February 17, 2011

Jerry Wickham, CEG
Senior Hazardous Materials Specialist
Alameda County Environmental Health
1131Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: **Sunol Tree Gas**
3004 Andrade Road, Sunol
Fuel Leak Case No. RO0002448

Dear Mr. Wickham:

Enclosed is the *Quarterly Groundwater Monitoring Report – Fourth Quarter 2010* for the subject LUFT site. In compliance with state and local regulations, electronic submittals of this report have been uploaded to the Geotracker database and the Alameda County ftp website.

I declare under penalty of perjury that the information and/or recommendations contained in the attached report are true and correct to the best of my knowledge.

Please call Tim Cook at Cook Environmental Services at (925) 478-8390 if you have questions or comments in regards to the technical content of this report.

Very truly yours,

Khan Petroleum, Inc.

Obaid Abdullah
President

cc: Jennifer Rice, Esq
Tim Cook, Cook Environmental Services, Inc.
Jeffery Lawson, Esq..
Cheri McCaulou, RWQCB Region 2

COOK ENVIRONMENTAL SERVICES, INC.
A GENERAL ENGINEERING CONTRACTOR #921387

Quarterly Groundwater Monitoring Report
Fourth Quarter 2010

PROJECT SITE:
Sunol Tree Gas Station
3004 Andrade Rd.
Sunol, California 94586-9453
Fuel Leak Case No. RO0002448

PREPARED FOR:

Khan Petroleum Inc.
3004 Andrade Road
Sunol, California 94586-9453

SUBMITTED TO:
Alameda County Department of Environmental Health
Environmental Health Services,
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

PREPARED BY:
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Project No. 1024

February 17, 2011

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Fourth Quarter 2010

Sunol Tree Gas Station
3004 Andrade Rd.
Sunol, California 94586-9453
Fuel Leak Case No. RO0002448

By: Cook Environmental Services, Inc.

Project No. 1024
February 17, 2010

Cook Environmental Services, Inc. prepared this document under the professional supervision of the person whose seal and signature appears hereon. No warranty, either expressed or implied, is made as to the professional advice presented herein. The analysis, conclusions and recommendations contained in this document are based upon site conditions at the time of the investigation, which are subject to change.

The conclusions presented in this document are professional opinions based solely upon visual observations of the site and vicinity, and interpretation of available information as described in this report. The limited scope of services performed in execution of this investigation may not be appropriate to satisfy the needs, or requirements of other regulatory agencies, or of other users. Any use or reuse of this document or its findings, conclusions or recommendations presented herein is at the sole risk of said user.

Tim Cook, P.E.
Principle Engineer

INTRODUCTION

This report is part of an ongoing environmental investigation related to the release of hydrocarbons at the Sunol Tree Gas Station (Site) located at 3004 Andrade Road in Sunol, California. The owner, Kahn Petroleum, Inc., authorized Cook Environmental Services, Inc. (CES) to conduct this investigation. Alameda County Environmental Health (ACEH) is the local oversight program (LOP) agency for this investigation.

Purpose

The Site background related to the hydrocarbon release is provided in **Appendix A.** This description is summarized from *Status of Active Fuel Leak Investigation*, dated May 6, 2009 (Weber Hayes & Associates). The Site location is shown on **Figure 1**. An annotated aerial photo of the Site is shown on **Figure 2**. A detailed site map, including the downgradient T Bear Ranch, is shown on **Figure 3**.

In a letter to the owner dated July 28, 2009, ACEH reduced the groundwater monitoring requirements to quarterly sampling of the wellhead carbon treatment system at the T Bear Water Supply Well.

CES conducted the last sampling event at the Site on April 19, 2010 and submitted the results in the Quarter Groundwater Monitoring Report, Second Quarter 2010, dated May 19, 2010. In that report CES proposed reducing the groundwater monitoring schedule to semi-annual sampling of wells CMT-1, CMT-3, CMT-6, CMT-10 and PZ-2 and annual sampling of wells CMT-2, CMT-4, CMT-5 and CMT-12. In a letter to the owner dated July 15, 2010, ACEH concurred with this reduced sampling schedule for the October 2010 only and requested the submittal of a Draft Corrective Action Plan (CAP) meeting the requirements of section 2725 of the UST regulations. The Draft CAP was submitted to ACEH on December 15, 2010. The ACEH responded with comments to the Draft CAP in a letter to the owner dated January 26, 2011. At present, CES is preparing a response to these comments and will respond in writing by March 11, 2011.

SCOPE OF WORK

The scope of work performed this quarter included the following:

- Measured static water levels and total depths in 2 PZ wells;
- Sampled wells CMT-1, CMT-3, CMT-6, CMT-7 and PZ-2a;
- Analyzed groundwater samples for total petroleum hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene and xylenes (BTEX) and 9 fuel oxygenates;
- Compiled data tables and iso-concentration maps;
- Prepared this groundwater monitoring report; and

- Updated the California State Water Resources Control Board (SWRCB) GeoTracker database and the Alameda County ftp website.

FIELD PROCEDURES

The following discussion describes field methods used to prepare for sampling and sampling techniques used to collect groundwater samples.

Each CMT well is a multiple completion well, consisting of three 0.375-inch diameter wells, denoted generally as CMT-X-1 (shallow), CMT-X-2 (medium) and CMT-X-3 (deep). The purpose of the CMT well cluster is to sample the aquifer at three discrete depths. Each PZ well is a multiple completion well, consisting of two 0.75-inch diameter wells, denoted generally as PZ-X-a (shallow) and PZ-X-b (deep). The purpose of the PZ well cluster is to sample the aquifer at two discrete depths.

The depth to water was measured and the total volume of each well was calculated to determine the appropriate purge volume for each well. Well sampling field procedures are described in **Appendix B**.

CES collected 13 water samples from wells CMT-1, CMT-3, CMT-6 CMT-7 and PZ-2a on October 16, 2010. A peristaltic pump with clean silicone tubing for each well was used for purging and sample collection. As with the previous sampling event, well CMT-10 could not be located. The two bolts securing the traffic box lid on well PZ-1 sheared off which made this well inaccessible. The remaining wells on the semi-annual sampling schedule were sampled.

Previously, depths to water measurements from the three PZ wells were used to triangulate the shallow and deep groundwater flow direction and gradient. This data was not able to be collected this quarter thus the shallow and deep groundwater flow directions and gradients were not determined. Depths to water measurements were recorded on field logs included in **Appendix C**.

GROUNDWATER SAMPLE RESULTS

Groundwater samples were analyzed for TPH-g by EPA method 8015 modified and for BTEX and nine fuel oxygenates by EPA method 8260B. Results were compared with environmental screening levels (ESLs) for groundwater established by the San Francisco Bay Regional Water Quality Control Board. Groundwater analytical results are summarized in **Table 1**. Laboratory analytical reports are included in **Appendix D**.

Twelve groundwater samples were collected from the multi-chamber (CMT) wells located along Transect A-A'. This transect is located approximately 150 feet downgradient (east) of the former

USTs. One groundwater sample was collected from PZ-2a, which is a piezometer well located in close proximity to the T Bear ranch water supply well.

Methyl tert-butyl ether (MtBE) tert butyl alcohol (tBA) were the only hydrocarbon constituents detected in these wells.

MtBE was detected in the shallow water-bearing zone above the ESL (5 ug/L) at sampling points CMT-6-1, CMT-7-1 and PZ-2a at 95, 11 and 18 ug/L, respectively. tBA was detected in the shallow water-bearing zone at or above the ESL (12 ug/L) at sampling point CMT-6-1 at 16 ug/l. This was the highest tBA concentration detected this quarter. MtBE was not detected at sampling points CMT-1-1 and CMT-3-1. tBA was detected in the shallow water-bearing zone below the ESL in sampling points 3-1-1, 7-1-1 and PZ-2a at 3.1, 2.6 and 3.0 ug/l, respectively. MtBE concentrations in the shallow water-bearing zone are shown on **Figure 4**.

MtBE was detected in the intermediate water-bearing zone above its ESL at sampling points CMT-1-2, CMT-3-2, CMT-6-2 and CMT-7-2 at 14, 23, 28 and 180 ug/L, respectively. MtBE was most widespread in the intermediate water-bearing zone and likely represents the preferred pathway for MtBE contamination. tBA was not detected in the intermediate water-bearing zone above its ESL, however it was detected below its ESL at sampling points CMT-3-2 and CMT-6-2 at 2.8 and 2.3 ug/l, respectively. tBA was not detected in CMT-7-2, however, the detection limit was 20 ug/L, which is higher than the ESL. MtBE concentrations in the intermediate water-bearing zone are shown on **Figure 5**.

MtBE was detected in the deep water-bearing zone above its ESL at sampling point CMT-6-3 at 20 ug/L. MtBE was not detected at sampling points CMT-1-3, CMT-3-3 and CMT-7-3. tBA was not detected in any of the deep water-bearing zone sampling points. MtBE concentrations in the deep water-bearing zone are shown on **Figure 6**.

Well PZ-2a is important because it is located approximately 43 feet upgradient (west) of` the T Bear Ranch water supply well and is considered to be a sentinel well for the water supply well. MtBE was detected at 1.1 ug/L in the influent to the treatment system on the T-Bear Ranch water supply well on September 7, 2010, the last sampling event for which we have data (Weber, Hayes & Associates, September 2010).

The location of Transect A-A' which contains a line of sampling points downgradient of the source area is shown on **Figure 7**. The vertical cross-section of MtBE concentrations across Transect A-A' this quarter is shown on **Figure 8**.

CONCLUSIONS

There is a fairly well defined plume of dissolved MtBE migrating from the Site that remains at low concentrations. MtBE concentrations are stable since the last time these wells were sampled on April 19, 2010. MtBE and tBA are the only constituents of concern at the Site as they are the only hydrocarbon constituents that exceeds ESLs. The highest MtBE concentration this quarter was 180 ug/l at sampling point CMT-7-2. This sampling point has consistently yielded the highest MtBE concentrations.

MtBE concentrations increased at five sampling points and decreased at three sampling points when compared to previous results. MtBE was below detection limits at five sampling points. The increase in MtBE concentrations at sampling points CMT-1-2, CMT-3-2, CMT-6-1, CMT-6-2 and CMT-7-2 suggests that the peak of the MtBE plume has not yet migrated through Transect A-A' at these points. The decrease in MtBE concentrations at sampling points CMT-6-3 and CMT-7-1 suggests that the peak of the MtBE plume has already passed Transect A-A' at these points.

tBA concentrations increased at six sampling points when compared to previous results. tBA was below detection limits at seven sampling points. tBA is produced by the degradation of MtBE by native microbes. The decrease in MtBE concentrations and the increase in tBA concentrations at sampling points CMT-3-1, CMT-3-2, CMT-7-1 and PZ-2a conclusively proves that monitored natural attenuation (MNA), as recommended in the Draft CAP, is a viable remedial alternative at this site.

Previously, the MtBE contaminant plume was delineated on the north by CMT-8. The lateral extent of the plume is not defined to the south. MtBE was detected in the intermediate water-bearing zone of the most southerly well, CMT-1, at 14 ug/L. Previously, the plume was delineated on the west by wells CMT-11 and CMT-12. The lateral extent of the plume has not been defined to the east. MtBE was detected in the most easterly well, PZ-2a (shallow water-bearing zone) at 18 ug/L. When compared to previous sampling results the MtBE concentration dropped from 22 to 18 ug/L, whereas the tBA concentration increased from <2.0 to 3.0 ug/L. This indicates natural attenuation is occurring in the proximity of this well. This well is located approximately 43 feet upgradient of the T Bear water supply well.

RECOMMENDATIONS

MtBE concentrations in groundwater increased at five sampling points and decreased at three sampling points, when compared to the previous sampling results. tBA concentrations increased at 6 sampling points when compared to previous results. tBA was below detection limits at 7 sampling points. The decrease in MtBE concentrations and the increase in tBA concentrations at sampling points CMT-3-1, CMT-3-2, CMT-7-1 and PZ-2a conclusively proves that monitored

natural attenuation (MNA), as recommended in the Draft CAP, is a viable remedial alternative at this site.

We recommend that the MNA option listed in the Draft CAP be implemented since the highest MtBE concentration detected this quarter is 180 ug/l and MtBE concentrations in the influent to the T Bear Ranch water supply well was 1.1 ug/l on September 7, 2010. Based on this data, MNA is protective of groundwater quality and is by far the most cost-effective approach. In a letter dated January 26, 2011, ACEH expressed several concerns with MNA as the selected remedial option. At present, we are preparing a response to their concerns and will submit our response to their letter by March 11, 2011.

TABLES

Table 1. Groundwater Results - Multi-Level Wells
Sunol Tree Gas Station
3004 Andrade Road, Sunol, CA

Well- ID	Date	Depth (feet, bgs)	TPH-g	benzene	toluene	ethyl-benzene	xylenes	MtBE	TBA	ETBE	DIPE	TAME	Ethanol	Comments
CMT-1-1	12/29/04	21	< 25	< 0.5	< 0.5	< 0.5	< 0.5	**15 /14**	< 10	< 5.0	< 5.0	< 5.0	< 100	Shallow
	07/13/05		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	08/15/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
CMT-1-2	12/29/04	41	< 25	< 0.5	< 0.5	< 0.5	< 0.5	1.2	< 10	< 5.0	< 5.0	< 5.0	< 100	Intermediate
	07/13/05		ND	ND	ND	ND	ND	2.7	ND	ND	ND	ND	ND	
	08/15/06		ND	ND	ND	ND	ND	**6.5**	ND	ND	ND	ND	ND	
	10/26/06		ND	ND	ND	ND	ND	**7.9**	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	**12**	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		<50	<0.5	<0.5	<0.5	<0.5	**14**	<2.0	<0.5	<0.5	<0.5	<50	
CMT-1-3	12/29/04	51	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	07/13/05		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	08/15/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
CMT-2-1	12/29/04	22	< 25	< 0.5	0.58 /<0.5	< 0.5	< 0.5	**13/14**	< 10	< 5.0	< 5.0	< 5.0	< 100	Shallow
	07/13/05		ND	ND	ND	ND	ND	**13**	ND	ND	ND	ND	ND	
	08/15/06		ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND	ND	
	10/26/06		ND	ND	ND	ND	ND	2.7	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	0.61	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-2-2	12/29/04	42	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Intermediate
	07/13/05		ND	ND	ND	ND	ND	4.6	ND	ND	ND	ND	ND	
	08/15/06		ND	ND	ND	ND	ND	**14**	ND	ND	ND	ND	ND	
	10/26/06		56	ND	0.70	ND	1.1	**14**	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	**19**	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-2-3	12/29/04	52	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	07/13/05		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	08/15/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		39	ND	0.52	ND	0.96	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
Environmental Screening Levels (ESLs)			100	1.0	40	30	20	5.0	12	NE	NE	NE	NE	
Practical Quantitation Limit (PQLs)			25	0.5	0.5	0.5	0.5	1.0	10	5.0	5.0	5.0	100	

Table 1. Groundwater Results - Multi-Level Wells
Sunol Tree Gas Station
3004 Andrade Road, Sunol, CA

Well- ID	Date	Depth (feet, bgs)	TPH-g	benzene	toluene	ethyl-benzene	xylenes	MtBE	TBA	ETBE	DIPE	TAME	Ethanol	Comments
CMT-3-1	01/18/05	22	< 25	< 0.5	< 0.5	< 0.5	< 0.5	**15**	< 10	< 5.0	< 5.0	< 5.0	< 100	Shallow
	07/13/05		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	08/16/06		ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	
	10/27/06		37	ND	1.2	0.53	2.9	1.5	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	3.1	<0.5	<0.5	<0.5	<50	
CMT-3-2	01/18/05	42	**190**	< 2.5	< 2.5	< 2.5	< 2.5	**190**	< 50	< 25	< 25	< 25	< 500	Intermediate
	07/13/05		55	ND	ND	ND	ND	**69**	ND	ND	ND	ND	ND	
	08/16/06		36	ND	ND	ND	ND	**27**	ND	ND	ND	ND	ND	
	10/27/06		39	ND	0.90	ND	2.4	**28**	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	**19**	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		<50	<0.5	<0.5	<0.5	<0.5	**23**	2.8	<0.5	<0.5	<0.5	<50	
CMT-3-3	01/18/05	52	< 25	< 0.5	< 0.5	< 0.5	< 0.5	4.9	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	07/13/05		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	08/16/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/27/06		ND	ND	ND	ND	1.8	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
CMT-4-1	01/11/05	13.5	< 25	< 0.5	< 0.5	< 0.5	< 0.5	**15**	< 10	< 5.0	< 5.0	< 5.0	< 100	Shallow
	07/12/05		ND	ND	ND	ND	ND	**5.3**	ND	ND	ND	ND	ND	
	08/16/06		ND	ND	ND	ND	ND	2.0	ND	ND	ND	ND	ND	
	10/27/06		ND	ND	ND	ND	0.76	2.1	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	0.54	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-4-2	01/11/05	42	35	< 0.5	< 0.5	< 0.5	< 0.5	**29**	< 10	< 5.0	< 5.0	< 5.0	< 100	Intermediate
	07/12/05		60	ND	ND	ND	ND	**66**	ND	ND	ND	ND	ND	
	08/16/06		**110**	ND	ND	ND	ND	**110**	ND	ND	ND	ND	ND	
	10/27/06		**140**	< 1.0	< 1.0	< 1.0	< 1.0	**140**	< 20	< 10	< 10	< 10	< 200	
	04/19/10		<50	<5.0	<5.0	<5.0	<5.0	**180**	<20	<5.0	<5.0	<5.0	<500	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-4-3	01/11/05	52	29	< 0.5	< 0.5	< 0.5	< 0.5	**27**	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	07/12/05		ND	ND	ND	ND	ND	**11**	ND	ND	ND	ND	ND	
	08/16/06		ND	ND	ND	ND	ND	**11**	ND	ND	ND	ND	ND	
	10/27/06		ND	ND	ND	ND	0.53	**16**	ND	ND	ND	ND	ND	
	04/19/10		<50	<1.0	<1.0	<1.0	<1.0	**40**	<4.0	<1.0	<1.0	<1.0	<100	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
Environmental Screening Levels (ESLs)			100	1.0	40	30	20	5.0	12	NE	NE	NE	NE	
Practical Quantitation Limit (PQLs)			25	0.5	0.5	0.5	0.5	1.0	10	5.0	5.0	5.0	100	

Table 1. Groundwater Results - Multi-Level Wells
Sunol Tree Gas Station
3004 Andrade Road, Sunol, CA

Well- ID	Date	Depth (feet, bgs)	TPH-g	benzene	toluene	ethyl-benzene	xylenes	MtBE	TBA	ETBE	DIPE	TAME	Ethanol	Comments
CMT-5-1	12/29/04	21	< 25	< 0.5	0.7	< 0.5	< 0.5	**19**	< 10	< 5.0	< 5.0	< 5.0	< 100	Shallow
	07/12/05		ND	ND	ND	ND	ND	**12**	ND	ND	ND	ND	ND	
	08/16/06		ND	ND	ND	ND	ND	4.7	ND	ND	ND	ND	ND	
	10/27/06		46	ND	ND	ND	0.87	3.6	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	**11**	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-5-2	12/29/04	42	< 25	< 0.5	0.54	< 0.5	< 0.5	3.5	< 10	< 5.0	< 5.0	< 5.0	< 100	Intermediate
	07/12/05		31	ND	ND	ND	ND	**37**	ND	ND	ND	ND	ND	
	08/16/06		88	ND	ND	ND	ND	**89**	ND	ND	ND	ND	ND	
	10/27/06		**130**	< 1.0	< 1.0	< 1.0	< 1.0	**92**	< 20	< 10	< 10	< 10	< 200	
	04/19/10		<50	<5.0	<5.0	<5.0	<5.0	**140**	<20	<5.0	<5.0	<5.0	<500	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-5-3	12/29/04	52	< 25	< 0.5	0.52	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	07/12/05		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	08/16/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/27/06		ND	ND	ND	ND	0.67	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	0.57	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-6-1	01/11/05	22	40	< 0.5	< 0.5	< 0.5	< 0.5	**41**	< 10	< 5.0	< 5.0	< 5.0	< 100	Shallow
	07/12/05		64	ND	ND	ND	ND	**79**	ND	ND	ND	ND	ND	
	08/16/06		71	ND	ND	ND	ND	**71**	ND	ND	ND	ND	ND	
	10/27/06		**110**	< 1.0	< 1.0	< 1.0	1.3	**84**	< 20	< 10	< 10	< 10	< 200	
	04/19/10		<50	<2.5	<2.5	<2.5	<2.5	**88**	<10	<2.5	<2.5	<2.5	<250	
	10/16/10		<50	<0.5	<0.5	<0.5	<0.5	**95**	**16**	<1.7	<1.7	<1.7	<170	
CMT-6-2	01/11/05	43	< 25	< 0.5	< 0.5	< 0.5	< 0.5	**8.7**	< 10	< 5.0	< 5.0	< 5.0	< 100	Intermediate
	07/12/05		ND	ND	ND	ND	ND	**15**	ND	ND	ND	ND	ND	
	08/16/06		ND	ND	ND	ND	ND	**12**	ND	ND	ND	ND	ND	
	10/27/06		40	ND	ND	ND	0.76	**19**	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	**18**	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		<50	<0.5	<0.5	<0.5	<0.5	**28**	2.3	<0.5	<0.5	<0.5	<50	
CMT-6-3	01/11/05	57	< 25	< 0.5	< 0.5	< 0.5	< 0.5	4.5	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	07/12/05		ND	ND	ND	ND	ND	4.7	ND	ND	ND	ND	ND	
	08/16/06		25	ND	0.77	ND	ND	**5.5**	ND	ND	ND	ND	ND	
	10/27/06		38	ND	ND	ND	0.68	**7.7**	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	**25**	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		<50	<0.5	<0.5	<0.5	<0.5	**20**	<2.0	<0.5	<0.5	<0.5	<50	
Environmental Screening Levels (ESLs)			100	1.0	40	30	20	5.0	12	NE	NE	NE	NE	
Practical Quantitation Limit (PQLs)			25	0.5	0.5	0.5	0.5	1.0	10	5.0	5.0	5.0	100	

Table 1. Groundwater Results - Multi-Level Wells
Sunol Tree Gas Station
3004 Andrade Road, Sunol, CA

Well- ID	Date	Depth (feet, bgs)	TPH-g	benzene	toluene	ethyl-benzene	xylenes	MtBE	TBA	ETBE	DIPE	TAME	Ethanol	Comments
CMT-7-1	01/11/05	13.5	< 25	< 0.5	0.52	< 0.5	< 0.5	2.5	< 10	< 5.0	< 5.0	< 5.0	< 100	Shallow
	07/13/05		ND	ND	ND	ND	ND	3.7	ND	ND	ND	ND	ND	
	08/16/06		42	ND	ND	ND	ND	**27**	ND	ND	ND	ND	ND	
	10/27/06		50	ND	2.2	ND	2.7	**37**	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	**13**	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		<50	<0.5	<0.5	<0.5	<0.5	**11**	2.6	<0.5	<0.5	<0.5	<50	
CMT-7-2	01/10/05	43	< 25	< 0.5	< 0.5	< 0.5	< 0.5	**7.4**	< 10	< 5.0	< 5.0	< 5.0	< 100	Intermediate
	07/13/05		**230**	< 2.5	< 2.5	< 2.5	< 2.5	**320**	< 50	< 25	< 25	< 25	< 500	
	08/16/06		**400**	< 2.5	< 2.5	< 2.5	< 2.5	**390**	< 50	< 25	< 25	< 25	< 500	
	10/27/06		**490**	< 5.0	< 5.0	< 5.0	< 5.0	**400**	< 100	< 50	< 50	< 50	< 1,000	
	04/19/10		<50	<2.5	<2.5	<2.5	<2.5	**170**	<10	<2.5	<2.5	<2.5	<250	
	10/16/10		<50	<0.5	<0.5	<0.5	<0.5	**180**	<20	<5.0	<5.0	<5.0	<500	
CMT-7-3	01/10/05	57	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	07/13/05		ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	
	08/16/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/27/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
CMT-8-1	01/14/05	22	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Shallow
	08/16/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		26	ND	0.78	ND	1.4	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-8-2	01/14/05	43.5	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Intermediate
	08/16/06		ND	ND	ND	ND	ND	ND	**80**	ND	ND	ND	ND	
	10/26/06		ND	ND	0.81	ND	1.2	ND	**80**	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-8-3	01/14/05	52	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	08/16/06		ND	ND	ND	ND	ND	< 1.0	**80**	ND	ND	ND	ND	
	10/26/06		ND	ND	0.70	ND	1.1	ND	**80**	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
Environmental Screening Levels (ESLs)			100	1.0	40	30	20	5.0	12	NE	NE	NE	NE	
Practical Quantitation Limit (PQLs)			25	0.5	0.5	0.5	0.5	1.0	10	5.0	5.0	5.0	100	

Table 1. Groundwater Results - Multi-Level Wells
Sunol Tree Gas Station
3004 Andrade Road, Sunol, CA

Well- ID	Date	Depth (feet, bgs)	TPH-g	benzene	toluene	ethyl-benzene	xylenes	MtBE	TBA	ETBE	DIPE	TAME	Ethanol	Comments
CMT-9-1	01/14/05	22	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Shallow
	08/16/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		ND	ND	0.72	ND	1.0	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-9-2	01/14/05	43.5	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Intermediate
	08/16/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		ND	ND	0.77	ND	1.2	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-9-3	01/14/05	52	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	08/16/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		ND	ND	0.57	ND	0.94	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-10-1	01/14/05	22	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Shallow
	07/13/05		ND	ND	ND	ND	ND	3.8	ND	ND	ND	ND	ND	
	08/15/06		ND	ND	ND	ND	ND	1.6	ND	ND	ND	ND	ND	
	10/26/06		ND	ND	0.8	ND	1.5	2.4	ND	ND	ND	ND	ND	
	04/19/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-10-2	01/14/05	42	< 25	< 0.5	< 0.5	< 0.5	< 0.5	2.6	< 10	< 5.0	< 5.0	< 5.0	< 100	Intermediate
	07/13/05		ND	ND	ND	ND	ND	4.8	ND	ND	ND	ND	ND	
	08/15/06		ND	ND	ND	ND	ND	1.6	ND	ND	ND	ND	ND	
	10/26/06		35	ND	1.2	ND	2.3	4.9	ND	ND	ND	ND	ND	
	04/19/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-10-3	01/14/05	52	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	07/13/05		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	08/15/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		ND	ND	0.9	ND	1.6	ND	ND	ND	ND	ND	ND	
	04/19/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
Environmental Screening Levels (ESLs)			100	1.0	40	30	20	5.0	12	NE	NE	NE	NE	
Practical Quantitation Limit (PQLs)			25	0.5	0.5	0.5	0.5	1.0	10	5.0	5.0	5.0	100	

Table 1. Groundwater Results - Multi-Level Wells
Sunol Tree Gas Station
3004 Andrade Road, Sunol, CA

Well- ID	Date	Depth (feet, bgs)	TPH-g	benzene	toluene	ethyl-benzene	xylenes	MtBE	TBA	ETBE	DIPE	TAME	Ethanol	Comments
CMT-11-1	01/10/05	22.5	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Shallow
	08/15/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		25	ND	1.2	ND	1.8	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-11-2	01/10/05	32	< 25	< 0.5	< 0.5	< 0.5	< 0.5	1.3	< 10	< 5.0	< 5.0	< 5.0	< 100	Intermediate
	08/15/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		31	ND	0.83	ND	1.6	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-11-3	01/10/05	53	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	08/15/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		26	ND	0.64	ND	1.2	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-12-1	01/10/05	22.75	< 25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Shallow
	08/15/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		ND	ND	0.56	ND	0.93	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-12-2	01/10/05	38.25	< 25	< 0.5	< 0.5	< 0.5	< 0.5	1.4	< 10	< 5.0	< 5.0	< 5.0	< 100	Intermediate
	08/15/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		ND	ND	1.0	ND	1.9	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	**23**	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
CMT-12-3	01/10/05	57.25	< 25	< 0.5	< 0.5	< 0.5	< 0.5	1.7	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	08/15/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
Environmental Screening Levels (ESLs)			100	1.0	40	30	20	5.0	12	NE	NE	NE	NE	
Practical Quantitation Limit (PQLs)			25	0.5	0.5	0.5	0.5	1.0	10	5.0	5.0	5.0	100	

Table 1. Groundwater Results - Multi-Level Wells
Sunol Tree Gas Station
3004 Andrade Road, Sunol, CA

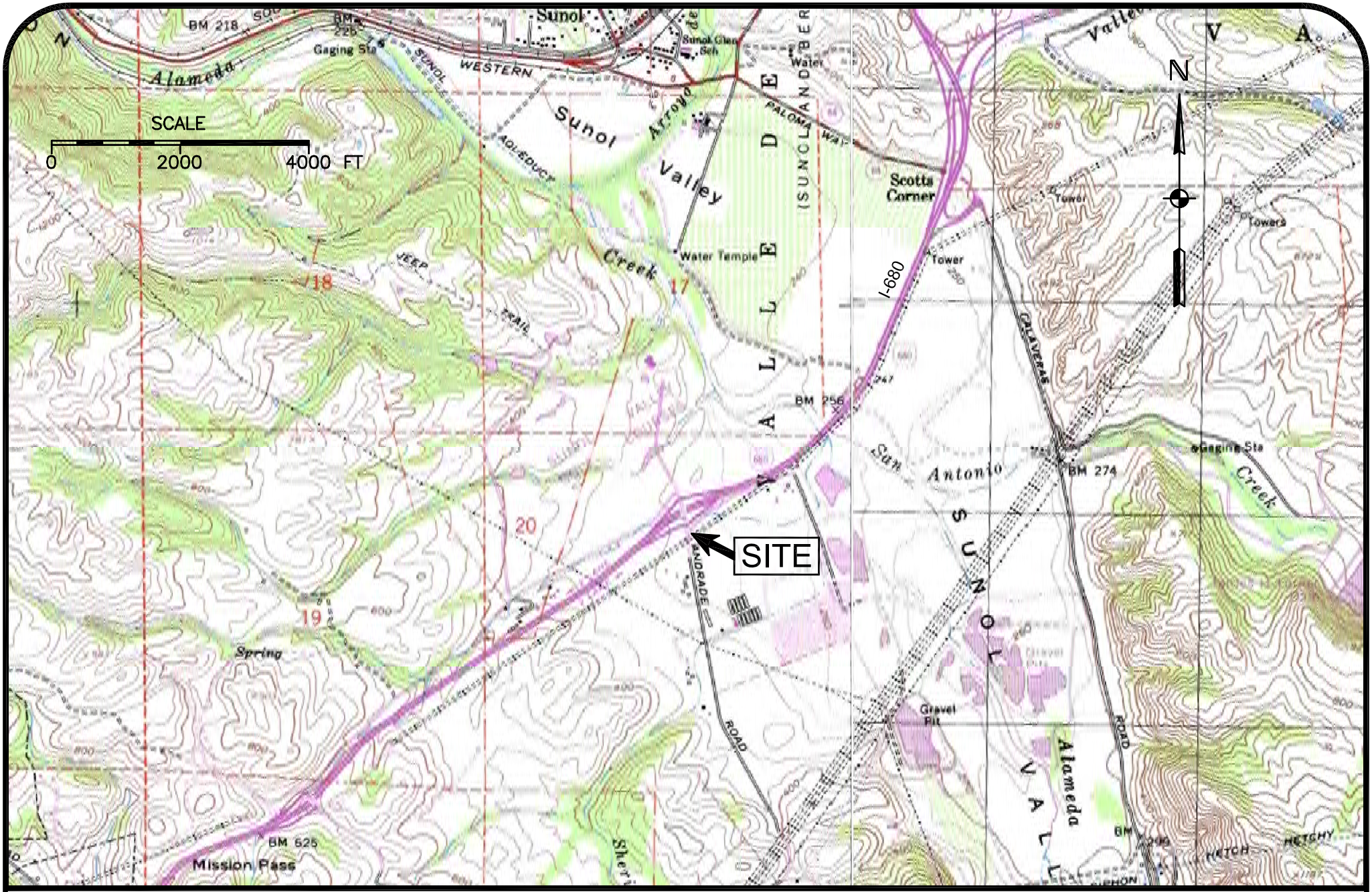
Well- ID	Date	Depth (feet, bgs)	TPH-g	benzene	toluene	ethyl-benzene	xylenes	MtBE	TBA	ETBE	DIPE	TAME	Ethanol	Comments
PZ-1a	12/03/04	17	**180**	< 1.0	< 1.0	< 1.0	< 2	**190**	< 20	< 10	< 10	< 10	< 200	Shallow
	08/16/06		**440**	ND	ND	ND	ND	**57**	ND	ND	ND	ND	ND	
	10/27/06		**130**	ND	ND	ND	ND	**52**	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	**23**	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
PZ-1b	12/03/04	46.5	38	< 0.5	< 0.5	< 0.5	< 1	**28**	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	08/16/06		51	ND	ND	ND	ND	**38**	ND	ND	ND	ND	ND	
	10/27/06		58	ND	ND	ND	0.79	**50**	ND	ND	ND	ND	ND	
	04/19/10		<50	<2.5	<2.5	<2.5	<2.5	**63**	<10	<2.5	<2.5	<2.5	<250	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
PZ-2a	12/03/04	29	**270**	< 2.5	< 2.5	< 2.5	< 5	**280**	< 50	< 25	< 25	< 25	< 500	Shallow
	07/12/05		**120**	< 1.0	< 1.0	< 1.0	< 1.0	**110**	< 20	< 10	< 10	< 10	< 200	
	08/15/06		**100**	ND	ND	ND	ND	**92**	ND	ND	ND	ND	ND	
	10/26/06		68	ND	ND	ND	ND	**56**	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	**22**	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		<50	<0.5	<0.5	<0.5	<0.5	**18**	3.0	<0.5	<0.5	<0.5	<50	
PZ-2b	12/03/04	49	**160**	< 1.0	< 1.0	< 1.0	< 2	**150**	< 20	< 10	< 10	< 10	< 200	Deep
	07/12/05		ND	ND	ND	< 1.0	ND	**15**	ND	ND	ND	ND	ND	
	08/15/06		ND	ND	ND	ND	ND	**17**	ND	ND	ND	ND	ND	
	10/26/06		43	ND	ND	ND	ND	**17**	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
PZ-3a	12/03/04	21	29	< 0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Shallow
	08/16/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		27	< 0.5	1.8	< 0.5	2.9	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
PZ-3b	12/03/04	49	< 25	< 0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 10	< 5.0	< 5.0	< 5.0	< 100	Deep
	08/16/06		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/26/06		ND	ND	0.54	ND	0.88	ND	ND	ND	ND	ND	ND	
	04/19/10		<50	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	
	10/16/10		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
Environmental Screening Levels (ESLs)			100	1.0	40	30	20	5.0	12	NE	NE	NE	NE	
Practical Quantitation Limit (PQLs)			25	0.5	0.5	0.5	0.5	1.0	10	5.0	5.0	5.0	100	

BOLD = Bold Print indicates concentrations are above ESLs.
< # = Detection limit elevated due to sample dilution.
ND = Not detected at or above the lab's practical quantitation limit.
NS= Not sampled
MtBE detections are confirmed by EPA Method #8260.

MTBE = Methyl-tert-Butyl ether
TAME = Tert-amyl methyl ether
ETBE = Ethyl tert-butyl ether
DIPE = Di-isopropyl either
tBA - tert butyl alcohol

TPH-g - total petroleum hydrocarbons as gasoline
concentrations are micrograms per liter (ug/L)
ESLs are from San Francisco Bay RWQCB where groundwater is a drinking water resource.
13/14 = dupicate sample results

FIGURES



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Sunol Tree Gas Station
Site Location Map

3004 Andrade Road
Sunol, CA 94586

Project: 1024	Figure: 1
Date: 2/17/11	
Scale: 1" = 2000 '	

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Sunol Tree Gas Station
Site Aerial Photograph

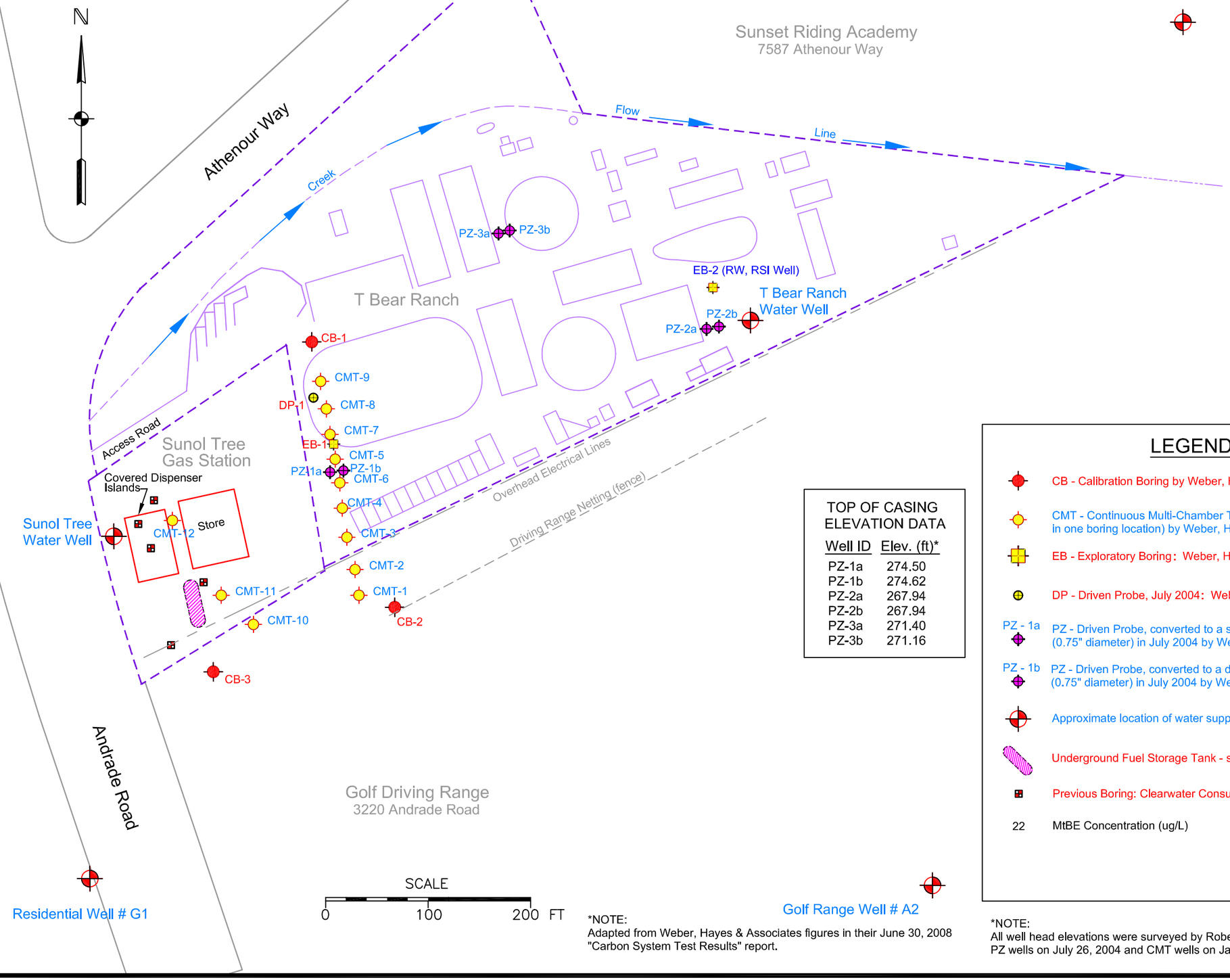
3400 Andrade Road
Sunol, CA 94586

Project : 1024	Figure: 2
Date: 2/17/11	
Scale: 1" = 50 '	

Sunol Tree Gas Station
Site Map
3004 Andrade Road
Sunol, CA 94586

Figure: 3

Project : 1024
Date: 2/17/11
Scale: 1" = 100'



TOP OF CASING ELEVATION DATA

Well ID	Elev. (ft)*
PZ-1a	274.50
PZ-1b	274.62
PZ-2a	267.94
PZ-2b	267.94
PZ-3a	271.40
PZ-3b	271.16

*NOTE:
Adapted from Weber, Hayes & Associates figures in their June 30, 2008 "Carbon System Test Results" report.

LEGEND

- CB - Calibration Boring by Weber, Hayes & Associates
- CMT - Continuous Multi-Chamber Tubing Well (3 - 0.375" wells in one boring location) by Weber, Hayes & Associates
- EB - Exploratory Boring: Weber, Hayes & Associates
- DP - Driven Probe, July 2004: Weber, Hayes & Associates
- PZ - 1a — PZ - Driven Probe, converted to a shallow Piezometer Well (0.75" diameter) in July 2004 by Weber, Hayes & Associates
- PZ - 1b — PZ - Driven Probe, converted to a deep Piezometer Well (0.75" diameter) in July 2004 by Weber, Hayes & Associates
- Approximate location of water supply well
- Underground Fuel Storage Tank - source of release
- Previous Boring: Clearwater Consultants, 2002
- 22 — MtBE Concentration (ug/L)

*NOTE:
All well head elevations were surveyed by Robert McGregor (Lic. #5946); PZ wells on July 26, 2004 and CMT wells on January 21, 2005.

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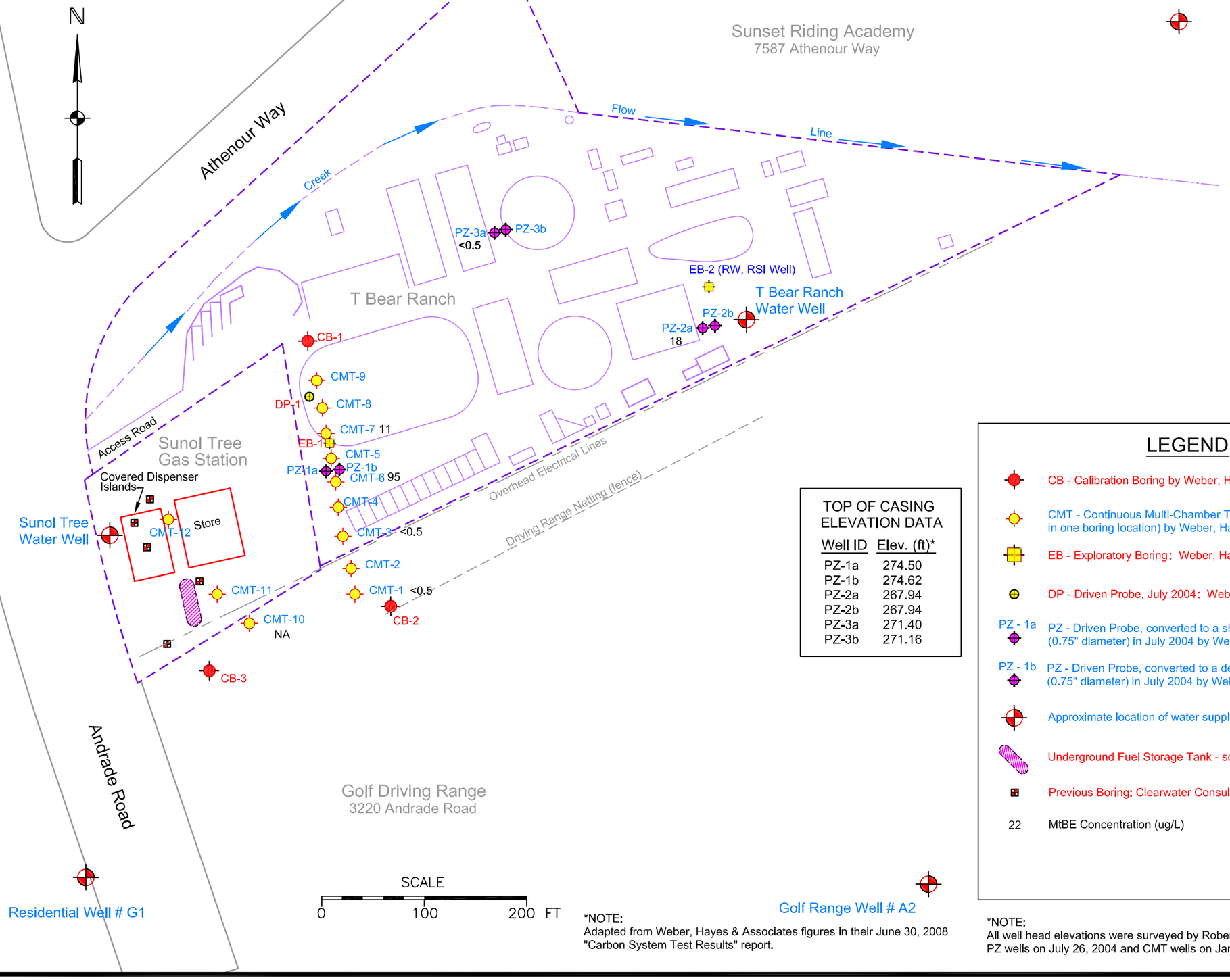
Sunol Tree Gas Station
MtBE Concentrations
Shallow Water-Bearing Zone

3004 Andrade Road
Sunol, CA 94586

Figure: 4

Project : 1024
Date: 2/17/11
Scale: 1" = 100 '



TOP OF CASING ELEVATION DATA

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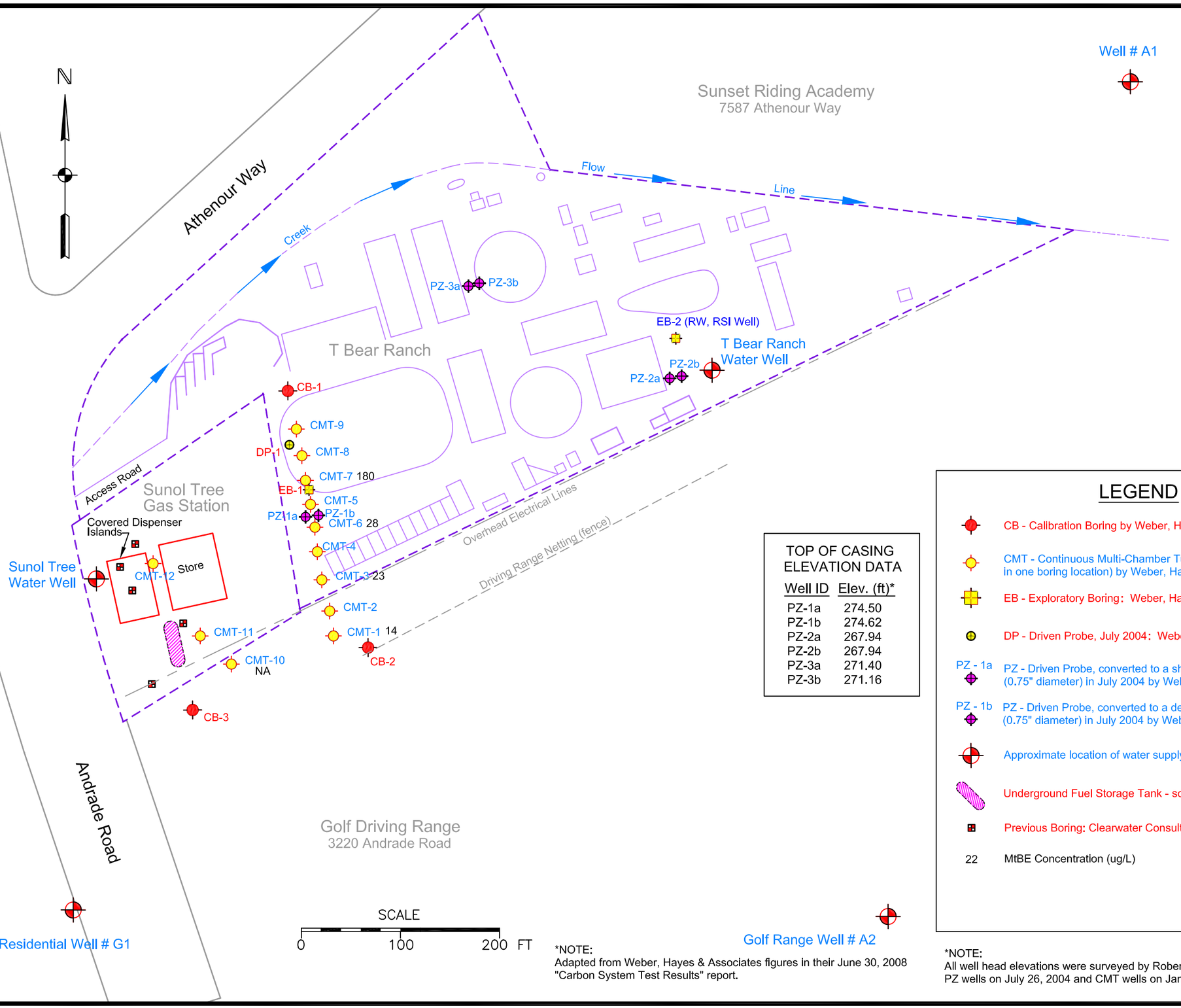
Sunol Tree Gas Station
MtBE Concentrations
Intermediate Water-Bearing Zone

3004 Andrade Road
Sunol, CA 94586

Figure: 5

Project : 1024
Date: 2/17/11
Scale: 1" = 100 '



TOP OF CASING ELEVATION DATA

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PZ-1b	274.62
PZ-2a	267.94
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PZ-3b	271.16

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Adapted from Weber, Hayes & Associates figures in their June 30, 2008 "Carbon System Test Results" report.

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- 22 — MtBE Concentration (ug/L)

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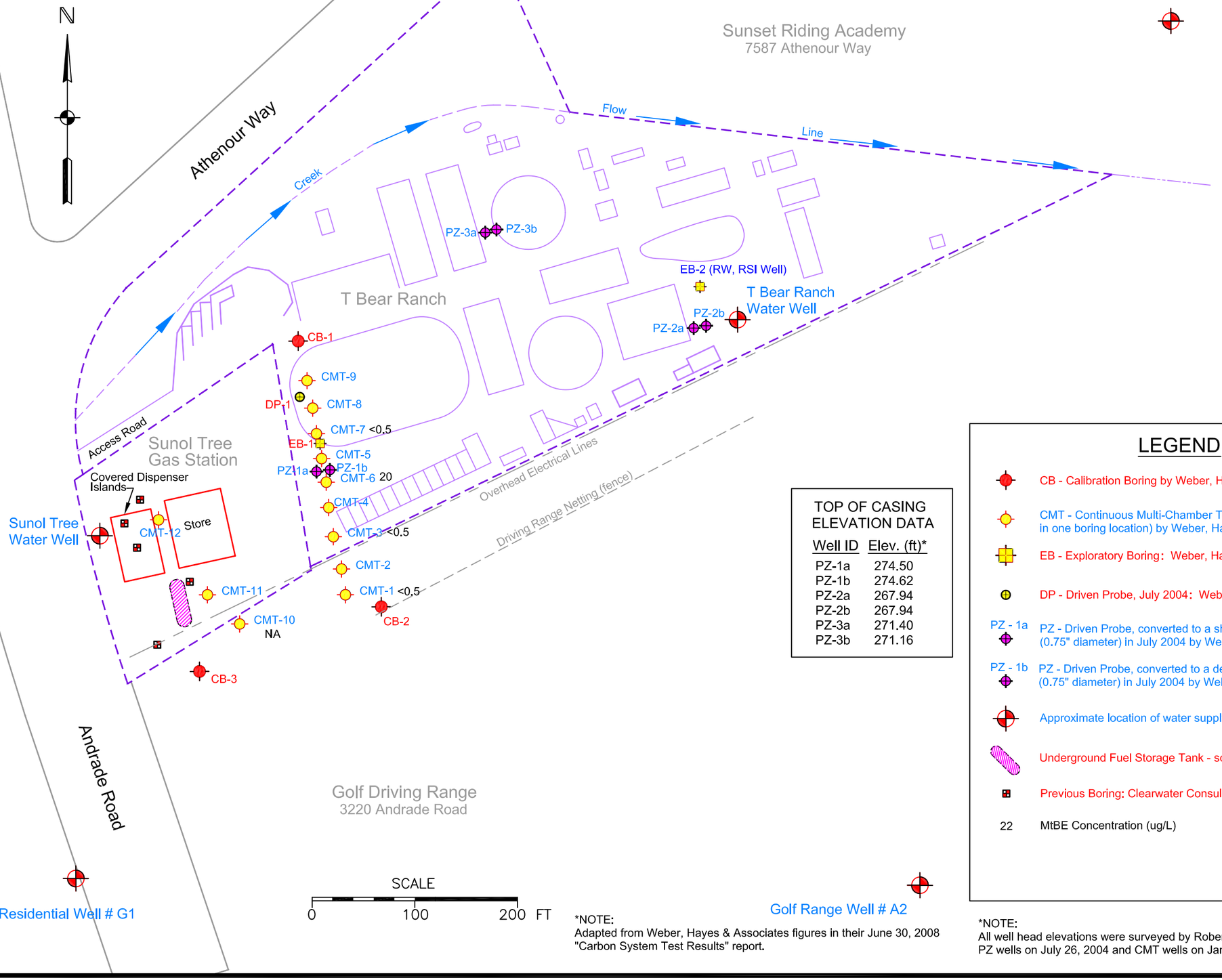
Sunol Tree Gas Station MtBE Concentrations Deep Water-Bearing Zone

3004 Andrade Road
Sunol, CA 94586

Figure: 6

Project : 1024
Date: 2/17/11
Scale: 1" = 100 '



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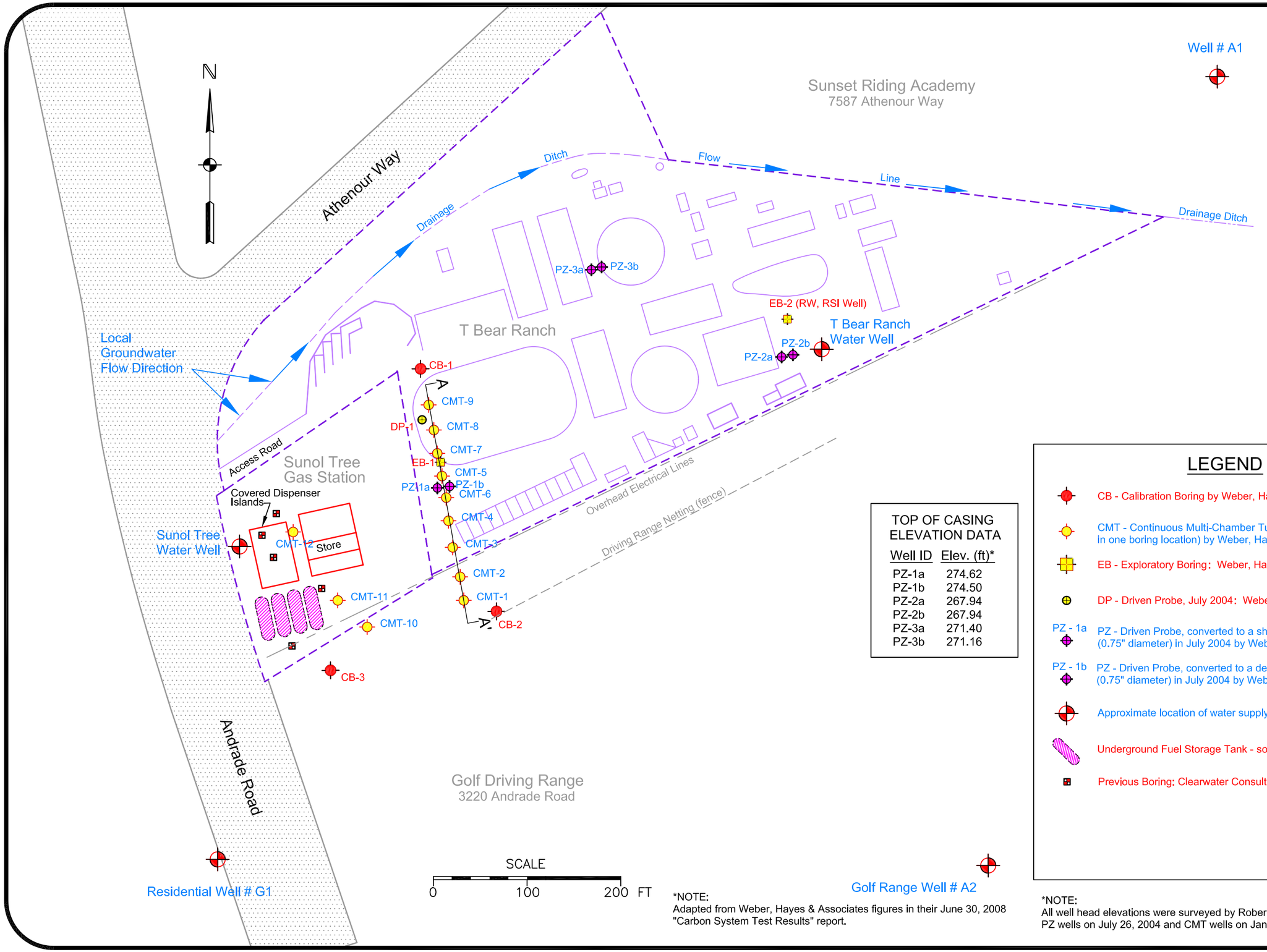

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Sunol Tree Gas Station
Site Map with Transect A-A'

3004 Andrade Road
Sunol, CA 94586

Figure: 7

Project : 1024
Date: 2/17/11
Scale: 1" = 100 '

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Sunol Tree Gas Station
MtBE Concentrations on Transect A-A'

3004 Andrade Road
Sunol, CA 94586

Figure: 8

Project : 1024 | Date: 2/17/11 | Scale: as shown

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TRANSECT WELLS CMT-1 THROUGH CMT-9 & PZ-1

NON-TRANSECT WELLS CMT-11, CMT-12, PZ-2 & PZ-3

A

A'

CMT-9 | CMT-8 | CMT-7 | CMT-5 | PZ-1 | CMT-6 | CMT-4 | CMT-3 | CMT-2 | CMT-1

CMT-10 | CMT-11 | CMT-12 | PZ-2 | PZ-3

VERTICAL DEPTH IN FEET

0 | 10 | 20 | 30 | 40 | 50 | 60

	CMT-9	CMT-8	CMT-7	CMT-5	PZ-1	CMT-6	CMT-4	CMT-3	CMT-2	CMT-1
			11	NS	NS	95	NS	ND	NS	ND
			180	NS	NS	28	NS	23	NS	14
			ND	NS		20	NS	ND	NS	ND

	CMT-10	CMT-11	CMT-12	PZ-2	PZ-3
	NA	NS	NS	18	NS
		NS			
	NA		NS		NS
	NA	NS		NS	NS
			NS		

0 | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 200

HORIZONTAL DISTANCE IN FEET

HORIZONTAL DISTANCE NOT-TO-SCALE

VERTICAL SCALE: 0 | 10 | 20 FT

HORIZONTAL SCALE: 0 | 20 | 40 FT

LEGEND

63	MtBE in parts per billion, ug/L
ND	Non-detectable
NA	Not found
NS	Not sampled

APPENDIX A
Site Background

Regional Setting: The subject site is situated in the southwestern portion of the Sunol groundwater Basin (in a "subbasin" identified as the Sunol subbasin, see http://aceh.intranets.com/~docs/GroupDocuments/FIGURES/2-Topograph-3D.pdf?id=28390&ord=040200 Figure 1)). The Sunol Valley is a structural trough surrounded by Diablo Range hills. Unconsolidated surface soils at the subject site have previously been mapped as water-bearing, alluvium deposits (Qal). Underlying the shallow alluvial deposits is the Livermore Formation (Tlo), significant water-bearing strata for the region. Non-water bearing, marine shale and sandstone deposits (JK) underlie the Livermore Formation. The Livermore and Sunol region is offset by a number of faults including the nearby Sinbad fault, which is buried beneath Alameda Creek-deposited alluvium, approximately 2,000 feet northwest of the site.

The general direction of regional groundwater movement is from the upland areas toward Alameda Creek and then westward toward the outlet of the basin (see Figure 1). The main surface water drainage in the Sunol subbasin is the northwest-flowing Alameda Creek located approximately 2,000 feet north of the subject site. Locally, groundwater is reported to be both confined and unconfined and generally flows to the northwest. Recharge occurs by infiltration of the surface water along Alameda Creek. The northwest trending Sinbad fault is likely to act as a barrier to the lateral movement of groundwater. Regional geologic cross-sections indicate the subject site is on the up-gradient side of the Sinbad fault where groundwater levels reportedly stand higher

The Sunol Valley contains two water-bearing geologic formations that are documented to yield adequate to large quantities of groundwater from production wells. They include Plio-Plesistocene sediments of the Livermore Formation (Tlo) and more recent Quaternary alluvium (Qal). These aquifer sediments are composed largely of sand and gravel with discontinuous layers of clay, and are underlain at a shallow depth by nonwater-bearing rocks that are exposed in the bordering highlands. Specifically, the total thickness of these water-bearing sediments is reported to be less than 200 feet in the vicinity of the site. Drillers logs completed during the drilling of two nearby water production wells indicate non-water bearing shale was logged at a depth of approximately 140' although, given soil descriptions of other borings in the area suggest it is likely to be blue clay.

Logs of local water wells installed in the vicinity of the fuel leak site suggests some continuity in the shallow aquifer containing upwards of 50 feet of sand and gravel with limited clay. The stratigraphy underlying the shallow aquifer is less consistent due to the logged description of shale in two well logs but discontinuous sand and gravel lenses appearing at varying depths could indicate aquifer connectivity by river channel deposition.

- Drinking Water Well Testing: Testing was completed on the Sunol Tree Gas Station well and the 5 downgradient/sidegradient water wells in May 2003 following the discovery of MTBE in the T-Bear Ranch well. Off-site water production wells were located between approximately 550-1,700 feet downgradient from the former underground fuel storage tanks (USTs). Additional sampling was also completed on two upgradient water production wells (July 2004). The results indicate the T Bear Ranch was the only well that was significantly impacted (130 ppb MTBE).

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Preferential Pathways

Active/Abandoned Wells: A water well survey appears to have been completed based on DWR drilling logs and maps provided by Zone 7 Water District but it is unclear whether a detailed site reconnaissance was completed. A follow-up testing program included collection of water samples from a number of local wells but accurate mapping and sampling protocols have not been documented.

On-Site Water Well: The Sunol Tree Gas Station has a production well on the premises and the well construction is unclear, as no log exists. A video log was completed which has cryptic information on the well screen. Specifically, first screens appear at 60 feet, and "water movement was noted at 62', 67', 101', & 103') At this point we assume the well is perforated from 60' to 153 below ground surface.

T Bear Well: The MTBE-impacted T Bear Ranch well was fully characterized using video logging, geophysical & discrete testing. However, recent communication from a local driller indicates the PVC casing may be an insert to a deeper cable tool drilled well (metal cased), so unusual preferential flow paths may exist.

Utility Survey: No utility survey has yet been completed in the immediate vicinity of the fuel release site (i.e., utility trenches with gas, sewer, water, storm drain, telephone, and electric lines).

Site Setting: The fuel release occurred at Sunol Tree Gas Station, an operating facility selling gasoline and diesel. The site located at 3004 Andrade Road, in Sunol, California, near the northbound exit ramp of Highway 680. The relatively flat-lying site contains 6 USTs.

The fuel release was discovered on April 12, 2002, during the removal of five, 15,000-gallon underground fuel tanks (USTs) and piping at the Sunol Tree Gas Station. The USTs were reported to be in good condition having no observable holes or corrosion. The consultant on-site noted hydrocarbon odor and soil staining in excavated soils. Ten sidewall samples and a water sample were obtained from the tank pit. Trace to non-detectable levels of TPH(gas-diesel)+BTEX-MTBE were found in the sidewall samples (ND-to-0.25 mg/kg MTBE). The pit water sample contained 84 ug/L MTBE. Sampling beneath the dispensers (12 samples) and piping trenches (3 samples) revealed generally low concentrations of gas and BTEX. A single elevated diesel hit was detected beneath dispenser #7 (1,300 mg/kg) and trace to elevated MTBE concentrations were detected in nine of the 14 samples (0.0058 to 5.9 mg/kg).

Approximately 3-500-4,000 cubic yards of soil was excavated, stockpiled on-site, and covered with plastic sheeting. Stockpile screening (four composite samples) revealed only trace

concentrations of diesel/motor oil and no detections of gas-BTEX-MTBE. In addition, 160,000 gallons of contaminated water were pumped out during installation of replacement tanks. The containerized water samples had MTBE detections ranging from 73 to 190 ug/L.

- **Source Area:** TPH and MTBE were detected in soil sidewalls during the UST closure operations in May 2002 when five, 15,000-gallon USTs were replaced. Pit sidewall and dispenser samples generally contained low concentrations of fuel contaminants (gas/diesel) and volatile constituent compounds. Specifically, soil concentrations ranged from non-detect to 150 ppm for gasoline, nondetect to 5.9 ppm for MTBE, trace TBA, and no DIPE, ETBE or TAME.

  Groundwater samples were subsequently obtained from driven probe borings cored at 5 locations targeting the dispensers and USTs. Groundwater samples contained up to 17,000 ppb gasoline and 43 ppb MTBE (Nov-2002).

- **Dissolved plume:** The dissolved plume appears to be fully characterized. During the May 2002 UST Closure Operations, collected pit water contained no detectable gasoline concentrations but did contain 84 ppb MTBE. Disposal acceptance testing of 160,000 gallons of fuel-impacted groundwater pumped from the open pit containerized in storage tanks contained up to 170 ppb gasoline and 190 ppb MTBE.

-

Chronology of the Sunol Tree Gas Station Fuel Release + Impact to the T-Bear Ranch Well

2002

• April 12, 2002: Contamination discovered during removal of 5 underground fuel tanks at the Sunol Tree Gas Station

  • 4,000 cubic yards of contaminated removed and stockpiled on-site.

  • 160,000 gallons of contaminated water were pumped out during installation of new tanks

• June 27, 2002: AC-HCSA directive requiring workplan.

• Aug-20, 2002: Clearwater Consultants sampled water from a faucet on the Kelso property-results came back clean.

• Aug-23, 2002: *PRELIMINARY SITE ASSESSMENT* (PSA) *WORKPLAN* submitted by Clearwater Consultants. PSA work tasks were completed in Aug-Dec, including:

  • Nov-27, 2002: Five borings were drilled on-site. Groundwater encountered at depths between 16-19' (approx). Relatively low soil contamination but elevated groundwater contamination.

  • Dec-12, 2002: Video log of Kelso well showed total depth to be 153 feet and "Mils Knife" perforations located at 60', 62', 67', 101', & 103'. The well pump was located at a depth 100'. Depth to water was at 20 feet. Apparently no discrete samples were obtained from within the well.

  • Mar-14, 2003: Summary Report concluded more delineation was necessary including placement of wells.

  • Aug-27, 2002: AC-HCSA approval of workplan.

2003

• Feb-12, 2003: T-Bear property refinance rejected by Washington Mutual Bank due to perceived financial liability associated with the Kelsoe gasoline contamination. Washington termed the T-Bear Ranch "Unacceptable Collateral at the present time". The bank's environmental appraisal statement included the following rationale for rejection of the bank financing:

> "The subject parcel (T-Bear Ranch) adjoins a chevron gas station. The underground tanks at the station have been identified as leaking per the EPA (really - AC-HCSA). The tanks and a significant amount of adjoining earth and soil have been removed. .....The subject parcel (T-Bear Ranch) derives it's water from two wells - obvious concerns regarding this.....This could cost multiple thousands of dollars and dictate that the Owner of the parcel (i.e.. Hayes, Tovani, lender) clean and dispose of any contaminated soil. Phase II report might lead to a Phase III report if sufficient contaminants are found to be present....."

• Feb-13, 2003: T-Bear Ranch well water sampled and tested by RJ Lee Group, Inc (Pennsylvania). MTBE detected at a concentration of 73 parts per billion (ppb).

• Feb-27, 2003: T-Bear Ranch well water sampled from "Kitchen Sink" and tested by Cerco Analytical (Pleasanton). MTBE detected at a concentration of 87.3 ppb

• Mar-3, 2003: T-Bear Ranch well water re-sampled and tested by Zone 7 Water District. MTBE detected at a concentration of 130 ppb.

• Mar-14, 2003: Clearwater Consultants submitted *PRELIMINARY SITE ASSESSMENT* (PSA) *SUMMARY REPORT* to AC-HCSA. As noted above, the report summarized field work completed in Aug-Dec, 2002, and concluded that more delineation was necessary including placement of wells.

• Mar-20, 2003: AC-HCSA 1) response to the *PSA Summary Report*, and 2) directive requiring further expedited work. AC-HCSA directed Mr. Kelso to submit a *Soil and Water Investigation (SWI) Workplan* by April 4, 202 for completing an intensive subsurface investigation, which included the following tasks:

> • Collecting and testing water from domestic/commercial water wells in the vicinity of the Kelose gas station.
>
> • Removal of the 4,000 cubic yard stockpile at the Kelose gas station
>
> • Developing a full understanding of site conditions ("site conceptual model") by completing investigative work tasks including: on-site soil logging to at least 60 feet, installation of wells to characterize the full, 3-dimensional extent of contamination, survey of utilities and wells in the vicinity, video logging of the T-Bear well, and reporting.

• Apr-4, 2003: Request for extension of *SWI Workplan* submittal due date.

• Apr-7, 2003: AC-HCSA granted extension for the submittal of the of *SWI Workplan* to April 25th.

• Apr-11, 2003: T-Bear Ranch well water re-sampled by Clearwater Consultants. MTBE detected at a concentration of 120 ppb.

• May-6, 2003: *WELL SAMPLING REPORT* submitted by Clearwater Consultants. The report documents the sampling of 5 production wells located downgradient of the station, including the T-Bear Ranch well. Two of the wells had detections of MTBE including T-Bear Ranch well (120 ppb) and the adjacent golf driving range well (at the detection limit of 0.5 ppb, tested by Zone 7

on 3-4-02). The adjacent golf range well was resampled on April 11, 2003 by Clearwater Consultants and no MTBE was detected by their lab.

- May-8, 2003: *WORK PLAN FOR SOIL AND WATER INVESTIGATION (SWI)* submitted by Clearwater Consultants.

- May-12, 2003: State Underground Storage Tank Fund (State FUND) rejected Murray Kelsoe's application for acceptance on the grounds that he failed to comply with permit requirements. If accepted to the State FUND, Mr. Kelsoe would have been eligible for up to $1.5 million dollars toward characterization and cleanup of the fuel release.

- Jun-13, 2003: AC-HCSA 1) rejection of the May-8 *SWI Workplan* (above) due to "substantial deficiencies" and required immediate re-submittal of an amended workplan.

  - AC-HCSA rejected the proposal to provide water to the T-Bear Ranch via the Kelsoe well, located at the gas station due to concerns of pulling the fuel release downward to the well screens.
  - Deficiencies noted by AC-HCSA included:
    - inadequate presentation of site-specific subsurface conditions (i.e.. "Site Conceptual Model") which is the rationale for initial installation of piezometers and subsequent installation of monitoring wells.
    - nested wells construction problems;
    - removal of the stockpile.

- Jul-3, 2003: Mr. Kelsoe's attorney submitted a letter appealing the State FUND's rejection.

- Aug-2003: State FUND rejected the appeal.

- Nov-6, 2003: A non-standard, carbon filtration system was installed to remove MTBE from groundwater pumped at the T Bear Ranch well.

  - initial breakthrough of first set of carbon vessels occurred after 89 days (Jan-27th) = 0.63 ppb MTBE.
  - initial breakthrough of second set of carbon vessels occurred after 202 days (May-5th) @ 1.6 ppb.
  - Carbon Change-out of all vessels occurred after 221 days (May-25th).

- 2003 to present: Ongoing Carbon System Monitoring (trace MTBE influent into the system does not require significant carbon change outs – see table for details).

APPENDIX B
Field Procedures

APPENDIX B
FIELD SAMPLING METHODOLOGY
AND ELECTRONIC DATA DELIVERY

Cook Environmental Services, Inc. (CES) groundwater sampling methodology is based on procedures specified in the California State Water Resource Control Board *LUFT Field Manual*. Monitoring wells are exposed to atmospheric conditions for approximately 30 minutes prior to measurements to equalize barometric pressure in the well. If the well appears to be pressurized, or the groundwater level is fluctuating, measurements are collected until the level stabilizes.

CES uses an electronic well sounder to measure the static water levels in piezometer wells (e.g. PZ-1, PZ-2, PZ-3) to the nearest hundredth (0.01) of a foot. Depth-to-water measurements are subtracted from the top of casing elevations to obtain static water elevations.

Dedicated plastic tubing is stored in each sampling point is used to purge and sample each sampling point. During purging, physical parameters such as temperature, conductivity, pH and dissolved oxygen (DO) are monitored with field instruments to ensure that these parameters have stabilized to within a variation of fifteen percent prior to sampling. Field instruments are calibrated at the beginning of each sampling event. Purging is complete when field parameters have stabilized or after three well volumes are removed, whichever is greater.

A groundwater sample is collected from each well using the dedicated plastic tubing attached to a short length of clean silicone tubing. The silicone tubing is run through a peristaltic pump. The samples are collected from the effluent end of the silicone tubing after it passes through the peristaltic pump. Samples are collected directly into 40 milliliter volatile organic analysis (VOA) vials preserved with concentrated hydrochloric acid such that the pH of the sample drops to below 2.0. Samples are immediately placed in a cooler and chilled to 4 degrees Celsius until delivered to the laboratory. The samples are typically delivered to the lab the same day they are collected. Observations of groundwater conditions during purging, such as odor, volume of water purged, temperature, pH, specific conductivity, DO, and turbidity are recorded in the sampling logs. Groundwater samples are labeled with the project number, sample ID, and date collected. The same information is recorded on a chain-of-custody form. The samples are placed in an ice chest pending delivery to the ELAP certified laboratory.

Chemical analysis data are submitted electronically to the SWRCB Geographical Environmental Information Management System (GeoTracker) database, as required by AB2886 (Water Code Sections 13195-13198). The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) also require submission of reports in electronic form to the Alameda County FTP site. Electronic analytical reports (EDF files) are prepared and formatted by the laboratory and submitted to GeoTracker by CES. Along with the analytical results, well latitudes, longitudes (GEO_XY files), and elevations (GEO_Z files) are submitted to the database, as necessary. Submittal of a well status and usage report (GEO_WELL file) is required for each monitoring event. Current maps (GEO_MAP files) are also submitted when Site features are added or changed. Each report is submitted in pdf format (GEO_REPORT file) as they are completed.

APPENDIX C
Well Sampling Logs

COOK ENVIRONMENTAL SERVICES
MONITORING WELL SAMPLING LOG

Site Name: Sunol Tree Gas Job # 1024

Date: 10/16/2010 Sampler: T. Cook/A. Venegas

Well ID: CMT-1-1 Well Diameter 0.375" Column 10.95 ft

Well Depth 21.15 Depth to Water 10.2 ft

Casing Volume 5.36 oz. 3 Casing Volumes 16.09 oz.
(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

Time	~~Gallons~~ oz Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments
1155	4	19.5	7.69	675		5.05	STRONG HC odor
	10	18.3	7.58	1257		3.25	
	15	18.2	7.52	1266		3.63	

Well ID: CMT-1-2 Well Diameter 0.375" Column 24.77 ft

Well Depth 41.27 Depth to Water 16.5 ft

Casing Volume 12.1 oz. 3 Casing Volumes 36.4 oz.
(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

Time	~~Gallons~~ oz Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments
2:01	12	17.3	7.60	1178		4.50	
	24	17.4	7.56	1175		4.30	
	36	17.4	7.55	1175		4.30	

Well ID: CMT-1-3 Well Diameter 0.375" Column 33.87 ft

Well Depth 51.37 Depth to Water 17.5 ft

Casing Volume 16.6 oz 3 Casing Volumes 49.8 oz
(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

Time	~~Gallons~~ oz Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments
207	16	17.3	7.54	1207		4.70	
	32	17.4	7.53	1205		5.30	
	48	17.5	7.47	1210		3.90	

Cook Environmental Services, Inc.
1485 Treat Blvd., Suite 230A
Walnut Creek, CA 94597
(925) 478-8390

COOK ENVIRONMENTAL SERVICES
MONITORING WELL SAMPLING LOG

Site Name: Sunol Tree Gas Job # 1024

Date: 10/16/2010 Sampler: T. Cook/A. Venegas

Well ID: CMT-3-1 Well Diameter 0.375" Column 8.92 ft

Well Depth 20.92 Depth to Water 12.0 ft

Casing Volume 4.3 oz. 3 Casing Volumes 13.1 oz.
(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

oz

Time	~~Gallons~~ Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments
1140	4	18.1	7.26	911		4.12	
	8	18.1	7.23	1240		3.63	
	12	18.2	7.22	1237		3.66	

Well ID: CMT-3-2 Well Diameter 0.375" Column 19.71 ft

Well Depth 40.91 Depth to Water 21.2 ft

Casing Volume 9.6 oz. 3 Casing Volumes 28.9 oz.
(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

oz

Time	~~Gallons~~ Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments
1242	10	19.0	7.29	1237		5.50	Strong HC odor
	20	18.8	7.29	1265		5.30	
	30	18.7	7.31	1251		5.10	

Well ID: CMT-3-3 Well Diameter 0.375" Column 28.33 ft

Well Depth 50.93 Depth to Water 22.6 ft

Casing Volume 13.9 oz 3 Casing Volumes 41.6 oz
(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

oz

Time	~~Gallons~~ Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments
1249	14	18.1	7.31	1346		5.80	Strong HC odor
	28	18.3	7.36	1350		4.31	
	42	18.4	7.33	1360		3.73	

Cook Environmental Services, Inc.
1485 Treat Blvd., Suite 230A
Walnut Creek, CA 94597
(925) 478-8390

COOK ENVIRONMENTAL SERVICES
MONITORING WELL SAMPLING LOG

Site Name: Sunol Tree Gas Job # 1024

Date: 10/16/2010 Sampler: T. Cook/A. Venegas

Well ID: CMT-6-1 Well Diameter 0.375" Column 11.86 ft

Well Depth 21.66 Depth to Water 9.80 ft

Casing Volume 5.8 oz. 3 Casing Volumes 17.4 oz.
(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

Time	~~Gallons~~ oz Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments
1145	6	18.6	7.45	1209		4.80	Strong HC odor dry
	12	19.0	7.67	1255		4.60	dry
	18						

Well ID: CMT-6-2 Well Diameter 0.375" Column 25.48 ft

Well Depth 42.68 Depth to Water 17.2 ft

Casing Volume 12.5 oz. 3 Casing Volumes 37.4 oz.
(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

Time	~~Gallons~~ oz Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments
1202	12	17.9	7.47	1103		5.69	
	24	17.9	7.26	1105		4.33	
	36	17.8	7.20	1106		3.28	

Well ID: CMT-6-3 Well Diameter 0.375" Column 41.57 ft

Well Depth 56.67 Depth to Water 15.1 ft

Casing Volume 20.3 oz 3 Casing Volumes 61.1 oz
(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

Time	~~Gallons~~ oz Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments
1210	20	17.7	7.44	1101		5.10	
	40	17.7	7.31	1103		3.75	
	60	17.3	7.44	1113		3.45	

Cook Environmental Services, Inc.
1485 Treat Blvd., Suite 230A
Walnut Creek, CA 94597
(925) 478-8390

COOK ENVIRONMENTAL SERVICES
MONITORING WELL SAMPLING LOG

Site Name: Sunol Tree Gas Job # 1024

Date: 10/16/2010 Sampler: T. Cook/A. Venegas

Well ID: CMT-7-1 Well Diameter 0.375" Column 4.09 ft

Well Depth 13.14 ft Depth to Water 9.1 ft

Casing Volume 1.97 oz. 3 Casing Volumes 5.93 oz.
(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

Time	~~Gallons~~ oz Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments
10:48	2	19.6	7.12	1104		6.50	
	4	18.6	7.28	1744		6.15	
	6	18.7	7.23	1751		6.15	

Well ID: CMT-7-2 Well Diameter 0.375" Column 27.22 ft

Well Depth 42.72 .ft Depth to Water 15.5 ft

Casing Volume 13.3 oz. 3 Casing Volumes 40.0 oz.
(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

Time	~~Gallons~~ oz Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments
1104	14	18.0	7.12	1313		4.10	slight HC odor
	28	18.2	7.16	1299		3.90	
	40	18.9	7.16	1302		3.90	

Well ID: CMT-7-3 Well Diameter 0.375" Column 38.22 ft

Well Depth 56.72 ft Depth to Water 18.5 ft

Casing Volume 18.7 oz 3 Casing Volumes 56.2 oz
(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

Time	~~Gallons~~ oz Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments
11:12	20	18.0	7.38	1495		5.65	HC odor
	40	18.1	7.31	1440		4.30	
	60	17.9	7.35	1460		4.10	

Cook Environmental Services, Inc.
1485 Treat Blvd., Suite 230A
Walnut Creek, CA 94597
(925) 478-8390

COOK ENVIRONMENTAL SERVICES
MONITORING WELL SAMPLING LOG

Site Name: Sunol Tree Gas Job # 1024

Date: 10/16/2010 Sampler: T. Cook/A. Venegas

Well ID: PZ-2-a Well Diameter 0.75" Column ~~27.83~~ 20.61 ft

Well Depth 29.0 ft Depth to Water ~~28.70~~ 8.39 ft

Casing Volume ~~91~~ 55.6 oz. 3 Casing Volumes ~~273~~ 166 oz.

(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

Time	~~Gallons~~ Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments
2:45	55	16.9	7.65	1410		4.50	
	110	18.0	7.43	1423		4.72	
	165	17.7	7.73	1435		4.80	

Well ID: PZ-2-b Well Diameter 0.75" Column ~~47.90~~ ft

Well Depth 48.77 ft Depth to Water ~~38.87~~ ft

Casing Volume ~~127.23~~ oz. 3 Casing Volumes ~~382~~ oz.

(0.375" well = col height * 0.49 oz/ft, 0.75" well = 2.7 oz/ft)

Purge Method: peristaltic pump Sample Method peristaltic pump

Time	Gallons Purged	Temp C	pH	SC (uS)	TDS (mg/L)	DO (mg/L)	Purge Comments

DEPTH TO WATER IN PEIZOMETERS

Well ID: PZ-1-a Depth to Water ~~10.10~~ ft Nut on well lid sheared off when tried to remove it

Well ID: PZ-1-b Depth to Water _____ ft

Well ID: PZ-3-a Depth to Water 10.14 ft

Well ID: PZ-3-b Depth to Water ? ft

Cook Environmental Services, Inc.
1485 Treat Blvd., Suite 230A
Walnut Creek, CA 94597
(925) 478-8390

APPENDIX D
Laboratory Analytical Reports

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Cook Environmental Services, Inc. 1485 Treat Blvd, Ste. 203A Walnut Creek, CA 94597	Client Project ID: #1024; Kahn Petroleum	Date Sampled: 10/16/10
		Date Received: 10/18/10
	Client Contact: Tim Cook	Date Reported: 10/21/10
	Client P.O.:	Date Completed: 10/21/10

WorkOrder: 1010472

October 21, 2010

Dear Tim:

Enclosed within are:

1) The results of the **13** analyzed samples from your project: **#1024; Kahn Petroleum,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

1010472

McCAMPBELL ANALYTICAL, INC.
1534 Willow Pass Rd.
Pittsburg, CA 94565
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ■ 5 DAY

EDF Required? Coelt (Normal) Yes Write On (DW) No

Report To: Tim Cook & ~~Frank Stott~~ Bill To:

Company: Cook Environmental Services, Inc.

1485 Treat Blvd, Suite 203A

Walnut Creek, CA 94597 E-Mail: tcook@cookenvironmental.com

Tele: (925) 478-8390 Fax: (925) 478-8394

Project #:1024 Project Name: Kahn Petroleum

Project Location: 3004 Andrade Road, Sunol, CA

Sampler Name & Signature: T. Cook/A. Venegas

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED ICE	HCL	HNO_3	Other	Analysis Request: TPH-g, BTEX & ~~Oxygs 8260~~ 8021	TPH as Diesel (8015) & TPHmo	EPA 8260 – Full Scan	8310 Pluse 2-methyl napthalene	EPA 601 / 8010 / 8021	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8081	EPA 608 / 8082 PCB's ONLY	EPA 8140 / 8141	EPA 8150 / 8151	EPA 8260 (9 oxys only)	EPA 525 / 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 200.9 / 6010)	Other: SPLC Leach	TTLC Leach	Comments
CMT-1-1		10/16/10		4	VOA	X						X			X										X								
CMT-1-2		10/16/10		4	VOA	X						X			X										X								
CMT-1-3		10/16/10		4	VOA	X						X			X										X								
CMT-3-1		10/16/10		4	VOA	X						X			X										X								
CMT-3-2		10/16/10		4	VOA	X						X			X										X								
CMT-3-3		10/16/10		4	VOA	X						X			X										X								
CMT-6-1		10/16/10	2-3*		VOA	X						X			X										X								OK MICRO EXTRACTION
CMT-6-2		10/16/10		4	VOA	X						X			X										X								
CMT-6-3		10/16/10		4	VOA	X						X			X										X								

Relinquished By:	Date:	Time:	Received By:
	10/16		
	10/18/10	1300	

ICE/t° 4.9 COMMENTS:

GOOD CONDITION__

HEAD SPACE ABSENT_____

DECHLORINATED IN LAB_____

APPROPRIATE CONTAINERS_____

PRESERVED IN LAB_____

PRESERVATION	VOAS	O&G	METALS pH<2	OTHER

McCAMPBELL ANALYTICAL, INC.
1534 Willow Pass Rd.
Pittsburg, CA 94565
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ■ 5 DAY

EDF Required? Coelt (Normal) Yes Write On (DW) No

Report To: Tim Cook ~~& Frank Stott~~ Bill To:

Company: Cook Environmental Services, Inc.
1485 Treat Blvd, Suite 203A
Walnut Creek, CA 94597 E-Mail: tcook@cookenvironmental.com

Tele: (925) 478-8390 Fax: (925) 478-8394

Project #:1024 Project Name: Kahn Petroleum

Project Location: 3004 Andrade Road, Sunol, CA

Sampler Name & Signature: T. Cook/A. Venegas

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	Analysis Request: TPH-g, BTEX ~~& Oxys by 8260~~ 8021	TPH as Diesel (8015) & TPHmo	EPA 8260 – Full Scan	8310 Pluse 2-methyl napthalene	EPA 601 / 8010 / 8021	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8081	EPA 608 / 8082 PCB's ONLY	EPA 8140 / 8141	EPA 8150 / 8151	EPA 8260 9 oxys only	EPA 525 / 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 200.9 / 6010)	Other: SPLC Leach	Other: TTLC Leach	Comments
CMT-7-1		10/16/10		4	VOA	X						X			X										X								
CMT-7-2		10/16/10		4	VOA	X						X			X										X								
CMT-7-3		10/16/10		4	VOA	X						X			X										X								
~~CMT-10-1~~		~~10/16/10~~		~~4~~	~~VOA~~	~~X~~						~~X~~			~~X~~																		
~~CMT-10-2~~		~~10/16/10~~		~~4~~	~~VOA~~	~~X~~						~~X~~			~~X~~																		
~~CMT-10-3~~		~~10/16/10~~		~~4~~	~~VOA~~	~~X~~						~~X~~			~~X~~																		
PZ-2-a		10/16/10		4	VOA	X						X			X										X								
~~PZ-2-b~~		~~10/16/10~~																															

Relinquished By:	Date:	Time:	Received By:
	10/10		
	10/18	1300	

ICE/t°_____ COMMENTS:
GOOD CONDITION__
HEAD SPACE ABSENT_____
DECHLORINATED IN LAB_____
APPROPRIATE CONTAINERS_____
PRESERVED IN LAB_____

	VOAS	O&G	METALS	OTHER
PRESERVATION			pH<2	

Filter Samples for Metals analysis: Yes / No

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1010472 **ClientCode: CESW**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Tim Cook
Cook Environmental Services, Inc.
1485 Treat Blvd, Ste. 203A
Walnut Creek, CA 94597
925-937-1759 FAX 925-937-1759

Email: tcook@cookenvironmental.com
cc:
PO:
ProjectNo: #1024; Kahn Petroleum

Bill to:
Tim Cook
Cook Environmental Services, Inc.
1485 Treat Blvd, Ste. 203A
Walnut Creek, CA 94597

Requested TAT: 5 days

Date Received: **10/18/2010**
Date Printed: **10/18/2010**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1010472-001	CMT-1-1	Water	10/16/2010	☐	B	A	A									
1010472-002	CMT-1-2	Water	10/16/2010	☐	B	A										
1010472-003	CMT-1-3	Water	10/16/2010	☐	B	A										
1010472-004	CMT-3-1	Water	10/16/2010	☐	B	A										
1010472-005	CMT-3-2	Water	10/16/2010	☐	B	A										
1010472-006	CMT-3-3	Water	10/16/2010	☐	B	A										
1010472-007	CMT-6-1	Water	10/16/2010	☐	B	A										
1010472-008	CMT-6-2	Water	10/16/2010	☐	B	A										
1010472-009	CMT-6-3	Water	10/16/2010	☐	B	A										
1010472-010	CMT-7-1	Water	10/16/2010	☐	B	A										
1010472-011	CMT-7-2	Water	10/16/2010	☐	B	A										
1010472-012	CMT-7-3	Water	10/16/2010	☐	B	A										
1010472-013	PZ-2-a	Water	10/16/2010	☐	B	A										

Test Legend:

1	9-OXYS_W	2	G-MBTEX_W	3	PREDF REPORT	4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **Cook Environmental Services, Inc.**
Date and Time Received: **10/18/2010 2:08:40 PM**

Project Name: **#1024; Kahn Petroleum**
Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **1010472** Matrix Water
Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 4.9°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Cook Environmental Services, Inc.	Client Project ID: #1024; Kahn Petroleum	Date Sampled: 10/16/10
		Date Received: 10/18/10
1485 Treat Blvd, Ste. 203A	Client Contact: Tim Cook	Date Extracted: 10/20/10-10/21/10
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed: 10/20/10-10/21/10

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 1010472

Lab ID	1010472-001B	1010472-002B	1010472-003B	1010472-004B	Reporting Limit for DF =1	
Client ID	CMT-1-1	CMT-1-2	CMT-1-3	CMT-3-1		
Matrix	W	W	W	W		
DF	1	1	1	1	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND	ND	ND	NA	0.5
t-Butyl alcohol (TBA)	12	ND	ND	3.1	NA	2.0
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND	NA	0.5
Diisopropyl ether (DIPE)	ND	ND	ND	ND	NA	0.5
Ethanol	ND	ND	ND	ND	NA	50
Ethyl tert-butyl ether (ETBE)	ND	ND	ND	ND	NA	0.5
Methanol	ND	ND	ND	ND	NA	500
Methyl-t-butyl ether (MTBE)	ND	14	ND	ND	NA	0.5
Surrogate Recoveries (%)						
%SS1:	106	104	100	101		
Comments	b1					

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

b1) aqueous sample that contains greater than ~1 vol. % sediment

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Cook Environmental Services, Inc.	Client Project ID: #1024; Kahn Petroleum	Date Sampled: 10/16/10
		Date Received: 10/18/10
1485 Treat Blvd, Ste. 203A	Client Contact: Tim Cook	Date Extracted: 10/20/10-10/21/10
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed: 10/20/10-10/21/10

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 1010472

Lab ID	1010472-005B	1010472-006B	1010472-007B	1010472-008B	Reporting Limit for DF =1	
Client ID	CMT-3-2	CMT-3-3	CMT-6-1	CMT-6-2		
Matrix	W	W	W	W		
DF	1	1	3.3	1	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND	ND<1.7	ND	NA	0.5
t-Butyl alcohol (TBA)	2.8	ND	16	2.3	NA	2.0
1,2-Dibromoethane (EDB)	ND	ND	ND<1.7	ND	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND<1.7	ND	NA	0.5
Diisopropyl ether (DIPE)	ND	ND	ND<1.7	ND	NA	0.5
Ethanol	ND	ND	ND<170	ND	NA	50
Ethyl tert-butyl ether (ETBE)	ND	ND	ND<1.7	ND	NA	0.5
Methanol	ND	ND	ND<1700	ND	NA	500
Methyl-t-butyl ether (MTBE)	23	ND	95	28	NA	0.5
Surrogate Recoveries (%)						
%SS1:	100	99	99	99		
Comments						

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

b1) aqueous sample that contains greater than ~1 vol. % sediment

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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Cook Environmental Services, Inc.	Client Project ID: #1024; Kahn Petroleum	Date Sampled: 10/16/10
		Date Received: 10/18/10
1485 Treat Blvd, Ste. 203A	Client Contact: Tim Cook	Date Extracted: 10/20/10-10/21/10
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed: 10/20/10-10/21/10

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 1010472

Lab ID	1010472-009B	1010472-010B	1010472-011B	1010472-012B	Reporting Limit for DF =1	
Client ID	CMT-6-3	CMT-7-1	CMT-7-2	CMT-7-3		
Matrix	W	W	W	W		
DF	1	1	10	1	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND	ND<5.0	ND	NA	0.5
t-Butyl alcohol (TBA)	ND	2.6	ND<20	ND	NA	2.0
1,2-Dibromoethane (EDB)	ND	ND	ND<5.0	ND	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND<5.0	ND	NA	0.5
Diisopropyl ether (DIPE)	ND	ND	ND<5.0	ND	NA	0.5
Ethanol	ND	ND	ND<500	ND	NA	50
Ethyl tert-butyl ether (ETBE)	ND	ND	ND<5.0	ND	NA	0.5
Methanol	ND	ND	ND<5000	ND	NA	500
Methyl-t-butyl ether (MTBE)	20	11	180	ND	NA	0.5
Surrogate Recoveries (%)						
%SS1:	100	101	100	101		
Comments						

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

b1) aqueous sample that contains greater than ~1 vol. % sediment

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Cook Environmental Services, Inc.	Client Project ID: #1024; Kahn Petroleum	Date Sampled: 10/16/10
		Date Received: 10/18/10
1485 Treat Blvd, Ste. 203A	Client Contact: Tim Cook	Date Extracted: 10/20/10-10/21/10
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed: 10/20/10-10/21/10

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 1010472

					Reporting Limit for DF =1	
Lab ID	1010472-013B					
Client ID	PZ-2-a					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND				NA	0.5
t-Butyl alcohol (TBA)	3.0				NA	2.0
1,2-Dibromoethane (EDB)	ND				NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND				NA	0.5
Diisopropyl ether (DIPE)	ND				NA	0.5
Ethanol	ND				NA	50
Ethyl tert-butyl ether (ETBE)	ND				NA	0.5
Methanol	ND				NA	500
Methyl-t-butyl ether (MTBE)	18				NA	0.5
Surrogate Recoveries (%)						
%SS1:	102					
Comments						

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

b1) aqueous sample that contains greater than ~1 vol. % sediment

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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Cook Environmental Services, Inc.	Client Project ID: #1024; Kahn Petroleum	Date Sampled: 10/16/10
		Date Received: 10/18/10
1485 Treat Blvd, Ste. 203A	Client Contact: Tim Cook	Date Extracted: 10/18/10-10/19/10
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed: 10/18/10-10/19/10

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1010472

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	CMT-1-1	W	ND	---	ND	ND	ND	ND	1	104	b1
002A	CMT-1-2	W	ND	---	ND	ND	ND	ND	1	106	
003A	CMT-1-3	W	ND	---	ND	ND	ND	ND	1	97	
004A	CMT-3-1	W	ND	---	ND	ND	ND	ND	1	97	
005A	CMT-3-2	W	ND	---	ND	ND	ND	ND	1	98	
006A	CMT-3-3	W	ND	---	ND	ND	ND	ND	1	98	
007A	CMT-6-1	W	ND	---	ND	ND	ND	ND	1	100	
008A	CMT-6-2	W	ND	---	ND	ND	ND	ND	1	98	
009A	CMT-6-3	W	ND	---	ND	ND	ND	ND	1	99	
010A	CMT-7-1	W	ND	---	ND	ND	ND	ND	1	100	
011A	CMT-7-2	W	ND	---	ND	ND	ND	ND	1	100	
012A	CMT-7-3	W	ND	---	ND	ND	ND	ND	1	99	
013A	PZ-2-a	W	ND	---	ND	ND	ND	ND	1	100	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

%SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

b1) aqueous sample that contains greater than ~1 vol. % sediment

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Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 53877 WorkOrder 1010472

EPA Method SW8260B **Extraction SW5030B** **Spiked Sample ID: 1010468-006b**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	10	92.1	90.4	1.79	94.9	96.7	1.88	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	80.1	79.1	1.35	87.7	97.1	10.2	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	90	89.1	1.02	95.4	95.2	0.259	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	99.4	99	0.371	107	105	2.12	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	115	113	1.63	120	120	0	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	97.5	96.1	1.39	102	102	0	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	107	105	1.69	111	112	1.33	70 - 130	30	70 - 130	30
%SS1:	88	25	94	94	0	96	96	0	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 53877 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1010472-001B	10/16/10	10/20/10	10/20/10 12:15 AM	1010472-002B	10/16/10	10/20/10	10/20/10 12:54 AM
1010472-003B	10/16/10	10/20/10	10/20/10 1:32 AM	1010472-004B	10/16/10	10/20/10	10/20/10 2:11 AM
1010472-005B	10/16/10	10/20/10	10/20/10 2:50 AM	1010472-006B	10/16/10	10/20/10	10/20/10 3:29 AM
1010472-007B	10/16/10	10/20/10	10/20/10 4:08 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 53879 WorkOrder 1010472

EPA Method SW8260B **Extraction SW5030B** **Spiked Sample ID: 1010472-012B**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	10	82.4	83.1	0.820	99.4	112	11.9	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	75.3	78.7	4.20	90.1	86.2	4.43	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	96	97	1.03	110	110	0	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	103	100	2.57	109	103	5.95	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	108	107	1.36	121	118	2.68	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	97.4	96.9	0.528	102	99.3	2.71	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	104	105	0.590	121	122	0.664	70 - 130	30	70 - 130	30
%SS1:	101	25	93	92	1.11	99	95	4.25	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 53879 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1010472-008B	10/16/10	10/20/10	10/20/10 4:47 AM	1010472-009B	10/16/10	10/20/10	10/20/10 5:25 AM
1010472-010B	10/16/10	10/20/10	10/20/10 2:52 PM	1010472-011B	10/16/10	10/20/10	10/20/10 11:50 PM
1010472-012B	10/16/10	10/20/10	10/20/10 6:04 PM	1010472-013B	10/16/10	10/21/10	10/21/10 1:07 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 53869 WorkOrder 1010472

EPA Method SW8021B/8015Bm **Extraction SW5030B** **Spiked Sample ID: 1010468-006A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	94.4	93.4	1.11	93.1	93.7	0.710	70 - 130	20	70 - 130	20
MTBE	ND	10	109	109	0	111	119	6.91	70 - 130	20	70 - 130	20
Benzene	ND	10	110	105	4.03	106	109	2.41	70 - 130	20	70 - 130	20
Toluene	ND	10	100	94.6	5.66	95.6	98.1	2.65	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	99.7	94.2	5.65	96.8	97.7	0.976	70 - 130	20	70 - 130	20
Xylenes	ND	30	114	107	6.27	110	112	1.78	70 - 130	20	70 - 130	20
%SS:	104	10	103	100	2.83	100	99	0.671	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 53869 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1010472-001A	10/16/10	10/19/10	10/19/10 7:23 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 53878 WorkOrder 1010472

EPA Method SW8021B/8015Bm **Extraction SW5030B** **Spiked Sample ID: 1010472-012A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	91.1	105	13.7	92.9	81.9	12.5	70 - 130	20	70 - 130	20
MTBE	ND	10	110	115	4.20	114	117	2.17	70 - 130	20	70 - 130	20
Benzene	ND	10	103	107	4.14	111	111	0	70 - 130	20	70 - 130	20
Toluene	ND	10	92.5	103	10.4	99.9	101	0.664	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	92.5	96	3.69	99.1	98.7	0.377	70 - 130	20	70 - 130	20
Xylenes	ND	30	105	109	4.03	111	112	0.505	70 - 130	20	70 - 130	20
%SS:	99	10	100	106	6.09	106	105	0.818	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 53878 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1010472-002A	10/16/10	10/19/10	10/19/10 7:53 AM	1010472-003A	10/16/10	10/18/10	10/18/10 8:42 PM
1010472-004A	10/16/10	10/18/10	10/18/10 9:15 PM	1010472-005A	10/16/10	10/18/10	10/18/10 9:47 PM
1010472-006A	10/16/10	10/18/10	10/18/10 10:19 PM	1010472-007A	10/16/10	10/18/10	10/18/10 10:50 PM
1010472-008A	10/16/10	10/18/10	10/18/10 11:22 PM	1010472-009A	10/16/10	10/18/10	10/18/10 11:54 PM
1010472-010A	10/16/10	10/19/10	10/19/10 12:26 AM	1010472-011A	10/16/10	10/19/10	10/19/10 4:05 AM
1010472-012A	10/16/10	10/19/10	10/19/10 5:07 AM	1010472-013A	10/16/10	10/19/10	10/19/10 5:39 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

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