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Attorneys for Petitioner
TBS Petroleum, LLC

STATE WATER RESOURCES CONTROL BOARD

In re: ORDER TO SUBMIT INFORMATION PURSUANT TO CALIFORNIA WATER CODE SECTION 13267, ANTERS SHELL/SUBWAY, 20884 ANTLERS ROAD, LAKEHEAD, SHASTA COUNTY, CASE NO. 450336	No. _____ PETITION FOR REVIEW (Request to be Held in Abeyance)

In accordance with Water Code Section 13320(a) and Title 23, California Code of Regulations ("C.C.R.") §§ 2050-2068, Petitioner TBS Petroleum, LLC ("TBS") respectfully submits this Petition for Review of Order to Submit Information Pursuant to California Water Code Section 13267, Antlers Shell/Subway, 20884 Antlers Road, Lakehead, Shasta County ("Order"), attached hereto as Exhibit A, issued on April 27, 2010, by the California Regional Water Quality Control Board, Central Valley Region ("Regional Board"). Pursuant to 23 C.C.R. § 2050.5(d), TBS requests that this Petition be held in abeyance temporarily to provide an opportunity for resolution of its concerns, in cooperation with the Regional Board, regarding the Order.

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Each of the items of information required by 23 C.C.R. §2050(a) is set forth below:

1. Name and Address of Petitioner

TBS Petroleum, LLC
4544 Mountain Lakes Road
Redding, CA 96003
Attn: Tony Ackernecht
Telephone: (530) 247-1599

2. Specific Action to be Reviewed

Issuance of the Order to TBS.

3. Date of the Regional Board Action

April 27, 2010

4. Statement of Reasons

The Regional Board improperly designated TBS as a co-primary responsible party on the Order. (The other primary responsible parties are Bob Davis and Cheryl Davis ("Davis")). TBS is the current owner of the subject property, but Davis, as the prior owner, caused the release of the primary pollutant of concern, Methyl-tert Butyl Ether ("MtBE") during its ownership of the property. During its ownership of the property, TBS has not knowingly exacerbated the impact of the pre-existing MtBE contamination. TBS has requested that this Petition be held in abeyance and reserved the right to supplement the Petition with a more detailed statement of reasons at the appropriate time.

5. Manner in Which Petitioner is Aggrieved

See Paragraph 4 above. Petitioner is aggrieved because the Order imposes obligations on TBS even though TBS is not responsible for the contamination upon which the Order is based. Petitioner reserves the right to supplement this Petition to provide a more detailed statement of the manner in which it is aggrieved at the appropriate time.

6. Specific Action Requested

Petitioner requests that the State Board either remove Petitioner TBS as a responsible party or re-designate TBS as a secondary responsible party with respect the requirements of the Order, and requirements flowing from the Order, with respect to the MtBE contamination at, on,

under or migrating from the subject property, or direct the Regional Board to do the same.

7. Statement of Points and Authorities

Petitioner has requested that the Petition be held in abeyance and reserves the right to supplement the Petition with a detailed statement of points and authorities at the appropriate time.

8. Regional Board Notification

A copy of this Petition has been sent to the Regional Board and to Davis.

9. Statement Regarding Substantive Issues or Objections

The Order was issued without notice or hearing by the Regional Board. Petitioner has, however, provided to the Regional Board the *Report of Findings: Initial Subsurface Investigation, Antlers Shell Subway*, LACO Associates (March 4, 2009), and *Supplemental Information: Initial Subsurface Investigation, Antlers Shell Subway*, LACO Associates (April 27, 2009), and in discussions with Regional Board staff, and by letter, has requested, based on the facts and findings concerning Davis' sole responsibility for the MtBE contamination associated with the property, that the Regional Board revise its Order to reclassify Petitioner's responsible party status.

10. Record and List of Interested Persons.

Petitioner has requested that the Petition by held in abeyance and reserves the right to request that the Regional Board prepare the record and a list of persons known to have an interest in the subject matter of the Petition.

WHEREFORE, Petitioner requests that this matter be held in abeyance until further notice, and reserves the right to request a hearing to present evidence and authorities that were not available to, or to be considered by, the Regional Board.

Respectfully submitted,

BARG COFFIN LEWIS & TRAPP, LLP

Dated: May 21, 2010

By: _____

JOSHUA A. BLOOM

Attorneys for Petitioner TBS Petroleum, LLC

BARG COFFIN LEWIS & TRAPP ATTORNEYS LLP

Linda S. Adams
Secretary for Environmental Protection

California Regional Water Quality Control Board
Central Valley Region
Katherine Hart, Chair

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Arnold Schwarzenegger
Governor

27 April 2010

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Tony Ackernecht
TBS Petroleum, LLC
4544 Mountain Lakes Blvd.
Redding, CA 96003

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Bob Davis and Cheryl Davis
20291 Lakeview Drive
Redding, CA 96002

ORDER TO SUBMIT INFORMATION PURSUANT TO CALIFORNIA WATER CODE SECTION 13267, ANTLERS SHELL/SUBWAY, 20884 ANTLERS ROAD, LAKEHEAD, SHASTA COUNTY

Central Valley Regional Water Quality Control Board staff has reviewed the subject case file. Based on the file, a polluted on-site domestic well services a restaurant. Well-head treatment may not adequately protect the public from petroleum pollutants, for example Methyl tert Butyl Ether. The well may also act as a vertical pollution conduit between colluvium and underlying fractured bedrock. Pollution could extend off-site and potentially threatens other domestic wells; see the attached technical memorandum. TBS Petroleum (TBS) and Mr. and Mrs. Bob Davis (Davis) have been named as responsible parties because they allowed release of pollutants, have knowledge of the ongoing discharge, and have the ability to control it.

CALIFORNIA WATER CODE SECTION 13267 ORDER

TBS and Davis are jointly required to submit to our office **immediately** a work plan to further mitigate post-treatment pollution from the on-site domestic well, with a time schedule for implementation **no later than 27 May 2010**.

TBS and Davis are also jointly required to submit to our office **by 1 July 2010** a work plan that generally includes the following:

- Further site investigation of pollutant flow paths through colluvium and fractured bedrock sufficient to evaluate the on-site domestic well as pollution conduit, correlate with identified pollution in off-site receptor wells, and define pollution extent.
- A time schedule for implementation with fieldwork completed **no later than 29 October 2010** and appropriate report of findings with recommendations for further work **by 17 December 2010.**

This order to submit technical reports is made pursuant to CWC Section 13267. CWC Section 13267(b) authorizes the Regional Water Board to require any person who has discharged waste to submit technical reports as may be required to investigate discharges of

waste. The report is needed to determine the extent of pollution and to develop corrective actions protective of public health, the environment, and water quality. The document listed above describes the evidence that shows that the persons named in this letter own the site on which waste has been discharged, and/or caused or permitted the discharges of waste at the site, and therefore are responsible for cleanup.

Failure to comply with this order or other Regional Water Board orders may result in enforcement actions, including preparation of a cleanup and abatement order and penalties. Failure or refusal to furnish the technical report required by Section 13267(b) may result in administrative civil liability not to exceed one thousand dollars ($1,000) for each day it is late pursuant to CWC Section 13268 or additional enforcement pursuant to CWC Section 13308, or both.

Please contact Grant Stein of my staff at 530-224-4788 to discuss any comments or questions you may have regarding this matter.

Robert A. Crandall

ROBERT A. CRANDALL
Assistant Executive Officer

GCS: knr

Enclosure: Technical Memo

cc with enclosure:

Pamela Creedon, Regional Water Quality Control Board, Rancho Cordova
Mark Cramer, Shasta County Department of Resource Management, Redding
Chris Watt, LACO Associates, Eureka
John Aveggio, SHN Consultants, Eureka

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Linda S. Adams
Secretary for Environmental Protection

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Arnold Schwarzenegger
Governor

7031.02

Air Rpt Lr:

TO: Eric Rapport, C.HG., C.E.G.
Acting Lead
Groundwater Unit

FROM: Grant Stein, P.G.
Engineering Geologist
Groundwater Unit

DATE: 27 April 2010

SIGNATURE: _____

SUBJECT: CASE FILE REVIEW, ANTLERS SHELL, 20884 ANTLERS ROAD, LAKEHEAD, SHASTA COUNTY, CASE# 450336

Introduction

Antlers Shell is an active fueling station, food mart, and restaurant in Lakehead. Due to identified Methyl tert-Butyl Ether (MtBE) in an on-site domestic supply well, Shasta County Department of Environmental Health (SCDEH) recently requested the Central Valley Regional Water Quality Control Board (Central Valley Water Board, CVRWQCB) become lead agency for the Underground Storage Tank (UST) case. The impacted receptor well, a potential vertical pollution conduit, likely warrants formal enforcement. Current and former property owners are in contention about timing and source of the MtBE. Prior to formal enforcement and/or drafting a Cleanup and Abatement Order, I have reviewed in detail relevant findings, and analyzed data. My findings are summarized below.

Site History

Shell Oil Company constructed the Antlers Shell Gas Station in 1972. In 1983, Shell transferred ownership to Frank Bailey, who owned the station until 1990. In 1990 Bailey transferred ownership to Bob and Cheryl Davis (Davis). In 1997, Shasta County Environmental Health Department (SCEHD) permitted the replacement of the station's USTs. Davis removed the original single walled tanks and replaced them with new double walled tanks. During removal/replacement operations SCEHD directed soil sample collection following the UST and piping removal. On 16 December 1997, SCEHD issued Davis a no further action required (NFAR) letter to close the UST removal file.

On 14 July 2003, SCEHD inspected the onsite non-community public supply well, which supplies water to the gas station, mini-mart, and restaurant. To protect public health, SCEHD required Davis to install a disinfection system and to add volatile organic chemicals (VOCs), including MtBE, to the sampling schedule. Initial testing on 8 January 2004 showed chloroform at 50 micrograms per liter (µg/L), bromodichloromethane at 3.2 µg/L, and trihalomethanes at 54 µg/L. As water at the site is disinfected with ultraviolet light and not chlorination, it is likely those detections were laboratory artifacts. Other analyzed VOCs, including MTBE, were below laboratory reporting limits.

On 20 April 2005, Davis granted site ownership to TBS Petroleum, LLC (TBS). TBS is the current owner and operator of the site.

On 8 August 2007, during routine sampling under the direction of SCDEH, a water sample from the supply well collected by CR Water Treatment contained 14.9 µg/L of MtBE. Shortly thereafter, at the request of SCDEH, TBS installed a granulated carbon filter on the site supply well. On 8 August 2007 SCDEH reopened the UST case.

On 4 March 2008, SCEHD transferred lead agency responsibility for the UST case to the Central Valley Water Board. On 25 July 2008, Central Valley Water Board staff requested TBS and Davis jointly submit a Preliminary Site Assessment Work Plan to determine the pollution extent and a survey of sensitive receptors affected or threatened by the release. On 17 November 2008, Central Valley Water Board staff approved the *Letter Workplan; Boring Installation Antlers Shell-Subway* submitted by LACO Associates on behalf of TBS.

On 4 March 2009, LACO, on behalf of TBS, submitted *Report of Findings: Initial Subsurface Investigation, Antlers Shell Subway.* This report included a limited subsurface investigation and a sensitive receptor survey. The LACO report concluded that the source of MtBE impacts to soil and groundwater at the site was likely the result of a pre-1997 release and subsequent release(s) between 1997 and 2004. On 27 April 2009, LACO submitted *Supplemental Information: Initial Subsurface Investigation, Antlers Shell Subway.* This submittal included summaries of UST system inspections/upgrades at the site and results of additional domestic well sampling of the on-site water system and off-site wells.

On 17 November 2009, SHN Consulting Engineers and Geologists, on behalf of Davis, submitted a letter entitled, *Subsurface Water Leak, Antlers Shell/Subway.* In this letter, SHN alleged that in 2007 a broken water line in the area of the tank pit exacerbated/mobilized residual subsurface pollution from the tank pit into the groundwater at the site.

Pollution Data

On 21 October 1997, SCDEH directed Davis to collect soil samples during removal and replacement of the USTs and piping. Davis collected eight samples from the bottom of the tank cavity and excavated tank cavity soil, and four from the below the dispenser island. . The laboratory analyzed soils for TPHg, TPHd, Benzene, Toluene, Exthylbenzene, Total Xylene, and MtBE. Two of the tank cavity samples showed MtBE with a maximum of 0.085 milligrams/kilogram (mg/kg) and one of the tank cavity samples showed total Xylenes at 0.018 mg/kg. One dispenser island sample had MtBE at 0.030 mg/kg and three of the dispenser island samples had Toluene with a maximum of 0.013 mg/kg.

On 8 January 2004, at the request of SCDEH, Davis began testing the onsite domestic well for VOCs, including MtBE. Initial and subsequent quarterly sampling of the domestic well showed no MtBE detections. On 8 August 2007, TBS sampled the domestic well and found 14.9 µg/L MtBE. Confirmation samples contained concentrations as high as 18.4 µg/L. SCDEH requested installation of a well head granular activated carbon filter to treat the well raw water and requested monthly sampling of both the treated and raw water. Subsequent sampling of the well raw water has shown chronic levels of MtBE as high as 36 µg/L. MtBE breakthrough of the granular carbon filters appears to have occurred on more than one occasion, as MtBE has been detected in several post-treatment samples. EPA Method 524.2 was used to analyze all MtBE samples from the on-site well.

In January 2009, LACO, on behalf of TBS, conducted a preliminary site investigation. LACO drilled eight direct-push borings to sample soil and groundwater. Attachment 1 includes analytical data from the LACO report.. LACO identified several petroleum constituents in soil and groundwater including TPHg, Benzene, Toluene, Ethylbenzene, Xylenes, MtBE, TBA, Ethanol, and TAME. Maximum MtBE in soil was about 1900 micrograms per kilogram (µg/kg), in groundwater, about 49,000 µg/L. Ethanol was detected in three samples during the January investigation; a groundwater sample from boring B-7, a domestic water sample from the restaurant, and an equipment rinse blank from boring B-4. In follow-up samples collected from the on-site water system, Ethanol was detected in 3 of 4 samples, but was not detected in the on-site well during either sampling event. I concur with LACO's interpretation that Ethanol detected in groundwater at B-7 is likely anomalous and/or laboratory error. However, the Ethanol detected within the onsite water system warrants further investigation. A shallow pollution source may exist between the onsite well (no detection) and the interior plumbing of the station (four detections).

LACO also performed a sensitive receptor survey, and found twelve domestic wells within 1,000 feet of the site. Subsequent sampling has shown two of these with petroleum pollution. On 22 January 2009, LACO sampled two of the closest identified wells, the Post Office well and a well at APN#83-340-09, located 200 feet south and 400 feet southeast of the site, respectively. LACO had samples analyzed for TPHg, BTEX and fuel oxygenates. The post office sample was non-detect for all analytes, however, the skating rink well sample contained 0.27 µg/L Benzene. On 1 March 2009 LACO re-sampled the skating rink and post-office wells, along with 5 previously un-sampled domestic wells. All samples were non-detect for constituents of concern with the exception of the domestic well located at APN#83-340-08, approximately 300 feet southeast of the site. The sample obtained from this well contained 0.13 µg/L MtBE. Insufficient data allows correlation of pollutant detections in off-site domestic wells to the subject waste discharge.

Analysis

According to the LACO report, subsurface geology consists of colluvium overlying relatively shallow, low-grade metamorphic rock. The colluvium is predominantly silty and clayey soils with varying amounts of sand and gravel. Based largely on boring refusal depths, colluvium likely overlies bedrock at approximately 31 feet below ground surface (bgs) on the western portion of the site, about 41 feet bgs on the eastern portion... Based on local outcrops, bedrock is likely the Mississippian Bragdon Formation, metamorphosed, thinly bedded shale, with interstratified siltstone, sandstone and conglomerate.

LACO also deduced subsurface geology from the well driller's report of the on-site domestic well. The well, installed in 1972, is 100 feet deep and perforated from 60 to 100 feet below ground surface (bgs), almost exclusively within reported blue shale (presumed Bragdon Formation). The driller encountered first water at 50 feet bgs, however static level after development was 30 feet bgs, indicating confined hydraulic conditions.

The regional groundwater gradient direction may be easterly to southeasterly based on predominantly east sloping local topography and groundwater elevation data from nearby former UST site, Jack's Market, located about ½ mile southwest of the site.

Data from the preliminary site investigation are limited, however I currently presume local east to northeast gradient direction. LACO drilled six pilot borings and encountered free water at approximately 20 to 26 feet bgs. LACO installed temporary well points into the borings by

setting PVC risers, with the bottom 5 feet of each riser slotted, and allowing groundwater levels to stabilize overnight. Depths to static water levels were measured the following day. Groundwater elevations rose to 12-14' bgs overnight, indicating hydraulic confinement of the water-bearing unit. LACO surveyed temporary well heads relative to an arbitrary elevation datum, measured static water levels, and estimated gradient direction; see Attachment 2, LACO's hydraulic head map. According to the report, the hydraulic gradient appears to be about 0.04, northeast to east, somewhat dissimilar to presumed regional flow. The onsite domestic well, at the northeast property corner, and infiltrating wastewater from an on-site leach field, at the southwest property corner, could locally influence local hydraulic heads. MtBE trends appear to support northeast groundwater flow. LACO plotted MtBE concentration on an iso-concentration map; see Attachment 3, LACO's map of MtBE in groundwater. Note that insufficient data now control contours south and east of the site.

To further evaluate pollutant transport direction, I calculated BTEX ratios for each discrete groundwater sample. This ratio is (Benzene + Toluene)/ (Ethylbenzene + Xylenes), and indicates relative weathering (Kaplan et. al. 1996). In general, high ratios, > 1, indicate relatively limited pollutant weathering. While data are limited, relatively highest ratios, least weathered pollutants, appear to extend northeast across the site, similar to presumed MtBE distributions; see Attachment 4, an interpretive contour map of BTEX ratios based on LACO's data.

Because BTEX ratios appear to support MtBE distributions, I ran a dispersion analytical (spreadsheet) model to assess MtBE transport in the colluvium. The model equation (Ogata 1970) predicts linear dispersion, e.g., along a plume centerline, from a continuous source.

$$C=C_o/2[\mathrm{erfc}((L-vt)/2(D_l t)^{0.5}) + \exp(vL/D_l)\mathrm{erfc}((L+vt)/2(D_l t)^{0.5}))]$$

where

C= concentration down-gradient over time,
C_o= initial concentration,
L= down-gradient plume length,
v= average linear groundwater velocity = Ki/n,
- K= hydraulic conductivity
- i= gradient
- n= effective porosity

t= time,
D_l= longitudinal coefficient of dispersion = $\alpha_l v + D^*$,
- α_l= dispersivity, often about 0.1L, highly scale dependant
- D*=molecular diffusion (neglected, assumed far overshadowed by dispersion).

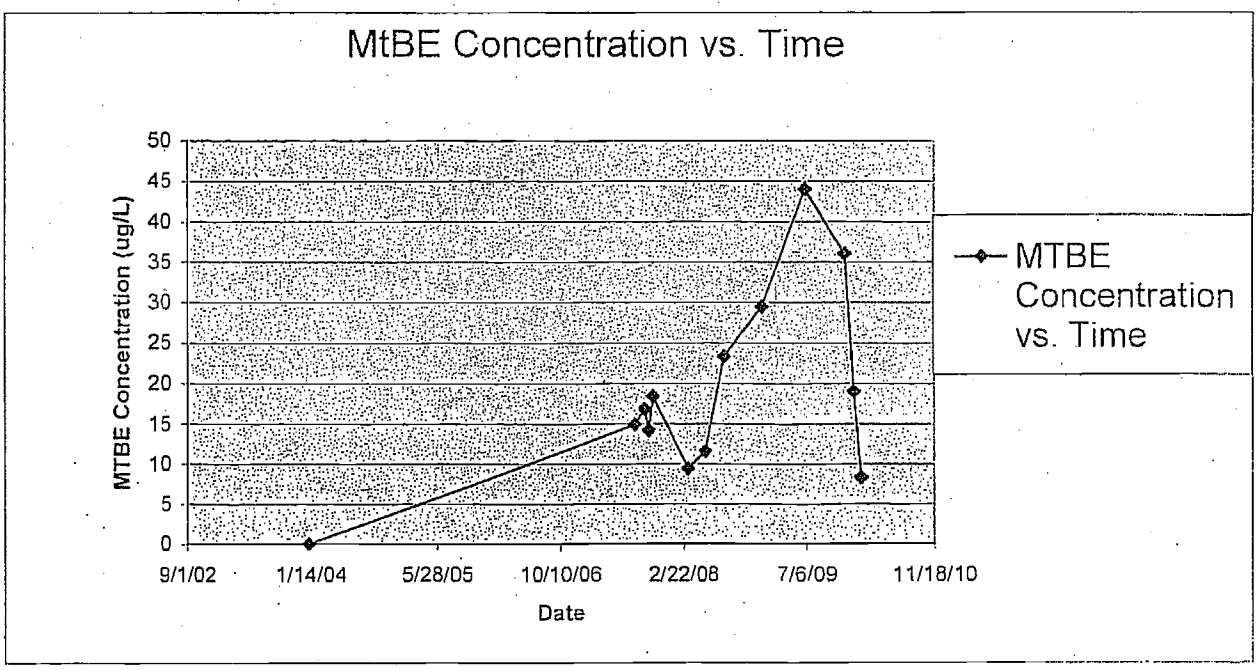
For C_o I selected a value of 49,000 µg/L, the maximum MtBE concentration observed in LACO's subsurface investigation. For L, down-gradient plume length, I used a value of 150 feet, the approximate distance from the tank pit to the onsite well. For K I selected a value of 0.10 ft/day, a typical representative value for silty soils. For i, I selected a value of 0.04, as estimated from LACO's potentiometric map. For n, I used 0.25, typical for silt. I varied time between 8 and 13 years because Davis first identified MtBE in soil in 1997. The following table summarizes results:

C_o µg/L	L (ft)	time (years)	K ft/day	gradient	n_{eff}	precdicted C (µg/L)
49000	150	8	0.1	0.04	0.25	0.000
49000	150	9	0.1	0.04	0.25	0.000
49000	150	10	0.1	0.04	0.25	2.802
49000	150	11	0.1	0.04	0.25	11.206
49000	150	12	0.1	0.04	0.25	36.420
49000	150	13	0.1	0.04	0.25	86.848

Preliminary dispersion estimates depend strongly on initial MtBE concentration, therefore I also used partitioning coefficients to estimate pore water MtBE from 1997 soil concentrations. Assuming no biodegration, a conservative fraction of organic carbon of 0.001 for colluvium, and 8.0 liters per kilogram (L/kg) for MtBE soil organic partitioning coefficient (Koc), and maximum MtBE in soil of 85 mg/kg (0.085 µg/kg), I estimated pore water concentration of MtBE of 1,130 µg/L, about two orders of magnitude lower than maximum MtBE found to date in groundwater. This indicates soil sampling during the tank removal may have under-represented maximum source concentrations. It also shows that 49,000 µg/L for C_0 is conservative based on current data. The above suggests that an MtBE release near the USTs, around 1997, dispersed continuously and began to reach the domestic well beginning about 10 years later.

The model is preliminary, useful strictly to support a site conceptual model, and subject to revision based on further data. However, predicted concentrations in the well are within range of those observed,.

I also plotted observed MtBE concentration results from the domestic well vs. time; results suggest time-discrete pollution in fractured bedrock, rather than a continuous source.



The plot shows a relatively abrupt increase of MtBE, followed by a recent decrease. Unlike data from borings and temporary wellpoints, this trend indicates a time-discrete pollution event. I have considered three potential explanations. The first is time-discrete MtBE slug dispersion into the well through bedrock fractures. While continuous source MtBE dispersion may occur in overlying colluvium, varying local hydraulic heads could further direct MtBE flow downward into fractures, for example during varying pumping rates, or source heads due to a broken water pipe. The second is native biodegradation, which could counter the effects of continuous MtBE dispersion through the well. The third is seasonal groundwater flow variations, more complex than a simple analytical model can account for.

Recommendations

The on-site domestic well appears to act as a vertical pollution conduit, from alluvium into underlying fractured bedrock. Also, insufficient data south and east of the site define pollution extent. Dilute pollutant detections in off-site domestic wells southeast may correlate to the site.

Therefore, I recommend further site investigation and expedited site cleanup. Due to the identified pollution from the on-site domestic well post-treatment, and potential threats to off-site receptors, this case is high profile and may warrant formal enforcement action.

Further site investigation should be sufficient to explain MtBE flow paths through colluvium and fractured bedrock, and into the on-site domestic well. Scope should be sufficient to evaluate the on-site well as a pollution conduit, and correlate the site to polluted off-site receptor wells.

References:

Kaplan, I.R., Y. Galperin, H. Alimi, R.P. Lee, and S.T. Lu 1996. "Patterns of chemical changes during environmental alteration of hydrocarbon fuels." Groundwater Monitoring and Review vol. 16 (4), pp 113-124.

Ogata, A. (1970). "Theory of Dispersion in a Granular Medium." U.S. Geological Survey Professional Paper 411-I.

Attachments:

Attachment 1, Tables D and E, Report of Findings: Initial Subsurface Investigation, LACO Associates, 2009

Attachment 2, Figure 4, Hydraulic Head Map, Report of Findings: Initial Subsurface Investigation, LACO Associates, 2009

Attachment 3, Figure 8, MTBE in Groundwater, Report of Findings: Initial Subsurface Investigation, LACO Associates, 2009

Attachment 4, BTEX Ratio Contour Map, CVRQCB Staff, 2010

GCS: knr

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Attachment 1

RESULTS OF SUBSURFACE INVESTIGATION

Soil Sampling Results

Laboratory analytical results for soil samples collected during the initial subsurface investigation are presented below in Table D. Historical laboratory analytical results for soil samples collected from the site are summarized in Table 1 and the current laboratory reports are included as Attachment 4.

Table D: Laboratory Analytical Results for Soil Samples

Sample ID	Depth (feet)	Date	TPHg (µg/g)	Benzene (µg/g)	Toluene (µg/g)	Ethyl-benzene (µg/g)	Total Xylenes (µg/g)	MTBE (µg/g)	TBA (µg/g)	TAME (µg/g)	Other Oxygenates (µg/g)
B1	5	1/19/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	9	1/19/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	15	1/19/2009	ND<1.0	ND<0.0050	ND<0.0050	0.011	0.013	0.017	0.012	ND<0.0050	ND<0.0050-0.20
	19	1/19/2009	ND<1.0	ND<0.0050	ND<0.0050	0.011	0.0091	0.14	0.061	ND<0.0050	ND<0.0050-0.20
	24	1/19/2009	ND<1.0	0.015	ND<0.0050	0.013	0.018	1.2	0.35 J	0.0073	ND<0.0050-0.20
	28	1/19/2009	1.2	0.091	ND<0.0050	0.1	0.12	1.9	0.42 J	0.011	ND<0.0050-0.25
B2	5	1/20/2008	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	0.19	ND<0.0050	ND<0.0050-0.25
	10	1/20/2008	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	0.015	0.11	ND<0.0050	ND<0.0050-0.25
	14	1/20/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	0.12	0.15	ND<0.0050	ND<0.0050-0.25
	20	1/20/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	0.33	0.28	ND<0.0050	ND<0.0050-0.25
	26	1/20/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	0.26	0.20	ND<0.0050	ND<0.0050-0.25
B3	5	1/20/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	10	1/20/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	14	1/20/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	20	1/20/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	0.0073	ND<0.0050	ND<0.0050-0.20
	26	1/20/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	0.028	0.054	ND<0.0050	ND<0.0050-0.20
B4	5	1/21/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	10	1/21/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	14	1/21/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	20	1/21/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	25	1/21/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
B5	5	1/21/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	10	1/21/2009	910	ND<0.050	ND<0.050	5.6	16	ND<0.050	ND<0.050	ND<0.050	ND<0.50-5.0
	14	1/21/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	20	1/21/2009	ND<1.0	ND<0.0050	ND<0.0050	0.029	0.12	0.028	0.011	ND<0.0050	ND<0.0050-0.20
	25	1/21/2009	2.1	0.017	0.0077	0.11	0.26	0.037	0.017	ND<0.0050	ND<0.0050-0.20
B6	5	1/22/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	10	1/22/2009	88	ND<0.0050	ND<0.0050	0.11	0.41	ND<0.0050	ND<0.025	ND<0.0050	ND<0.0050-0.20
	15	1/22/2009	1.6	ND<0.0050	0.043	0.024	0.23	0.027	0.014	ND<0.0050	ND<0.0050-0.20
	20	1/22/2009	1.5	ND<0.0050	0.092	0.033	0.28	0.048	0.020	ND<0.0050	ND<0.0050-0.20
B7	5	1/22/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	10	1/22/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	15	1/22/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050-0.20
B8	5	1/23/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	0.040	ND<0.0050	ND<0.0050	ND<0.0050-0.20
	10	1/23/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	0.25	0.59	ND<0.0050	ND<0.0050-0.20
	14	1/23/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	0.034	0.088	ND<0.0050	ND<0.0050-0.20
	20	1/23/2009	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	0.030	ND<0.0050	ND<0.0050-0.20

Groundwater Sampling Results

Laboratory analytical results for groundwater samples collected from borings B1 through B8 during the initial subsurface investigation are presented below in Table E. Current and historic

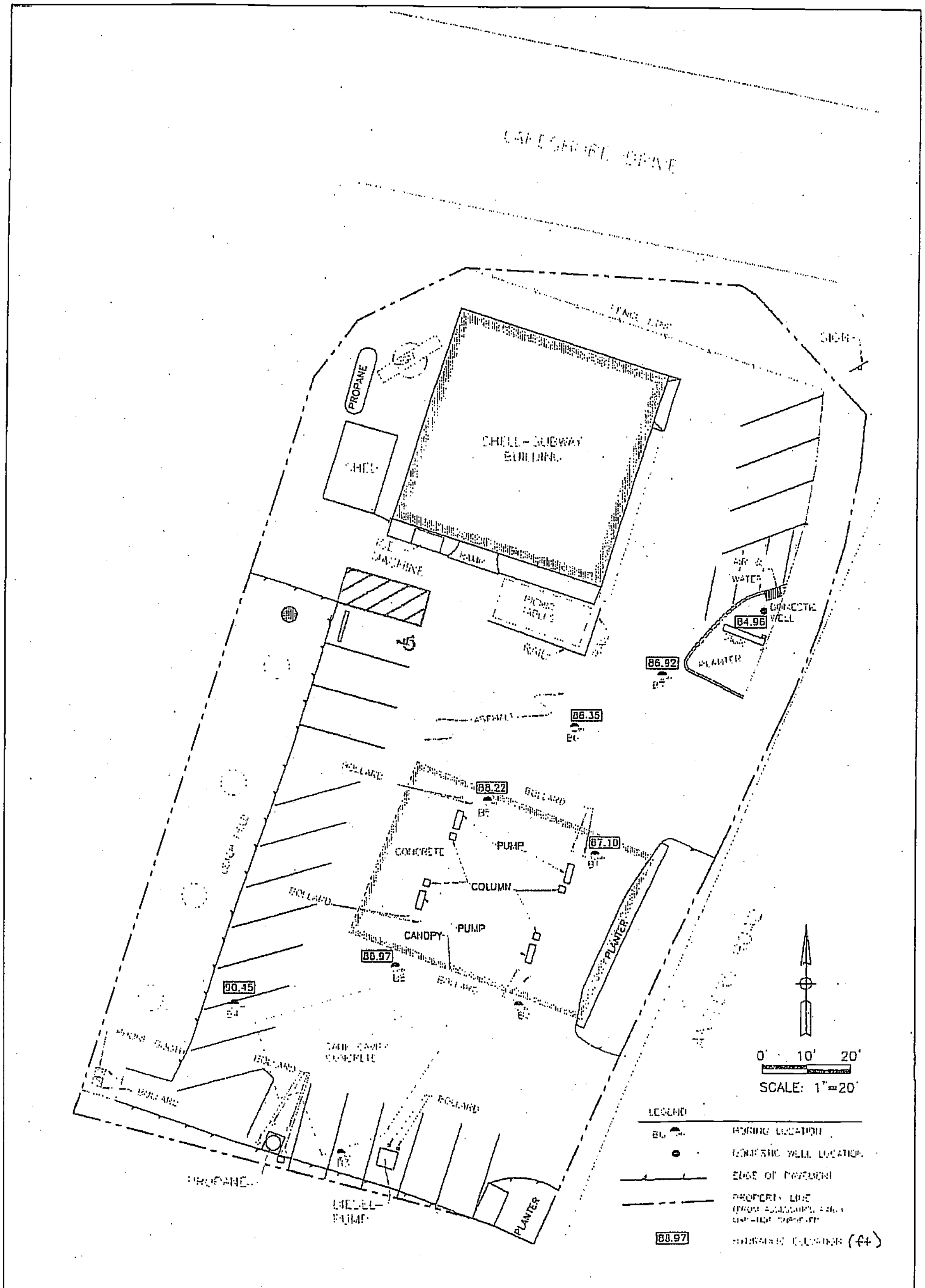
laboratory reports are included as Attachment 4.

Table E: Laboratory Analytical Results for Groundwater Samples												
Sample ID	Depth (feet bgs)	Date	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	Other Fuel Oxygenates (µg/L)	VOCs (µg/L)
B1	28	1/19/2009	10,000	1,700	35	1,100	1,200	14,000	2,100	69	ND<10-10,000	---
	37-41	1/19/2009	1,600	160	ND<5.0	21	30	2,900	400	7.9	ND<5.0-1,500	---
B2	26	1/20/2009	ND<900	14	ND<9.0	ND<9.0	ND<9.0	4,300	1,600	24	ND<9.0-4,000	---
	36-40	1/20/2009	ND<1,000	ND<10	ND<10	ND<10	ND<10	49,000	8,200	290	ND<10-40,000	---
B3	26	1/20/2009	120	16	ND<0.50	ND<0.50	ND<0.50	240	270	1.3	ND<0.5-200	---
	30-34	1/20/2009	ND<1,000	27	ND<10	ND<10	ND<10	26,000	5,000	140	ND<10-18,000	---
B4	25	1/21/2009	ND<50	4.3	ND<0.50	2.5	3.0	6.3	ND<5.0	ND<0.50	ND<0.50-50	---
	29-33	1/21/2009	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	8.9	6.7	ND<0.50	ND<0.50-50	---
B5	25	1/21/2009	4,800	60	22	140	290	200	69	2.8	ND<0.50-300	Isopropyl benzene = 4.4, n-Propylbenzene = 12, 1,3,5-Trimethylbenzene = 120, n-Butylbenzene = 0.98, Napthalene = 31, All others ND<0.50-20
	35-38	1/21/2009	13,000	680	270	660	2,300	1,200	160	12	ND<2.5-1,000	Isopropyl benzene = 32, n-Propylbenzene = 87, 1,3,5-Trimethylbenzene = 160, 1,2,4-Trimethylbenzene = 840 sec-Butylbenzene = 5.5 p-Isopropyltoluene = 3.1 n-Butylbenzene = 7.2, Napthalene = 140, All others ND<2.5-100
B6	25	1/22/2009	37,000	240	5,400	1,400	9,300	800	160	ND<10	ND<10-1,300	---
	36-40	1/22/2009	11,000	260	32	560	950	460	140	6.1	ND<1.5-500	---
B7	25	1/22/2009	330	1.7	1.2	ND<0.50	7.3	40	32	ND<0.50	Ethanol = 9.9 Others ND<0.50 80	---
	36-40	1/22/2009	320	ND<0.50	ND<0.50	6.7	ND<0.50	7.6	42	ND<0.50	ND<0.50-50	---
B8	25	1/23/2009	200	33	ND<1.5	ND<1.5	ND<1.5	740	720	3.8	ND<1.5-800	---
	30-34	1/23/2009	ND<1,000	ND<10	ND<10	ND<10	ND<10	14,000	2,800	79	ND<10-12,000	---

Domestic Well Sampling Results

Laboratory analytical results for the groundwater samples collected from domestic well DW1 and the neighboring domestic wells, DW-Post Office and DW-PC, are presented below in Table F. Historical laboratory analytical results for domestic well sampling are included as Table 2.

Attachment 2



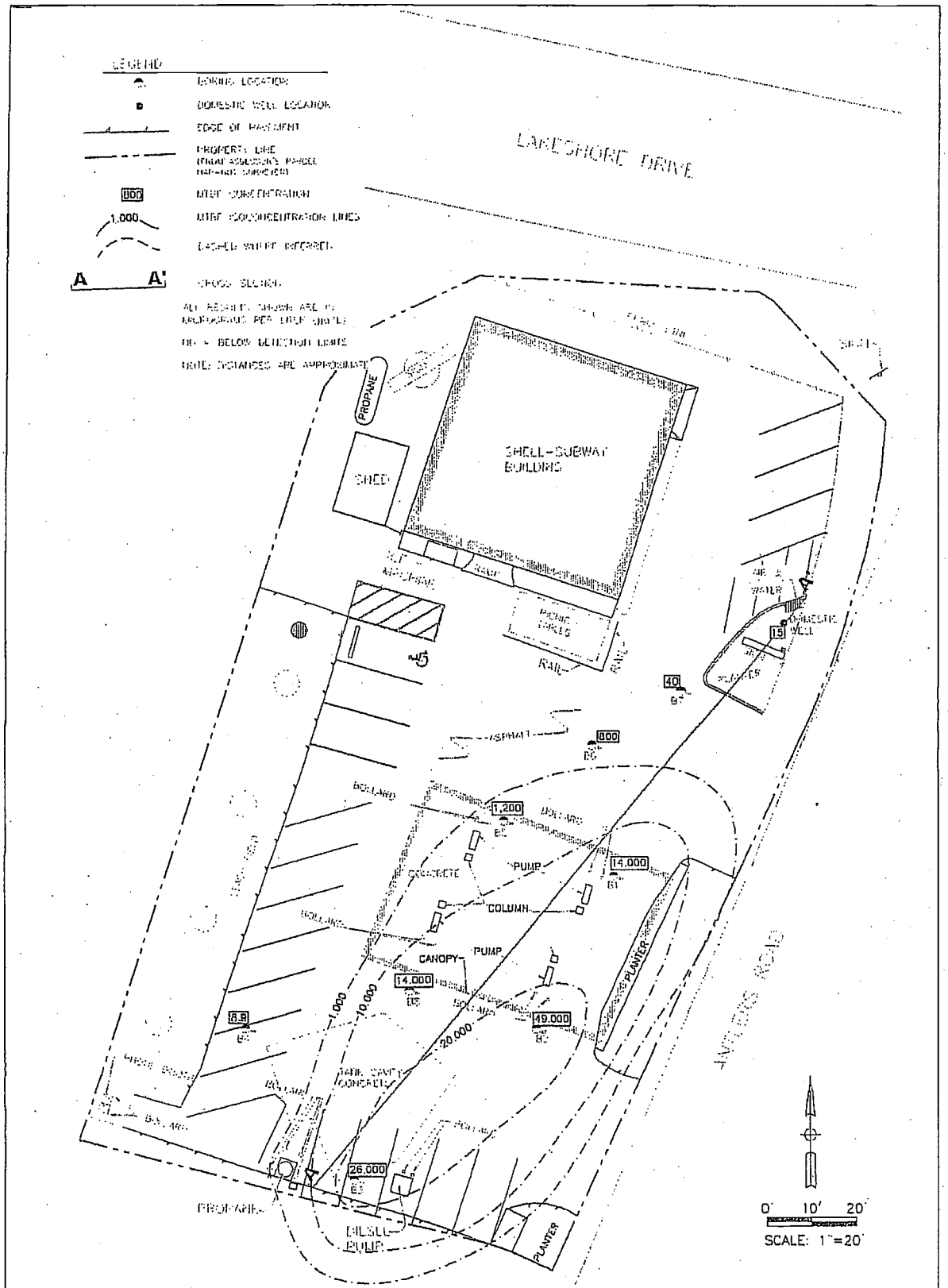
SCALE	1"=20'
DRAWN	RJM
DATE	2/11/05
JOB NO.	7031.00
SHEET	4

ANTLERS SHELL-SUBWAY
TBS PETROLEUM
HYDRAULIC HEAD ELEVATION MAP

ANTLERS
20004 ANTLERS ROAD, LAKEHEAD, CA

LACO ASSOCIATES
CONSULTING ENGINEERS

Attachment 3



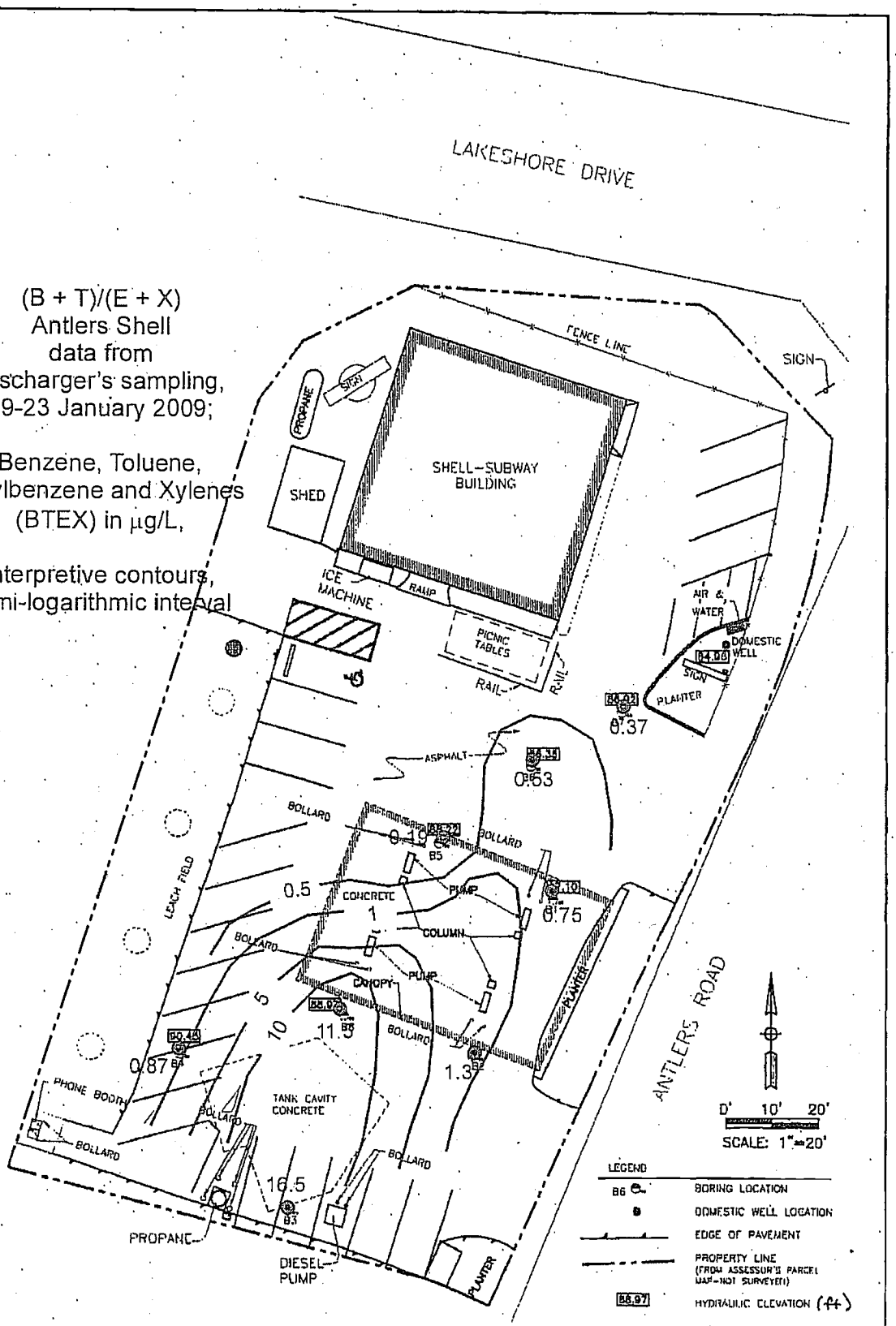
ANTLERS SHELL-SUBWAY	LACO ASSOCIATES
TBS PETROLEUM	CONSULTING ENGINEERS
MTBE IN GROUNDWATER w/CROSS-SECTION LINE	
ANTLERS	
20804 ANTLERS ROAD, LAKEHEAD, CA	

Attachment 4

(B + T)/(E + X)
Antlers Shell
data from
Discharger's sampling,
19-23 January 2009;

Benzene, Toluene,
Ethylbenzene and Xylenes
(BTEX) in µg/L,

Interpretive contours,
semi-logarithmic interval



PROJECT	ANTLERS SHELL-SUBWAY	SCALE	1"=20'
JOB NO.	7031.00	DRAWN	RAE
DATE	2/11/09	CHECKED	
APPVD		DATE	
	TEG PETROLEUM		
	HYDRAULIC HEAD ELEVATION MAP		
	ANTLERS		
	20684 ANTLERS ROAD, LAKEHEAD, CA		

NO.	REVISION	BY	CHK	DATE

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