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February 22, 2010

Ms. Barbara Jakub Hazardous Materials Specialist Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, Suite 250

Alameda, California 94502-6577

Subject: Work Plan - Additional Site Investigation

Site:

76 Station No. 5191/5043 449 Hegenberger Road Oakland, California

Fuel Leak Case No. RO0000219

Dear Ms. Jakub;

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

If you have any questions or need additional information, please call:

Liz Bermudez

Pacific Convenience & Fuel

2603 Camino Ramon, Suite 350

San Ramon, California 94583

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lbermudez@pcandf.com

Sincerely,

PACIFIC CONVENIENCE & FUEL

LIZ BÈŔMUDEZ

Senior Paralegal

Attachment

February 19, 2010

Ms. Barbara Jakub Hazardous Materials Specialist Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

RE: Work Plan – Additional Site Investigation 76 Station No. 5191/5043 449 Hegenberger Road Oakland, California Fuel Leak Case No. RO0000219



Dear Ms. Jakub:

Delta Consultants (Delta), has prepared this work plan as requested by the Alameda County Health Care Services Agency (ACHCSA) in an email dated February 16, 2010. Delta is proposing the installation of five monitoring wells to assess the horizontal and vertical extent of the petroleum hydrocarbon impact to the soil and groundwater in the vicinity of the recently advanced borings, B-4 and B-5, and east and south of these two borings at the site located at 449 Hegenberger Road in Oakland, California. A copy of the email is presented as Attachment A.

Based in the results from the groundwater samples collected from borings, B-4 and B-5, in the vicinity of and down-gradient of the fuel dispensers, the groundwater likely contains separate phase hydrocarbons (SPH). In addition, based on previous groundwater monitoring and sampling events conducted at the site, the groundwater flow direction is variable, from the southwest to the southeast. Therefore, Delta is proposing the installation of two monitoring/extraction wells, MW-11 and MW-12, one in the vicinity of each of the recently advanced borings and two monitoring wells, one in the southeast corner of the site, MW-13, and one east of the site in Hegenberger Road, MW-14. In addition, Delta proposes to advance a second monitoring well, MW-12A, adjacent to boring B-5, to monitor the petroleum hydrocarbon impacted groundwater reported at a depth of 32 feet during Delta's previous investigation, conducted December 2009. Delta additionally proposed that batch extraction be conducted using the two monitoring/extraction wells installed adjacent to the recently advanced borings in an attempt to reduce the mass of SPH beneath the site.

SITE DESCRIPTION

The site is an active 76 station located on the southwest corner of Hegenberger Road and Edgewater Drive in Oakland, California. The site contains four fuel dispensers on two islands under a single canopy, three fuel underground storage tanks (USTs) on the north side of the site, a carwash facility on the west side of the site, and a station building in the central portion of the site. The current site features are shown on Figure 2.

PREVIOUS ASSESSMENT

October 1991 - Four soil samples were collected from the product pipe trenches at depths of approximately 3 feet below ground surface (bgs) during a dispenser island modification. The product pipe trenches were subsequently excavated to the groundwater depth at 4 to 4.5 feet bgs.

<u>February 1992</u> - Three monitoring wells, MW-1 through MW-3, were installed at the site to depths ranging from 13.5 to 15 feet bgs.

<u>August 1992</u> - Three additional monitoring wells, MW-4 through MW-6, were installed at the site to a depth of 13.5 feet bgs.

<u>September 1994</u> - One 280-gallon waste-oil UST was removed from the site. The UST was made of steel, and no apparent holes or cracks were observed in the UST. One soil sample was collected from beneath the former UST at a depth of approximately 9 feet bgs. No petroleum hydrocarbons were reported.

<u>January 1995</u> - Two additional monitoring wells, MW-7 and MW-8, were installed offsite to the south and east on the neighboring property to a depth of 13 feet bgs. In addition, two existing monitoring wells were destroyed in order to accommodate the construction of a car wash at the site. Monitoring wells MW-4 and MW-5 were fully drilled out and backfilled with neat cement.

March 1995 - Two 10,000-gallon gasoline USTs and one 10,000-gallon diesel UST were removed from the site. Groundwater was encountered in the tank cavity at a depth of approximately 8.5 feet bgs. Soil samples contained total petroleum hydrocarbons as diesel (TPHd) and benzene, and TPH as gasoline (TPHg). Approximately 125,000 gallons of groundwater were pumped from the site for remediation and properly disposed off-site. Four dispenser islands and associated product piping were also removed. Based on the results of the confirmation samples, the product dispenser islands were over excavated to approximately 6 feet bgs. Historical soil analytical results are presented in Table 1.

March-April 1995 - During demolition activities of the former station building, soil samples were collected from two excavations, which were subsequently over excavated. Confirmation samples contained petroleum hydrocarbons. An additional area on the south side of the former station building was excavated based on photo-ionization detector (PID) readings. Two monitoring wells, MW-1 and MW-2, were destroyed in order to allow for over excavation activities to extend to an area adjacent to the dispenser islands in the southeastern quadrant of the site. The excavated areas

were subsequently backfilled with clean-engineered fill. Historical soil analytical results are presented in Table 1.

<u>April 1997</u> - Two additional monitoring wells, MW-9 and MW-10, were installed to depths of 13 and 15 feet bgs. In addition, monitoring well MW-3, which was damaged during the UST cavity over excavation in 1995, was fully drilled out and reconstructed in the same borehole. Historical soil analytical results are presented in Table 1.

October 2003 - Site environmental consulting responsibilities were transferred to TRC.

April 8-9, 2005 - TRC conducted a 24-hour dual phase extraction (DPE) test at the site using monitoring well MW-6. The 24-hour DPE test was moderately successful at removing vapor-phase petroleum hydrocarbons from the subsurface; therefore, TRC recommended DPE no longer be considered a viable remedial alternative for the site.

October 2007 - Site environmental consulting responsibilities were transferred to Delta Consultants.

<u>December 2009</u> - Delta advanced two borings, B-4 and B-5, to depths of 20 feet bgs and 32 feet bgs, respectively. Analytical results from the soil and groundwater samples collected from these two borings indicated that the soil and the groundwater were impacted by petroleum hydrocarbons at these locations. Historical soil analytical results are presented in Table 1. Groundwater analytical results are presented in Table 2.

SENSITIVE RECEPTORS

April 24, 2006 TRC completed a sensitive receptor survey for the site. According to the Department of Water Resources (DWR) records, three water supply wells are located within one-half mile of the site. In addition, two surface water bodies were observed within a one-half mile radius of the site. San Leandro Creek is located approximately 1,400 feet southwest of the site and flows into the San Leandro Bay. Elmhurst Creek is located approximately 2,220 feet north of the site and also flows into the San Leandro Bay.

SITE GEOLOGY AND HYDROGEOLOGY

The site is underlain by Holocene-age bay mud. The bay mud typically consists of unconsolidated, saturated clay and sandy clay that is rich in organic material. The bay mud locally contains lenses and stringers of well-sorted silt, sand, gravel, and beds of peat.

The most recent monitoring and sampling event was conducted at the site on December 17, 2009. The measured depth to groundwater ranged from 1.52 feet to 3.14 feet below top of casing (TOC). The groundwater flow direction was southwest with a hydraulic gradient of 0.008 foot per foot.

PROPOSED ACTIVITIES

Permitting, Utility Notification and Borehole Clearance

Before commencing field activities Delta will prepare a Health and Safety Plan in accordance with state and federal requirements for use during investigation activities. Drilling permits will be obtained for the monitoring wells from the Alameda County Public Works Agency (ACPWA). In addition, Delta will attempt to obtain an encroachment permit from the City of Oakland for the monitoring well proposed to be installed in Hegenberger Road. If an encroachment permit cannot be obtained from the City of Oakland, Delta will discuss options with the ACHCSA. Prior to drilling, Underground Service Alert (USA) will be notified as required by law and a private utility locator will be employed to clear the proposed boring locations for underground utilities. In addition, an air- or water-knife will be used to clear each boring location to a depth of 5 feet bgs prior to drilling.

Monitoring/Extraction Well Installation

The borings for the proposed monitoring/extraction wells MW-11 and MW-12, in the vicinity of the recently advanced borings B-4 and B-5, will be advanced to a depth of approximately 20 feet bgs using a truck mounted drill-rig equipped with 11-inch outside diameter hollow-stem augers. The proposed monitoring/extraction well locations are shown on Figure 2. Soil samples collected from the borings will be logged using the Unified Soil Classification System (USCS) for lithologic interpretation and field screened for the presence of volatile organic compounds (VOCs) by headspace analysis using a pre-calibrated PID. Soil samples will be collected continuously for lithologic interpretation and field screening beginning at a depth of 5 feet bgs. Soil samples exhibiting the highest PID reading, changes in lithology, visible staining, and the soil sample collected from the bottom of the boring will be submitted for laboratory analysis. A chain-of-custody will accompany the samples during transportation to the laboratory. The collected soil samples will be analyzed by Pace Analytical Services, Inc. (PACE) for TPHd (silica gel treated) by Environmental Protection Agency (EPA) Method 8015, TPHg, benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertiary-butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tertiary-butyl ether (ETBE), tertiary-amyl methyl ether (TAME), tertiary-butyl alcohol (TBA), 1,2-dichloroethane (1,2-DCA), 1,2-dibromoethane (EDB), and ethanol by EPA Method 8260, and total lead by EPA Method 6010.

The monitoring/extraction well casing will be installed in the well borings while the augers are in place. The monitoring/extraction wells will consist of 4-inch diameter schedule 40 poly-vinyl chloride (PVC) well casing with a screen interval to be determined in the field, based on the encountered lithology. The screen interval is anticipated to be 15 feet in length from 5 to 20 feet bgs. The perforation size in the screen interval will be 0.020-inch. A sand pack of RMC Lonestar Sand #3 or equivalent will be installed into the annular space and extend approximately one foot above the top of the screen interval.

A one foot thick bentonite seal will be placed on top of the sand pack. The monitoring/extraction wells will be surged prior to the placement of the bentonite seal to promote settling of the sand pack. The remainder of the annular space will be filled with neat cement and the monitoring/extraction wells will be fitted with a locking cap

and encased in a traffic-rated protective vault placed at existing ground level. Well construction details are shown on Figure 3.

Monitoring Well Installation

The borings for proposed monitoring wells MW-13, in the southeast corner of the site, and MW-14, east of boring B-5 in Hegenberger Road will be advanced to a depth of approximately 15 feet bgs using a truck mounted drill-rig equipped with 8-inch outside diameter hollow-stem augers. The proposed monitoring well locations are shown on Figure 2. Soil samples collected from each boring will be logged continuously beginning at a depth of 5 feet bgs using the USCS for lithologic interpretation and field screened for the presence of VOCs by headspace analysis using a pre-calibrated PID. Soil samples exhibiting the highest PID reading, changes in lithology, visible staining, and the soil sample collected from the bottom of the boring will be submitted for laboratory analysis. A chain-of-custody will accompany the samples during transportation to the laboratory. The collected soil samples will be analyzed by PACE for TPHd (silica gel treated) by EPA Method 8015, TPHg BTEX, MTBE, DIPE, ETBE, TAME, TBA, 1,2-DCA, EDB, and ethanol by EPA Method 8260, and total lead by EPA Method 6010.

The groundwater monitoring well casing will be installed in the well boring while the augers are in place. The monitoring wells will consist of 2-inch diameter schedule 40 poly vinyl chloride (PVC) well casing with a screen interval to be determined in the field based on the encountered lithology. The screen interval is anticipated to be 10 feet in length from 5 to 15 feet bgs to correspond with anticipated first encountered groundwater. The perforation size in the screen interval will be 0.020-inch. A sand pack of RMC Lonestar Sand #3 or equivalent will be installed into the annular space and extend approximately one foot above the top of the screen interval.

A one foot thick bentonite seal will be placed on top of the sand pack. The monitoring wells will be surged prior to the placement of the bentonite seal to promote settling of the sand pack. The remainder of the annular space will be filled with neat cement and the monitoring wells will be fitted with a locking cap and encased in a traffic-rated protective vault placed at existing ground level. Well construction details are shown on Figure 4.

An additional monitoring well, MW-12A, will be installed adjacent to monitoring/extraction well MW-12. The proposed monitoring well location is shown on Figure 2. The boring for this monitoring well will be advanced to a depth of approximately 34 feet bgs. This monitoring well will be constructed as monitoring wells MW-13 and MW-14, described above, with a screen interval anticipated to be 4 feet in length from 30 to 34 feet bgs. Well construction details are shown on Figure 5.

Well Development, Monitoring, and Sampling

The monitoring/extraction wells and the monitoring wells will be developed a minimum of 72 hours after construction. A minimum of 10 casing volumes of groundwater will be removed from the wells during the development process.

The monitoring/extraction wells and monitoring wells will be sampled a minimum of 48 hours after they have been developed, and will be incorporated into a quarterly sampling schedule.

Groundwater samples collected for analysis from the five newly installed wells will be analyzed by PACE for TPHd (silica gel treated) and TPHg, BTEX, MTBE, DIPE, ETBE, TAME, TBA, 1,2-DCA, EDB, and ethanol by EPA Method 8260.

Wellhead Survey

Following the completion of the newly installed wells, a California licensed surveyor will survey the northing and easting of the wells using Datum NGVD29 or NAD 88. The well elevations will be surveyed relative to mean sea level, with an accuracy of +/- 0.01 foot. A global positioning system (GPS) will also be used to survey in the latitude and longitude of the well to be uploaded into California's Geo Tracker database system. The survey of the well locations will be to sub-meter accuracy.

Groundwater Extraction

In an attempt to reduce the SPH beneath the site and the potential for off-site migration, Delta is proposing a one time batch extraction from monitoring/extraction wells MW-11 and MW-12 using a vacuum truck. Petroleum hydrocarbon impacted groundwater will be extracted from the wells and transported off-site for proper disposal. Subsequent batch extraction events will be conducted if this process is successful in reducing the SPH in the vicinity of monitoring/extraction wells MW-11 and MW-12.

Disposal of Drill Cuttings and Wastewater

Drill cuttings and decontamination water generated during well installation activities will be placed into properly labeled 55-gallon Department of Transportation (DOT) approved steel drums and temporarily stored on the station property. Samples of the drill cuttings, well development water, and decontamination wastewater will be collected, properly labeled, and placed on ice for submittal to PACE and analyzed for TPHg, BTEX, and MTBE by EPA Method 8260 and total lead by EPA Method 6010. A chain-of-custody will accompany the samples during transportation to the laboratory. Subsequent to receiving the laboratory analytical results, the drummed drill cuttings, well development water, and decontamination wastewater will be profiled, transported, and disposed of at an approved facility.

Reporting

Following completion of the field work and receipt of analytical results, a site investigation report will be prepared and submitted within 60 days. The report will present the details of the well installation activities, including copies of the drilling permits, details of disposal activities and copies of disposal documents, and groundwater analyses and gradient determination, including copies of laboratory reports. Required electronic submittals will be uploaded to the State Geotracker database.

Remarks/Signatures

The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report will be performed. This report is intended only for the use of Delta's client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

If you have any questions regarding this project, please contact me at (916) 503-1261.

Sincerely,

DELTA CONSULTANTS

Dennis S. Dettloff, P.G. Senior Project Manger

California Registered Professional Geologist No. 7480

DENNIS SHANNON OF DETTLOFF NO. 7480

Figures

Figure 1 - Site Location Map

Figure 2 - Site Plan with Proposed Well Locations

Figure 3 - Proposed Groundwater Monitoring/Extraction Wells, MW-11 and

MW-12, Construction Detail

Figure 4 - Proposed Groundwater Monitoring Wells, MW-13 and MW-14,

Construction Detail

Figure 5 - Proposed Groundwater Monitoring Well, MW-12A, Construction Detail

Tables

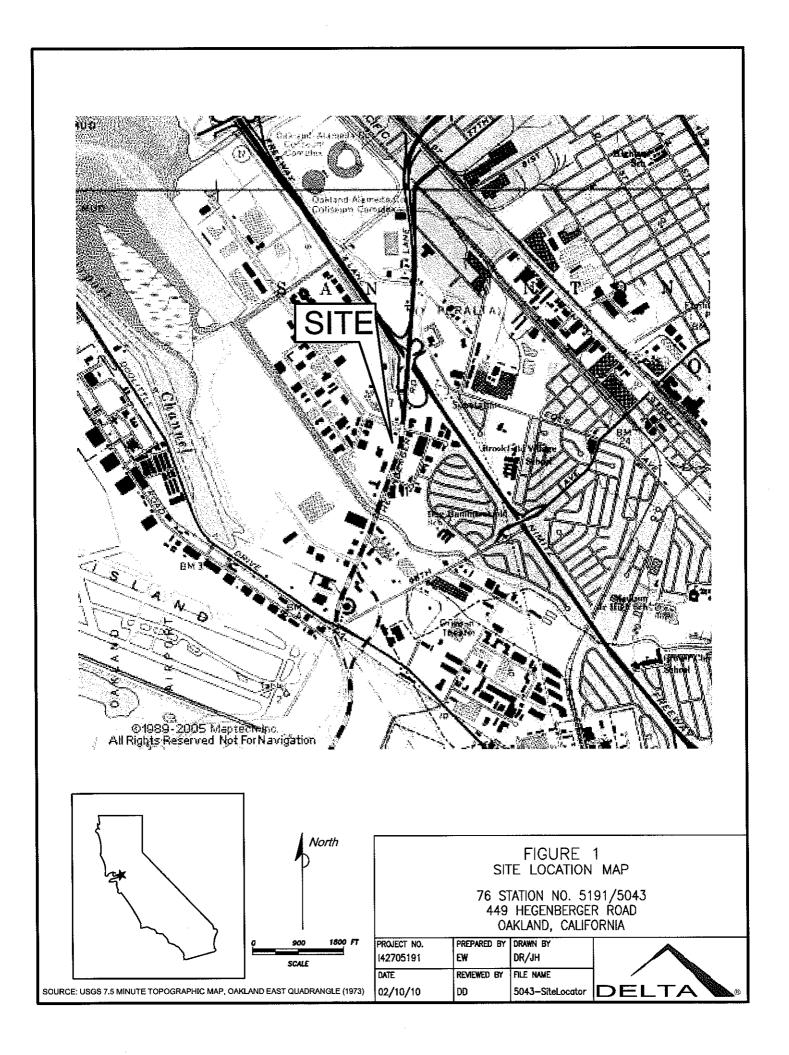
Table 1 - Historical Soil Analytical Results

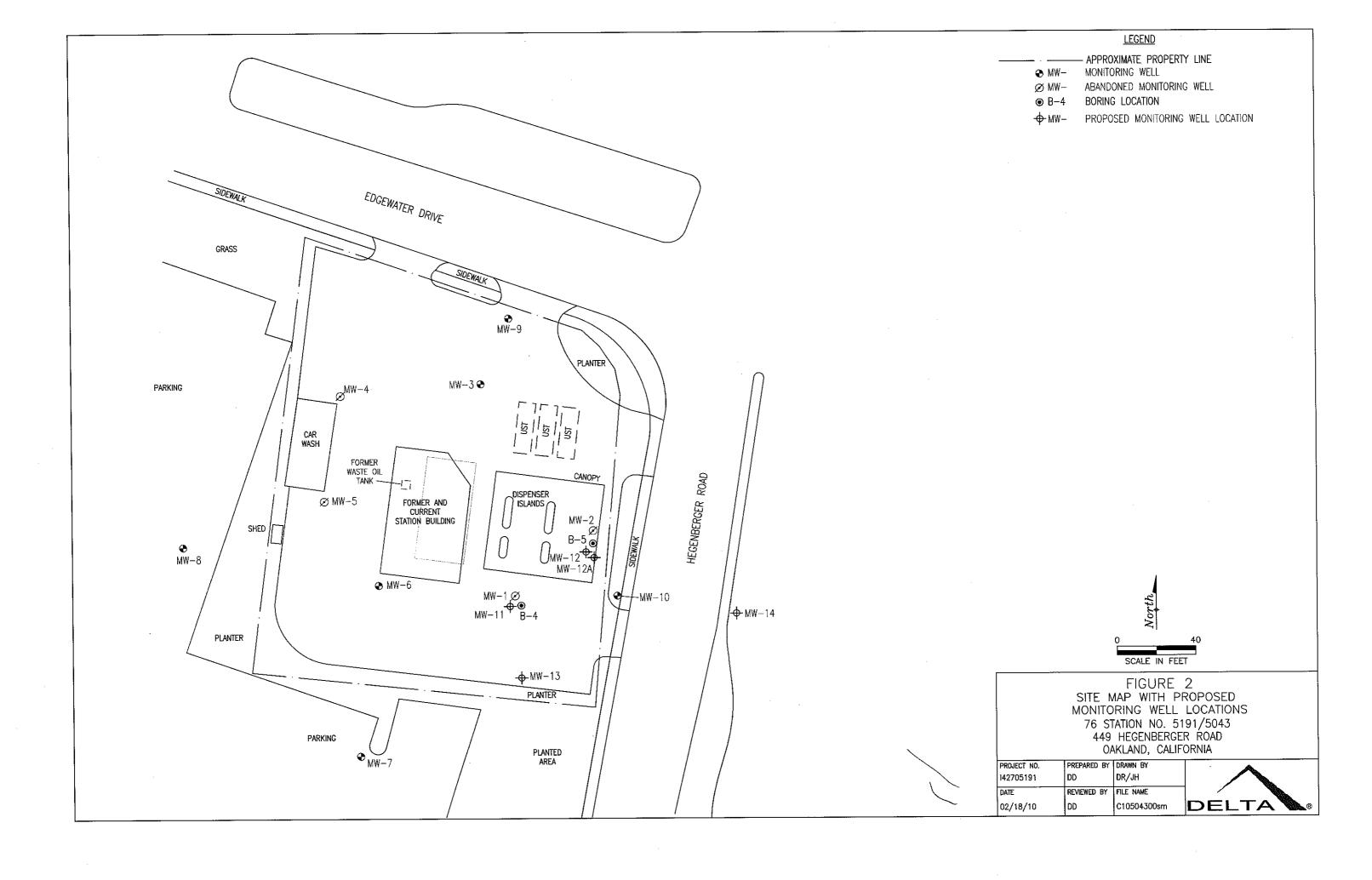
Table 2 - Groundwater Analytical Results (December 2009)

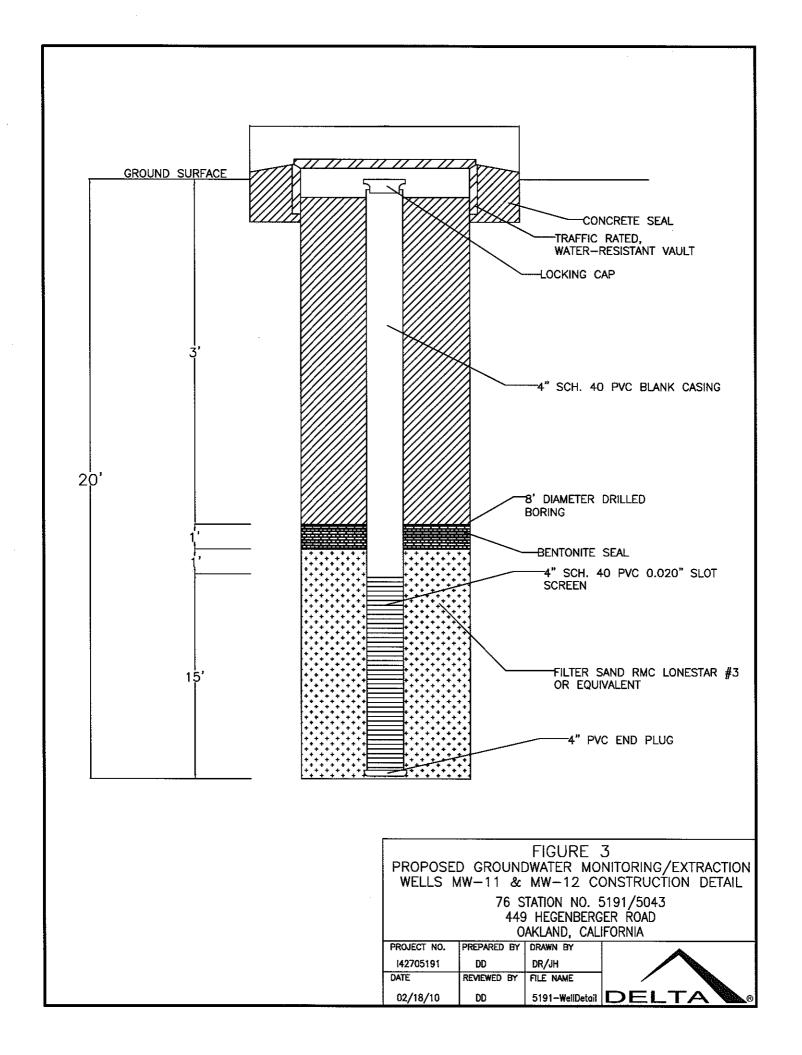
Attachment

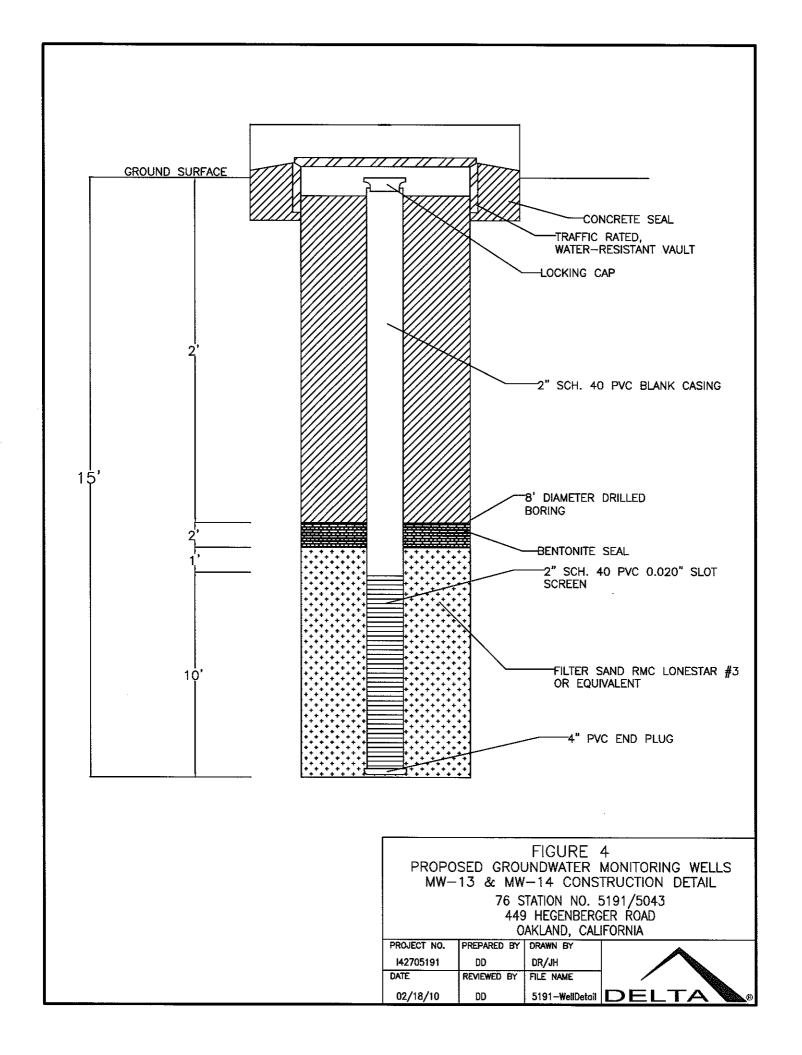
Attachment A - ACHCSA Email Dated September 22, 2009

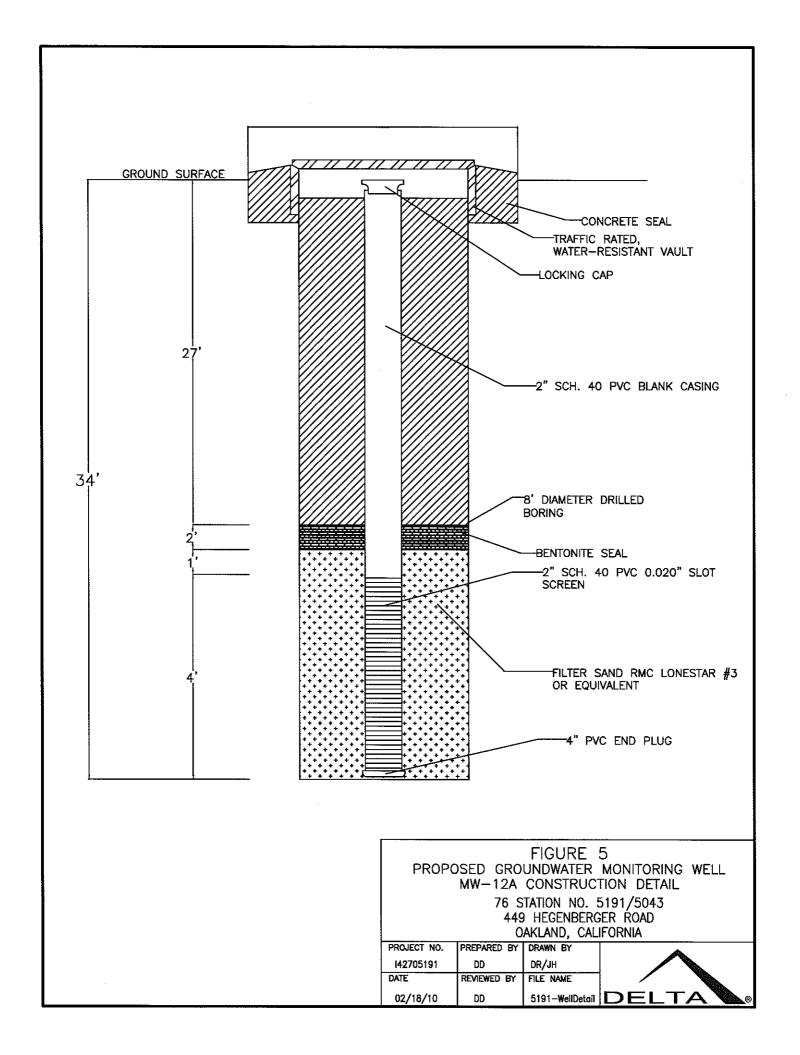
Figures











Tables

TABLE 1

HISTORICAL SOIL ANALYTICAL RESULTS

76 Station No. 5191/5043 449 Hegenberger Raod, Oakland, California

												
Sample ID	Date	Sample Depth (feet)	TPHg (mg/kg)	TPHd (mg/kg)	TPHd* (mg/Kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	TAME (mg/kg)
P1	10/25/1991	3	3,200	420	NA	33	120	110	540	NA	NA	NA
P2	10/25/1991	3	9,000	8,400	NA	46	120	330	1,500	NA	NA	NA
P3	10/25/1991	3	7,100	1,100	NA	48	410	220	1,200	NA	NA	NA
P4	10/25/1991	3	370	460	NA	7.4	39	12	77	NA	NA	NA
MW1(2.5)	2/5/1992	2.5	14,000	1,200	NA	160	680	470	2,400	NA	NA	NA
MW2(3.5)	2/5/1992	3.5	9,000	2,400	NA .	74	440	280	1,400	NA	NA	NA
MW2(4.5)	2/5/1992	4.5	31	29	NA	2.4	0.14	თ	9	NA	NA	NA
MW3(3)	2/5/1992	3	<1.0	49	NA	<0.005	<0.005	<0.005	0.011	NA	NA	NA
MW3(4.5)	2/5/1992	4.5	<1.0	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
MW4(5)	8/21/1992	5	<1.0	<1.0	NA	<0.005	<0.005	<0.005	0.0066	NA	NA	NA
MW5(6)	8/21/1992	6	340	43	NA	1.1	1,2	7.8	13	NA	NA	NA
MW6(5)	8/21/1992	5	3.7	1.2	NA	0.9	<0.005	1	0.05	NA	NA	NA
MW9(3)	1/25/1995	3	1.7	2.6	NA	0.016	<0.005	<0.005	<0.005	NA	NA	NA
MW10(2.5)	1/25/1995	2.5	44	17	NA .	2	1.5	2.3	5.4	NA	NA	NA
SW1	3/10/1995	8	11	NA	NA	2.8	<0.005	1.6	0.067	NA	NA	NA
SW2	3/10/1995	8	11	NA	NA	3.8	<0.005	0.79	0.034	NA	NA	NΆ
SW2(4)	3/10/1995	4	2,000	140	NA ·	<0.005	53	42	240	NA	NA	NA
SW3	3/10/1995	8	1	<1.0	NA	0.009	0.006	0.007	0.014	NA	NA	NA
SW4	3/10/1995	8	<1.0	1.8	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
SW5	3/10/1995	8	<1.0	1.4	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
SW6	3/10/1995	8	<1.0	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
SW7	3/10/1995	8	<1.0	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
SW8	3/10/1995	8	140	NA	NA	2.6	5.3	2.7	12	NA	NA	NA
D1	3/24/1995	3	760	46	NA	1.5	19	15	73	NA	NA	NA
D2	3/24/1995	3	1,200	97	NA	1.6	16	22	110	NA	NA	NA
B1	3/28/1995	6	<1.0	<1.0	NA	0.13	0.026	0.0088	0.059	NA	NA	NA
B2	3/28/1995	6	3.4	<1.0	NA	2.8	0.041	0.19	0.28	NA	NA	NA
B3	3/28/1995	6	<1.0	<1.0	NA	<0.005	0.01	<0.005	0.017	NA	NA	NA
B4	3/28/1995	6	<1.0	<1.0	NA	<0.005	0.017	<0.005	0.032	NA	NA	NA
BD1	3/28/1995	6	<1.0	<1.0	NA	0.21	0.011	0.018	0.038	NA	NA	NA
BD2	3/28/1995	6	12	4.8	NA	2.6	0.68	0.56	1.7	ŇA	NA	NA
BD3	3/28/1995	6	<1.0	<1.0	NA	0.012	0.014	0.012	0.043	NA	NA	NA
BD4	3/28/1995	6	<1.0	<1.0	NA	< 0.005	0.011	0.0072	0.037	NA	NA	NA
S1	3/28/1995	4	110	<1.0	NA	3.5	0.61	7	13	NA	NA	NA
S2	3/28/1995	4	1.4	9.4	· NA	0.028	0.012	0.015	0.019	NA	NA	NA
S3	3/28/1995	4	22	2.9	. NA	1.2	1.2	0.65	1.9	NA	NA	NA

TABLE 1

HISTORICAL SOIL ANALYTICAL RESULTS

76 Station No. 5191/5043 449 Hegenberger Raod, Oakland, California

Sample ID	Date	Sample Depth (feet)	TPHg (mg/kg)	TPHd (mg/kg)	TPHd* (mg/Kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	TAME (mg/kg)
S4	3/28/1995	4	150	5.8	NA	6.8	5.6	5.3	27	NA NA	NA	NA
RF1	3/31/1995	3	2,000	330	NA	8.8	68	55	280	NA	NA	NA
RF2	3/31/1995	3	3,300	230	NA	18	160	110	550	NA	NA	NA
SW8(6)	4/3/1995	. 8	<1.0	<1.0	NA .	0.0085	<0.005	0.0084	0.011	NA	NA	NA
FB1	4/3/1995	4.5	25	8.6	NA	2.1	0.058	2.2	1.3	NA	NA	NA
FB2	4/3/1995	4.5	7.1	1.6	NA	0.4	0.018	0.81	1.7	NA	NA	NA
FB3	4/3/1995	4.5	1.6	<1.0	NA	0.028	<0.005	0.13	0.26	NA	NA	NA
FB4	4/3/1995	4.5	1.4	<1.0	· NA	0.23	0.022	0.05	0.15	ŇΑ	NA	NA
FBSW1	4/3/1995	3	7.4	1.3	NA	0.066	0.021	. 1	<0.005	NA .	NA	NA
FBSW2	4/3/1995	3	70	7.6	NA	0.11	0.096	2.1	6.7	NA	NA	NA
FBSW3	4/3/1995	3	2.3	7.8	NA	0.012	0.01	0.018	0.012	ŇA	ŇA	NA
FBSW4	4/3/1995	3	9	3.7	NA	0.25	0.036	0.93	0.062	NA	NA	NA
MW1SW1	4/5/1995	5	25	2.8	NA	2.1	0.025	2.4	0.19	NA	NA	NA
MW1SW2	4/5/1995	5	4.2	1.2	NA	0.17	0.01	0.68	0.048	NA	NA	NA
WE1	4/5/1995	4.5	26	3.4	NA	0.31	0.3	0.59	2.6	NA	NA	NA
WE2	4/5/1995	4.5	2.7	5.1	NA	0.0054	0.0065	0.038	0.17	NA	NA	NA
WE3	4/5/1995	4.5	8.2	1.6	NA	0.21	0.074	1.6	0.0076	NA	NA	NA
FS-1	4/5/1995	4	12	<1.0	NA	0.28	<0.005	1.5	0.016	NA	NA	NA
MW8(6)	4/21/1997	6	1.3	<1.0	NA	0.0051	<0.005	0.015	0.041	<0.005	NA	NA
B-4@6	12/17/2009	6	20.4	11.4	10.1	0.046	0.18	1	4.2	0.061	0.091	<0.0029
B-4@15	12/17/2009	15	<4.9	<5.8	<5.8	0.0036	0.0069	0.011	0.049	0.0081	0.036	<0.003
B-4@20	12/17/2009	20	<4.9	<5.6	<5.6	<0.003	<0.003	<0.003	<0.006	<0.003	<0.015	<0.003
B-5@8	12/17/2009	8	1,060	285	269	6.2	21.6	30.9	143	<0.0029	0.079	0.068
B-5@17.5	12/17/2009	17.5	136	27.8	26.9	0.55	1.4	2.7	15.8	<0.003	0.035	<0.003
B-5@26.5	12/17/2009	26.5	1,570	338	346	16.2	73.5	52.8	255	0.02	0.11	<0.0028
B-5@32	12/17/2009	32	<4.8	<5.9	<5.9	0.007	0.0087	0.0057	0.031	<0.0029	<0.015	<0.0029

Notes:

TPHg = total petroleum hydrocarbons as gasoline by EPA Method 8015

TPHd = total petroleum hydrocarbons as diesel by EPA Method 8015

BTEX = benzene, toluene, ethylbenzene, total xylenes by EPA Method 8260B

MTBE = methyl tertiary-butyl ether by EPA Method 8260

TBA = tertiary-butyl alcohol by EPA Method 8260

TAME = tert-amyl methyl ether by EPA Method 8260

* = Silica Gel Treated

mg/kg = milligrams per kilogram

NA = not applicable

TABLE 2

GROUNDWATER ANALYTICAL RESULTS

76 Station No. 5191 449 Hegenberger Road, Oakland, California

Sample ID	Date	Sample Depth	TPHg (µg/L)	TPHd (µg/L)	TPHd* (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	1,2-ĐCA (μg/L)
B-4	12/17/2009	20	97,100	11,300	13,500	6,960	8,310	6,420	26,000	241	167	<50
B-5@20W	12/17/2009	20	23,500,000	19,900,000	20,400,000	324,000	1,050,000	918,000	4,120,000	<50	<500	<100

291,000

8,100

20,200

9,580

60,800

<250

632

511

B-5@32W

TPHg = total petroleum hydrocarbons as gasoline by EPA Method 8015

TPHd = total petroleum hydrocarbons as diesel by EPA Method 8015

BTEX = benzene, toluene, ethyl-benzene, total xylenes by EPA Method 8260

32

422,000

294,000

MTBE = methyl tertiary-butyl ether by EPA Method 8260

12/17/2009

1,2-DCA = 1,2-Dichlorethane by EPA Method 8260

* = TPHd (silica gel treated)

μg/L = micrograms per liter

= Estimated value

NA = not applicable

Attachment A

ACHCSA Email Dated February 16, 2010

Dennis Dettloff

From: Jakub, Barbara, Env. Health [barbara.jakub@acgov.org]

Sent: Tuesday, February 16, 2010 9:08 AM

To: Dennis Dettloff

Subject: RE: Site 5191/5043, 449 Hegenberger Road, Oakland, Fuel Leak Case No. RO0000219

Please submit the work plan.

From: Dennis Dettloff [mailto:DDettloff@deltaenv.com]

Sent: Tuesday, February 16, 2010 8:06 AM

To: Jakub, Barbara, Env. Health

Subject: Site 5191/5043, 449 Hegenberger Road, Oakland, Fuel Leak Case No. RO0000219

Ms. Jakub:

Yesterday Delta submitted the site investigation report for the above referenced site. As you may recall, Delta advanced two borings, one in the vicinity of former monitoring well MW-1, and one in the vicinity of former monitoring well MW-2 (attached). I don't know what your work load is like right now and even if you are currently reviewing work plans, but I would like to get a work plan submitted to you ASAP. If you look at the attached table (groundwater) it appears that there is separate phase hydrocarbons in the groundwater in the vicinity of boring B-5 and this needs to be addressed soon. Let me know if it would be acceptable for Delta to submit a work plan for your review to address this problem.

Thanks.

Dennis S. Dettloff, P.G. | Senior Project Manager | North American Operations Delta Consultants, an Oranjewoud N.V. Company
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