FID)	113	59-140
Bromofluorobenzene (FID)	111	62-149

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Extractable Hydrocarbons

Lab #:	183495	Location:	Redwood Park
Client:	Stellar Environmental Solutions	Prep:	SHAKER TABLE
Project#:	STANDARD	Analysis:	EPA 8015B
Field ID:	SOIL DRUM COMP	Batch#:	108295
Matrix:	Soil	Sampled:	11/30/05
Units:	mg/Kg	Received:	11/30/05
Basis:	as received	Prepared:	12/01/05
Diln Fac:	1.000	Analyzed:	12/02/05

Type: SAMPLE Lab ID: 183495-001

Analyte	Result	RL
Diesel C10-C24	17 H L Y	1.0

Surrogate	%REC	Limits
Hexacosane	108	48-132

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC319372

Analyte	Result	RL
Diesel C10-C24	ND	1.0

Surrogate	%REC	Limits
Hexacosane	93	48-132

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

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	183495	Location:	Redwood Park
Client:	Stellar Environmental Solutions	Prep:	SHAKER TABLE
Project#:	STANDARD	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC319373	Batch#:	108295
Matrix:	Soil	Prepared:	12/01/05
Units:	mg/Kg	Analyzed:	12/02/05
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.58	46.64	94	54-137

Surrogate	%REC	Limits
Hexacosane	96	48-132

Curtis & Tompkins, Ltd.
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Batch QC Report

Total Extractable Hydrocarbons

Lab #:	183495	Location:	Redwood Park
Client:	Stellar Environmental Solutions	Prep:	SHAKER TABLE
Project#:	STANDARD	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	108295
MSS Lab ID:	183505-003	Sampled:	11/30/05
Matrix:	Soil	Received:	11/30/05
Units:	mg/Kg	Prepared:	12/01/05
Basis:	as received	Analyzed:	12/02/05
Diln Fac:	1.000		

Type: MS Lab ID: QC319374

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.4536	50.13	47.46	94	28-163

Surrogate	%REC	Limits
Hexacosane	92	48-132

Type: MSD Lab ID: QC319375

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.42	50.67	100	28-163	6	46

Surrogate	%REC	Limits
Hexacosane	97	48-132

RPD= Relative Percent Difference

APPENDIX H

Historical Groundwater Elevation Data

HISTORICAL GROUNDWATER ELEVATIONS IN MONITORING WELLS
REDWOOD REGIONAL PARK SERVICE YARD
7867 REDWOOD ROAD, OAKLAND, CALIFORNIA

Well I.D.	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12
TOC Elevation (a)	565.83	566.42	560.81	548.10	547.41	545.43	547.56	549.13	549.28	547.22	547.75	544.67
Date Monitored	Groundwater Elevations (feet above mean sea level)											
September 18, 1998	563.7	544.2	540.8	534.5	531.1	545.6						
April 6, 1999	565.2	546.9	542.3	535.6	532.3	532.9						
December 20, 1999	562.9	544.7	541.5	534.9	531.2	532.2						
September 28, 2000	562.8	542.7	538.3	532.2	530.9	532.0						
January 11, 2001	562.9	545.1	541.7	535.0	531.2	532.3	534.9	538.1				
April 13, 2001	562.1	545.7	541.7	535.1	531.5	532.4	535.3	539.8				
September 1, 2001	560.9	542.0	537.7	533.9	530.7	531.8	534.0	535.6				
December 17, 2001	562.2	545.2	542.2	534.8	531.4	532.4	534.8	538.4	534.6	535.7	535.2	
March 14, 2002	563.0	547.1	542.2	535.5	532.4	533.3	535.7	541.8	535.0	537.6	536.6	
June 18, 2002	562.1	544.7	541.1	534.6	531.2	532.2	534.8	537.9	534.7	535.6	535.3	
September 24, 2002	561.4	542.2	537.3	533.5	530.6	531.8	533.5	535.5	535.3	533.8	531.7	
December 18, 2002	562.4	545.0	542.0	534.8	531.5	532.5	534.6	537.1	536.5	535.2	532.8	
March 27, 2003	562.6	545.7	541.7	534.8	531.6	532.4	535.1	539.9	537.2	536.2	533.6	
June 19, 2003	562.3	544.9	541.5	534.8	531.3	532.3	534.9	538.2	536.9	535.7	533.2	
September 10, 2003	561.6	542.1	537.9	533.8	530.8	531.9	533.7	535.6	535.6	534.1	531.9	
December 10, 2003	562.4	542.7	537.6	533.7	530.9	531.9	533.7	535.2	535.5	533.8	531.7	
March 18, 2004	563.1	546.6	541.9	535.0	531.7	532.4	535.2	540.9	537.4	536.6	533.8	
June 17, 2004	562.1	544.3	540.7	534.3	531.0	532.1	534.6	537.4	536.5	535.1	532.7	
September 21, 2004	561.5	541.1	536.5	533.1	530.5	531.6	533.1	534.7	532.7	533.2	533.2	
December 14, 2004	562.2	545.3	541.7	534.7	531.4	532.2	534.6	540.4	536.7	535.5	532.9	
March 16, 2005	563.8	547.3	541.7	535.3	532.4	532.8	535.6	541.8	538.0	537.1	534.2	
June 15, 2005	562.9	545.9	541.6	535.0	531.7	532.5	535.0	540.0	535.0	536.1	535.6	
September 13, 2005	562.3	543.5	539.7	534.4	530.9	532.2	534.3	536.7	536.1	534.7	532.4	
December 15, 2005	562.2	544.3	541.4	(b)	531.0	532.2	534.5	537.3	534.1	534.7	534.9	535.1

TOC = Top of well Casing
(a) TOC Elevations resurveyed on December 15, 2005 in accordance GeoTracker requirements.
(b) Well decomissioned and replaced by MW-12 in December 2005.