EXHIBIT 2

Site investigation and monitoring at Chevron #9-9093 (3996 N. Parkway Drive) and Tosco #39118 (1605 N. Cedar Ave.)

- Pacific Envtl. Group, Inc., Installation of Groundwater Monitoring Wells and Soil Boring (Jan. 28, 1997) (RWQCB-FRESNO-018394–18444) (Chevron #9-9093);
- Deanna L. Harding & Stephen J. Carter, Gettler-Ryan, Inc., First Quarter Groundwater Monitoring & Sampling Report (Feb. 17, 1997) (RWQCB-FRESNO-018342–18357) (Chevron #9-9093);
- Letter from John M. Noonan, Senior Eng'r, RWQCB, to Robert Cochran, Chevron Prods. Co. (June 19, 1997) (RWQCB-FRESNO-043452–43454) (Chevron #9-9093);
- Gettler-Ryan. Inc., Work Plan for a Subsurface Investigation at Former Tosco (Unocal) Service Station No. 3711 (June 26, 2000) (FRESNO-MTBE267382–267400) (Tosco #39118);
- Letter from David A. Sholes, Assoc. Eng'g Geologist, RWQCB, to Edward Ralston, Tosco Marketing Co. (July 3, 2000) (FRESNO-MTBE267379–267381) (Tosco #39118); and
- Letter from Dane A. Mathis, Assoc. Eng'g Geologist, RWQCB, to Edward C. Ralston, Tosco Marketing Co. (Sept. 12, 2000) (RWQCB-FRESNO-011098–11100) (Tosco #39118).

RWW

PACIFIC ENVIRONMENTAL GROUP INC.

January 28, 1997
Project 920-048.1A

Mr. Bob Cochran
Chevron Products Company
P.O. Box 5004
San Ramon, California 94583-0804

Re: **Installation of Groundwater Monitoring Wells and Soil Boring**
Chevron Service Station 9-9093
3996 North Parkway
Fresno, California

Dear Mr. Cochran:

This report presents a summary of the drilling activities performed by Pacific Environmental Group, Inc. (PACIFIC), on behalf of Chevron Products Company (Chevron), at the site referenced above (Figures 1 and 2). One soil boring (B-1) and three groundwater monitoring wells (MW-1 through MW-3), were drilled onsite as described in PACIFIC's *Work Plan*, dated February 28, 1996, and *Response Letter*, dated March 19, 1996. The *Work Plan* was conditionally approved by the Fresno County Community Health Department-Environmental Health System (FCCHD) as stated in a letter from Jim R. Armstrong, dated March 6, 1996. The purpose of this work was to further investigate the vertical extent of gasoline hydrocarbons in soil onsite and to evaluate whether groundwater has been impacted below the site.

This report includes a discussion of site background, previous investigations, scope of work, and findings. Field and laboratory procedures are presented as Attachment A, and were performed in accordance with Fresno County Community Health Department's *Procedural Guidelines For Soil and Groundwater Sampling in Contamination Assessments at Hazardous Waste Sites* included as Attachment B.

SITE BACKGROUND AND PREVIOUS INVESTIGATIONS

Chevron Service Station No. 9-9093 is located in a commercial and residential area at 3996 North Parkway in Fresno, California. The site is currently an operating gasoline station. Site facilities, including two pump islands and three underground storage tanks (USTs) are shown on Figure 2. Approximately 1,400-gallons of gasoline was reportedly released at the site in late 1995 as a result of a damaged turbine pump.

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In September 1995, Groundwater Technology, Inc. (GTI) drilled 17 soil Borings (SB-1 through SB-17) to depths of approximately 40 to 70 feet below ground surface (bgs), and installed vapor extraction wells (VW-1 through VW-7) in seven of the 17 borings. Laboratory analytical results of soil samples from the borings indicated no detectable levels of petroleum hydrocarbons as gasoline (TPH-g) and gasoline constituents benzene, toluene, ethyl benzene, and total xylenes (BTEX compounds) in 15 of the 17 borings. The maximum reported concentrations of TPH-g (59,000 parts per million [ppm]) and benzene (830 ppm) were reported in the sample collected from a depth of 15 feet bgs in Boring SB-1, located just to the northwest of the damaged turbine (GTI, December 1996). MtBE at concentrations ranging from 11 to 2,800 ppm were reported in seven of the 76 soil samples analyzed. Four soil samples collected from Boring SB-17 were analyzed for purgeable halocarbons, and one sample was analyzed for total petroleum hydrocarbons as diesel (TPH-d), total oil and grease (TOG), semi-volatile organics, and the metals cadmium, chromium, lead, nickel, and zinc. No detectable concentrations of purgeable halocarbons (with the exception of 13 parts per billion [ppb]) methylene chloride], TPH-d, TOG, and semi-volatile organics were reported in these samples. Metals were reported as nondetectable or below background levels (Attachment C, Tables 1 and 2).

As part of GTI's investigation, vapor samples were collected from Vapor Wells VW-1, VW-5, and VW-6 on October 11, 1995. Laboratory analysis of these vapor samples indicated TPH-g vapor concentrations ranging from 8,100 to 13,000 ppb. During GTI's investigation, a water well was discovered onsite, which reportedly is the water supply for the site. Laboratory analysis of water samples collected from this well reported nondetectable concentrations of TPH-g and BTEX compounds.

SCOPE OF WORK

One soil boring and three groundwater monitoring wells were installed onsite as shown on Figure 2. The purpose of this work was to further investigate the vertical extent of gasoline hydrocarbons in soil onsite and to evaluate whether groundwater has been impacted below the site.

The specific scope of work is discussed below:

- Drilled and collected soil samples onsite from the Boring B-1 and groundwater monitoring Wells MW-1 through MW-3. Included in Attachment D are the completed boring and well logs.
- Soil samples were collected every five vertical feet. At least one sample per fifteen vertical feet within impacted areas was submitted to a California State-certified laboratory for analyses.
- Groundwater elevation measurements from the installed wells were collected and recorded prior to well development and sampling (performed by Gettler-Ryan Inc.).

If there are any questions regarding the contents of this report, please call us at (916) 858-2350.

Sincerely,

Pacific Environmental Group, Inc.

Dennis M. Jones
Staff Geologist

Greg Barclay
Senior Geologist
RG 6260

REGISTERED GEOLOGIST
GREG BARCLAY
1-28-97
No. 6260
STATE OF CALIFORNIA

Attachments:
- Table 1 - Soil Analytical Data
- Table 2 - Groundwater Analytical Data
- Figure 1 - Site Location Map
- Figure 2 - Site Map
- Figure 3 - Groundwater Elevation Map
- Attachment A - Field And Laboratory Procedures
- Attachment B - FCDEH-Procedural Guidelines For Soil Sampling At Hazardous Waste Sites
- Attachment C - Tables 1 and 2, Groundwater Technology (GTI)
- Attachment D - Boring Logs
- Attachment E - Certified Analytical Reports and Chain-of Custody Documentation
- Attachment F - Surveyor's Data, James D. Self, Professional Land Surveyor.

cc: Mr. Russell Walls, California Regional Water Quality Control Board-Fresno Branch Office
Mr. Jim R. Armstrong, Fresno County Community Health Department Environmental Health System

GETTLER-RYAN INC.

February 17, 1997 Job #6336.80

Mr. Robert Cochran
Chevron Products Company
P.O. Box 5004
San Ramon, CA 94583

Re: First Quarter Groundwater Monitoring & Sampling Report
Chevron Service Station #9-9093
3996 North Parkway
Fresno, California

Dear Mr. Cochran:

This report documents the quarterly groundwater sampling event performed by Gettler-Ryan Inc. (G-R). On January 13, 1997, field personnel were on-site to monitor and sample three wells (MW-1, MW-2 and MW-3) at Chevron Service Station #9-9093 located at 3996 North Parkway in Fresno, California.

Static groundwater levels were measured on January 13, 1997. All wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in any of the wells. Static water level data are presented in Table 1. A potentiometric map is included as Figure 1.

Groundwater samples were collected from the monitoring wells as specified by G-R Standard Operating Procedure - Groundwater Sampling (attached). The field data sheets for this event are also attached. The samples were analyzed by NEI/GTEL Environmental Laboratories, Inc. Analytical results are presented in Table 1. The chain of custody document and laboratory analytical reports are attached.

Thank you for allowing Gettler-Ryan Inc. to provide environmental services to Chevron. Please call if you have any questions or comments regarding this report.

Sincerely,

Deanna L. Harding
Project Coordinator

Stephen J. Carter
Senior Geologist, R.G. No. 5577

REGISTERED GEOLOGIST
STEPHEN J. CARTER
No. 5577
STATE OF CALIFORNIA

DLH/SJC/ds
6336.QML

Figure 1: Potentiometric Map
Table 1: Water Level Data and Groundwater Analytical Results
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical Reports

6747 Sierra Court, Suite J • Dublin, California 94568 • (510) 551-7555

Table 1. Water Level Data and Groundwater Analytical Results - Chevron Service Station #9-9093, 3996 North Parkway, Fresno, California

Well ID TOC	Date Sampled	Depth to Water (ft)	GWE (msl)	Product Thickness (ft)	TPH(G)	B	T	E	X	MTBE	1,2-DCA
					<—			ppb			—>
MW-1	08/30/96	88.02	—	0	320	<0.50	<0.50	<0.50	<0.50	<2.5	—
100.98[1]	11/18/96	87.08	13.90	0	<50	2.1	<0.50	<0.50	<0.50	<2.5	<0.50[2]
	01/13/97	86.23	14.75	0	1,300	31	4.7	<0.5	1.0	64	<1.0
MW-2	08/30/96	87.59	—	0	<50	<0.50	<0.50	<0.50	<0.50	<2.5	—
100.61[1]	11/18/96	86.69	13.92	0	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<0.50[2]
	01/13/97	85.84	14.77	0	580	7.4	0.6	<0.5	<0.5	23	<1.0
MW-3	08/30/96	87.42	—	0	<50	<0.50	<0.50	<0.50	<0.50	<2.5	—
100.50[1]	11/18/96	86.52	13.98	0	<50	<0.50	<0.50	<0.50	<0.50	<2.5	<0.50[2]
	01/13/97	85.67	14.83	0	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<1.0
Trip Blank	08/30/96	—	—	—	<50	<0.50	<0.50	<0.50	<0.50	<2.5	—
	11/18/96	—	—	—	<50	<0.50	<0.50	<0.50	<0.50	<2.5	—
	01/13/97	—	—	—	<50	<0.5	<0.5	<0.5	<0.5	<5.0	—

Explanation:

TOC = Top of casing elevation
(ft) = feet
GWE = Groundwater elevation
(msl) = Measurement referenced relative to mean sea level
TPH(G) = Total petroleum hydrocarbons as gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl-tertiary-butyl ether
— = Not analyzed, not measured

Notes:

Wells MW-1 through MW-3 were installed by Pacific Environmental Group, Inc., in August, 1996. All data prior to November 18, 1996, was provided by Pacific Environmental Group, Inc.

[1] Survey data provided by Pacific Environmental Group, Inc. on 10/24/96.
[2] Halogenated Volatile Organics (HVOC's) by EPA Method 8010 were all non-detectable.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
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Pete Wilson, Governor

19 June 1997

Mr. Robert Cochran
Chevron Products Company
P.O. Box 5004
San Ramon, CA 94583

CHEVRON S/S #9-9093, 3996 NORTH PARKWAY DRIVE, FRESNO, FRESNO COUNTY

In a letter dated 3 April 1997, the Fresno County Environmental Health System (EHS) referred the subject case to our agency for regulatory oversight. It also provided us with information that indicates gasoline leaked at the facility and impacted soil and groundwater. It will be necessary for you to determine the extent of soil and groundwater degradation caused by the leak and remediate its effects.

In addition, we have reviewed your 4 March 1997 report, *Work Plan for Additional Site Assessment* (Plan), which proposes a single additional groundwater monitoring well downgradient of the release and two groundwater monitoring reports (dated 21 February 1997 and 19 May 1997), which transmit results from the first quarter (13 January 1997) and second quarter (7 April 1997) monitoring events. Our comments regarding the Plan, the groundwater monitoring reports, and general observations of the site are included in this letter.

In late 1995, a damaged turbine pump at the site caused the release of about 1,400 gallons of gasoline. In September 1995, Chevron drilled 17 soil borings to assess the extent of impacted soils. The borings were drilled from 40 to 70 feet below the ground surface (bgs). Boring SB-1, adjacent to the turbine pump, contained significant contamination at shallow depth (59,000 mg/kg TPH-g at 15 feet bgs) and lesser levels down to 60 feet, where the boring was terminated. Methyl t-butyl ether (MtBE) was found at, but not below, the 15-foot depth. Boring SB-2 showed less severe impacts with respect to TPH-g and BTEX, but had an MtBE result of 13 mg/kg at the bottom of the boring (70 feet bgs). Analysis of soil samples from all other borings resulted in nondetect readings.

Seven soil borings were completed as vapor monitoring wells. Vapors from all wells were field screened; samples from three of the wells were analyzed at a laboratory (see Table 1, below).

Table 1 - Laboratory Soil Vapor Results for TPH-g and Benzene

Vapor Well No.	TPH-g (µg/l)	Benzene (µg/l)
VW-1/SB-1	13,000	450
VW-5/SB-5	11,000	87
VW-6/SB-17	8,100	<5.0

Three groundwater monitoring wells were installed in August 1996. The wells are each screened from 80 to 100 feet below the ground surface (bgs). First groundwater is about 87 feet below the ground surface

GETTLER-RYAN INC.

WORK PLAN FOR A SUBSURFACE INVESTIGATION

at

Former Tosco (Unocal) Service Station No. 3711
1605 North Cedar Avenue
Fresno, California

Report No. 140218.04-1

Prepared for:

Mr. Ed Ralston
Tosco Products Company
1380 Lead Hill Road, Suite 120
Roseville, California 95661

Prepared by:

Gettler-Ryan Inc.
1364 N. McDowell Blvd., Suite B2
Petaluma, California 94954

Clyde J. Galantine
Project Geologist

Stephen J. Carter
Senior Geologist
R.G. 5577

REGISTERED GEOLOGIST
STEPHEN J. CARTER
No. 5577
STATE OF CALIFORNIA

June 26, 2000

Aboveground facilities consist of three dispenser islands and a station building. Two gasoline underground storage tanks (USTs) are located in the common pit immediately southeast of the station building and one waste oil UST is located immediately west of the station building. Pertinent site features are shown on Figure 2.

PREVIOUS ENVIRONMENTAL WORK

On September 12, 1989, Kaprealian Engineering, Incorporated (KEI) collected soil samples during the replacement of two 10,000-gallon gasoline USTs, one 280-gallon waste oil USTs, and related product lines. Soil samples were collected from native soil at the base of the gasoline UST excavation at a depth of 14 feet below ground surface (bgs), from the waste oil UST excavation at a depth of 8 feet bgs (WO1), and from the product piping trenches at depths of 3 and 7 feet bgs (P1 through P6). Each sample was analyzed for Total Petroleum Hydrocarbons calculated as gasoline (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX). In addition, waste oil soil sample WO1 was analyzed for Total Petroleum Hydrocarbons calculated as diesel (TPHd) and total oil and grease (TOG). Petroleum hydrocarbons were reported in all samples at concentrations ranging from 1.3 to 10 parts per million (ppm) of TPHg, and not detected to 0.31 ppm of benzene. TPHd and O&G were not detected. One sample, collected at 7 feet bgs beneath the south end of the west dispenser island, contained 800 ppm of TPHg and 0.013 ppm of benzene.

Based on the soil analytical results obtained during the UST and product piping replacement, KEI advanced hand auger soil boring EB1 in the vicinity of the south end of the west dispenser island on September 15, 1989. Boring EB1 was advanced to 17.5 feet bgs. Soil samples EB1 (10) (collected at 10 feet bgs) and EB1 (17.5) (collected at 17.5 feet bgs) were analyzed for TPHg and BTEX. Samples EB1 (10) and EB1 (17.5) contained 1,600 and 11,000 ppm of TPHg and not detected and 2.3 ppm of benzene, respectively (KEI 1989).

In January 1999, GR advanced six soil borings (B-1 through B-6) at the above site to a maximum depth of 60 feet bgs. Groundwater was encountered in four of the borings at depths ranging from approximately 47 to 57 feet bgs. Thirty-five soil samples were collected and analyzed for TPHg, BTEX, and methyl tert-butyl ether (MtBE). Soil samples collected from boring B-6, located in the former UST excavation, were reported as not detected for all analytes. Boring B-4 was reported as not detected for TPHg, benzene, and MtBE, except for 0.30 ppm of MtBE in the sample collected at 30 feet bgs. Boring B-5 was reported as not detected for TPHg, benzene, and MtBE, except for 0.0072 ppm of benzene at 20 feet bgs and 2.2ppm of TPHg and 0.014 ppm of benzene at 40 feet bgs. Borings B-1, B-2, and B-3 contained petroleum hydrocarbons at concentrations ranging from not detected to 8,600 ppm of TPHg, not detected to 17 ppm of benzene, and not detected to 390 ppm of MtBE. A grab groundwater sample was collected from boring B-1 and analyzed for TPHg, BTEX, and MtBE. The sample contained 62,000 ppb of TPHg, 6,100 ppb of benzene, and 20,000 ppb of MtBE (GR, 1999)

California Regional Water Quality Control Board
Central Valley Region
Steven T. Butler, Chair

Winston H. Hickox
Secretary for
Environmental
Protection

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Gray Davis
Governor

3 July 2000

RWQCB Case No. 5T10000188

Mr. Edward Ralston
Tosco Marketing Company
1380 Lead Hill, Road, Suite 120
Roseville, CA 94583

UNDERGROUND STORAGE TANK RELEASE, FORMER TOSCO (UNOCAL) STATION NO. 3711, 1605 NORTH CEDAR AVENUE, FRESNO, FRESNO COUNTY

We reviewed your *Work Plan for a Subsurface Investigation*, dated 26 June 2000 and prepared by Gettler-Ryan Inc. (G-R). The work plan proposes installing four groundwater monitoring wells and two soil vapor extraction wells, sampling and analysis of soil and groundwater samples, and a well survey within ½ mile of the site. A brief project history, a summary of the submittal, and our comments follow.

Project History

The subject site occupies the northwest corner of Cedar and McKinley Avenues in Fresno in an area of residential and commercial development. The site was placed in a temporary closure status in early 1997 and has not operated since.

The Mill Ditch canal is adjacent to the south side of McKinley Avenue and commonly holds water during irrigation season (from approximately May through September) and during winter storms. Fresno Irrigation District groundwater table maps representing January 1998 data suggest groundwater would be encountered at a depth of approximately 100 feet below ground surface (bgs) with a southwest flow direction. As discussed below, groundwater at the site occurs at a shallower depth due to infiltration from the adjacent canal.

Two 10,000-gallon gasoline underground storage tanks (USTs) and one 280-gallon waste oil UST were removed from the site in September 1989. Two new 12,000-gallon USTs and a 520-gallon waste oil UST replaced the removed USTs. The earlier fuel USTs were just west of the station building; the newer fuel USTs are south of the eastern dispenser islands.

Soil samples were collected beneath the fuel and waste oil USTs and from beneath product piping during the 1989 UST upgrade activities. The fuel UST samples were dominantly non-detect for benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons as gasoline (TPH-g). Most product piping samples returned very low to non-detect values of hydrocarbons except sample P4, which was collected at the south end of the western dispenser island. The 3-foot bgs sample contained 0.13 milligrams per kilogram (mg/kg or ppm) benzene and 800 mg/kg TPH-g. Subsequent sampling at depths of 10 and 17.5 feet bgs returned TPH-g values of 1,600 and 11,000 mg/kg TPH-g, respectively.

The FCHEH issued a 13 September 1989 directive to Unocal to conduct further investigation. Records in our file suggest no further investigation-related work occurred until GR submitted a 21 October 1998 *Subsurface Investigation Work Plan*. The FCEHS issued a conditional work plan approval letter in November 1998 and fieldwork commenced in January 1999.

The scope of the January 1999 investigation included advancing six soil borings to a maximum depth of 60.5 feet bgs. Soil samples and one groundwater sample were analyzed for BTEX, MTBE, and TPH-g using EPA Method 8020/8015M. The soil profile encountered consists of interbedded sand and silt with minor amounts of clay and gravel. Groundwater was encountered at depths of 45 to 55 feet bgs, dependent on the specific profile and density of soils intercepted by the borings.

Borings B-1 through B-4 were drilled around the western dispenser island, the location of the highest concentrations detected during 1989 upgrade activities. The maximum concentrations of benzene, MTBE and TPH detected were 12 mg/kg, 69 mg/kg and 8,600 mg/kg, respectively, all of which occured at the 50 foot deep interval of borings B-2 and B-3. Concentrations decreased from these levels in samples from 55 and 60 feet bgs. The soil sample with the highest MTBE concentration (B-2 at 50 feet bgs) was also analyzed using EPA Method 8260 and returned a value of 0.39 mg/kg MTBE.

Soil samples from boring B-5 to the southeast of the newer USTs and boring B-6 in the former UST pit returned dominantly low to non-detect values of analyzed constituents.

A grab groundwater sample collected from boring B-1 contained 6,100 parts per billion (µg/L or ppb) benzene; 20,000 µg/L MTBE; and 62,000 µg/L TPH-g. The MTBE value was not confirmed using GC/MS methods.

Review of Submittal

The work plan proposes installation of four groundwater monitoring wells, sampling and analysis of soil and groundwater samples for BTEX, MTBE, tertiary amyl methyl ether (TAME), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary butyl alcohol (TBA), ethylene dibromide (EDB), 1,2-dichloroethane (1,2-DCA), and total lead. Groundwater samples will be analyzed for general minerals, nitrate, and total Kjeldahl nitrogen (TKN) during the second and fourth quarters of sampling. Approximately three soil samples from each well boring will be submitted for chemical analysis.

A shallow (25 foot deep) and deep (65 foot deep) soil vapor extraction (SVE) well will be installed onsite. No soil samples will be collected or analyzed from the SVE well borings because these wells will be located a few feet from previous soil borings.

A well search will be conducted within ½ mile of the site using Department of Water Resources records, topographic maps, and a site reconnaissance. A door-to-door search will be conducted within 500 feet of the site.

Following receipt and analysis of the data, a report will be prepared summarizing the findings of the investigation.

California Regional Water Quality Control Board
Central Valley Region
Steven T. Butler, Chair

Winston H. Hickox
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Governor

FILE

12 September 2000

Regional Board Case No. 5T10000188

Mr. Edward C. Ralston
Tosco Marketing Company
1380 Lead Hill Road, Suite 120
Roseville, California 95661

REPORT REVIEW AND COMMENT, UNDERGROUND STORAGE TANK RELEASE, FORMER TOSCO (UNOCAL) STATION NO. 3711, 1605 NORTH CEDAR AVENUE, FRESNO, FRESNO COUNTY

We reviewed a 31 August 2000 *Well Installation Report* (Report) prepared on your behalf by Gettler-Ryan Inc. (GRI), for the subject site. The Report describes soil and groundwater assessment activities conducted at the site in August 2000. The following presents background information for the site, a summary of the completed assessment activities, our comments, and a request for additional work.

Background

The subject site occupies the northwest corner of Cedar and McKinley Avenues in Fresno in an area of residential and commercial development. The site was placed in a temporary closure status in early 1997 and has not operated since. The Mill Ditch canal is immediately south of McKinley Avenue and commonly holds water during irrigation season (typically from May through September) and during winter storms. Fresno Irrigation District groundwater maps representing January 1998 data suggest that the water table would be encountered at a depth of approximately 100 feet below ground surface (bgs) with a southwest flow direction. Groundwater at the site occurs at shallow depths due to infiltration from the nearby canal. City of Fresno water supply well #221 is 350 feet southeast of the subject site.

Two 10,000-gallon gasoline underground storage tanks (USTs) and one 280-gallon waste oil UST were removed from the site in September 1989 and replaced with two new 12,000-gallon USTs and a 520-gallon waste oil UST. The earlier fuel USTs were just west of the station building; the new fuel USTs were installed in the southeast portion of the property. Soil samples were collected beneath the fuel and waste oil USTs and product piping during the upgrade activities and submitted for chemical analysis. Total petroleum hydrocarbons as gasoline (TPHg) was detected as high as 11,000 milligrams per kilogram (mg/kg or ppm) to depths of 17.5 feet bgs at the south end of the western dispenser island.

In January 1999, six soil borings were advanced at the site to depths of 60.5 feet bgs; groundwater was encountered at depths of 45 to 55 feet bgs. Soil samples collected at depths of 50 feet from borings advanced around the western dispenser island contained concentrations of benzene, MTBE and TPHg as high as 12 mg/kg, 69 mg/kg, and 8,600 mg/kg, respectively. The presence of MTBE was confirmed by

EPA Method 8260. A groundwater grab sample collected from boring B-1, west of the dispenser island, contained 6,100 parts per billion (ppb or µg/L) benzene; 20,000 µg/L MTBE; and 62,000 µg/L TPHg.

Report Summary

For the most recent investigation conducted August 2000, four groundwater monitoring wells and two vapor extraction wells were installed at the site. The monitoring wells were installed to depths of 55 and 65 feet. The vapor extraction wells were installed to depths of 25 and 55 feet adjacent north and southwest of the western dispenser island, respectively. Groundwater was encountered at depths of 33 to 45 feet during drilling. Soil samples collected from the monitoring well boring north of the dispenser island contained TPHg, benzene, and MTBE constituents at depths of 36, 45, and 55 feet. The groundwater gradient was measured at 0.16 ft./ft. toward the north-northeast. Groundwater samples from each of the wells contained TPHg, benzene, and MTBE constituents as high as 113,000 µg/L, 4,180 µg/L, and 1,580 µg/L, respectively. The well survey revealed that City of Fresno well #221, 350 feet to the southeast, is the closest water supply well to the subject site.

Based on the results of the investigation, GRI stated that the lateral extent of impacted soils appeared to be limited to the area around the known dispenser release, however, the vertical extent of impacted soils needed further evaluation. Additionally, GRI stated that the extent of impacted groundwater was not defined and warranted further investigation. In order to evaluate vapor extraction (VE) technology as a viable remedial option, a minimum 8-hour vapor extraction (VE) pilot test was proposed.

Comments

We are in agreement with GRI's conclusions that the lateral extent of hydrocarbon impacted soils are defined, however, further evaluation is warranted with respect to the vertical extent of impacted soils beneath the site. Further evaluation of the extent of impacted groundwater is also warranted. We also agree with the proposal to perform a VE pilot test for the site.

Since MTBE has been detected in soils and underlying groundwater, our office considers this a priority site and requires that corrective action measures be implemented without delay. Please note that failure to move this project forward in an effective manner will result in enforcement action in the form of formal orders and/or fines. You need to ensure that your consultant has sufficient resources to expedite the project. ***Failure to meet imposed deadlines will result in the initiation of formal enforcement action.***

Prior to 11 October 2000, please provide a work plan for defining the vertical extent of impacted soils, further evaluating the extent of impacted groundwater, and performing the VE pilot test. You may reference the previously submitted work plan for details of field procedures and methodology for drilling, well installation, sampling, etc. Since shallow groundwater beneath the site has been impacted by petroleum hydrocarbons and shallow groundwater is migrating downward, please include proposed methods to investigate deeper groundwater. In order to demonstrate the vertical extent of impacted soils, soil borings should be advanced to depths at which two consecutive five-foot samples exhibit no evidence of hydrocarbons, even if the borings extend through the shallow groundwater and into the regional groundwater. Please provide well details for City well #221 (construction, static water level, pumping interval, analytical results). Include timelines and schedules for completion of the fieldwork and submittal of reports.