



July 21, 2010

Project 1603.044

Mr. Paul Cho, PG
Site Cleanup Unit IV
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Re: Work Plan for LNAPL Characterization in Uppermost Groundwater Zone and Top of Bellflower Aquitard, Defense Fuel Support Point Norwalk, 15306 Norwalk Boulevard, Norwalk, California (SCP No. 0286B)

Dear Mr. Cho:

On behalf of SFPP, L.P. (SFPP), an operating partner of Kinder Morgan Energy Partners, L.P. (KMEP), AMEC Geomatrix, Inc. (AMEC), has prepared this work plan for characterization of liquid-phase hydrocarbons (light non-aqueous phase liquid [LNAPL], or free product) in sediment above and within the uppermost groundwater zone and the top of Bellflower aquitard at the Defense Fuel Support Point (DFSP) facility in Norwalk, California. The presence of residual LNAPL above and below the current position of the water table in the uppermost groundwater zone is a recognized feature of the conceptual model for the site.¹ The vertical distribution of residual LNAPL has been interpreted previously based on field observations (e.g., visual, odor, photoionization detector [PID]) of soil core samples, and on historical groundwater level fluctuation and free product thickness data from groundwater monitoring wells but has not been verified through direct field or laboratory measurements. This work plan describes the methods to be used to verify, and quantify where present, the vertical distribution of LNAPL in areas of current or historical occurrence of LNAPL and has been prepared pursuant to the request made by the California Regional Water Quality Control Board - Los Angeles Region (RWQCB) during the Norwalk Technical Meeting held on May 27, 2010.

The proposed work includes: collection of free product samples from wells; characterization of LNAPL presence and distribution in soil using laser induced fluorescence cone penetrometer testing (CPT/LIF) technology; and the collection, observation, field screening, lithologic logging, and laboratory testing of soil core samples from assessment borings. The selection of soil cores for laboratory testing will be based on initial CPT/LIF data. The following sections summarize relevant background information, state the objectives of the planned work, describe the proposed scope of work and methods, and present a general schedule for implementation of this work plan.

¹ AMEC Geomatrix, Inc., 2009, Preliminary Conceptual Site Model, Defense Fuel Support Point Norwalk, Norwalk, California, February 13.

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BACKGROUND

The following sections summarize relevant project background information including site description, site hydrogeologic setting, and previous investigations.

Site Description

The DFSP Norwalk Facility, also known as the Norwalk Tank Farm, is a 50-acre facility located at 15306 Norwalk Boulevard in the City of Norwalk, California (the site; Figure 1). DFSP is owned by the Defense Energy Support Center (DESC). The ground surface elevation at the site is approximately 75 feet above mean sea level (msl). Land use in the immediate vicinity of the site is primarily residential to the north, west, and south. Holifield Park, a City recreational facility, is located adjacent to and east of the site. Dolland Elementary School is located east of Holifield Park and approximately 500 feet east of the site.

The DFSP facility is occupied by 12 inactive aboveground fuel storage tanks and associated piping and facilities. The tanks had a total maximum capacity of 35 million gallons and were used to store and distribute refined petroleum products including jet propellant numbers 5 and 8 (JP-5 and JP-8) and reportedly also aviation gasoline and JP-4. DESC also previously operated truck fill stands and various fuel transfer systems. The facility was decommissioned in 2001 and is no longer used to handle fuel.

SFPP leases two acres at the site and has easements for its pipelines along the southern and eastern boundaries of the facility. Previously, SFPP operated a pump station near the south-central area of the site. The pump station was decommissioned in 2001 but three pipelines heading eastward along the southern boundary of the DFSP facility, one of which bends at the southeastern corner of the facility and continues northward within the eastern easement, remain in service and continue to convey refined petroleum fuels including gasoline, diesel, and jet fuel. The pipelines are fitted with block valves, two of which are located along a 24-inch-diameter pipeline and within areas currently undergoing remediation. One block valve is located in the south-central portion of the site and is referred to as the "intermediate 24-inch block valve." The other block valve is located off-site near the southeastern area of the site and is referred to as the "southeastern 24-inch block valve" or "off-site 24-inch block valve." Figure 2 shows the general layout of the site.

Site Hydrogeologic Setting

The uppermost groundwater zone in the site vicinity is a semi-perched unit between depths of approximately 25 and 50 feet below ground surface (bgs). Depths to groundwater in monitoring wells constructed in the uppermost groundwater zone have ranged from approximately 20 to 40 feet bgs since 1990. Additional information regarding historical groundwater levels in this zone are presented in a subsequent section. The horizontal component of hydraulic gradient (indicating apparent direction of groundwater flow) in the uppermost groundwater zone has generally been northwestward beneath the central part of the site and northward or north-northwestward beneath the southern off-site area, with a magnitude of approximately 0.001 foot

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per foot. Based on these interpreted conditions, groundwater flow within this uppermost zone has generally ranged from northward to northwestward but is influenced locally by groundwater extraction and other remediation activities at the site.

The Bellflower aquitard of the Lakewood Formation underlies the uppermost groundwater zone at the site. Based on lithologic logs from previous assessments at and near the DFSP facility, the Bellflower aquitard lies between depths of approximately 50 and 80 feet bgs beneath the site and consists of predominantly clay, silty clay, and sandy clay with some interbedded sand with silt. Additional discussion of the Bellflower aquitard and underlying Exposition aquifer may be found in several recent reports.^{1, 2, 3}

Previous Assessments

Subsurface assessments have been performed at the DFSP facility since 1986. Groundwater monitoring and remediation wells were installed at the site for monitoring and as components of groundwater remediation systems. The investigations have evaluated and defined the extent of the liquid-phase, sorbed-phase, and dissolved-phase fuel hydrocarbons in soil and groundwater beneath the DFSP facility and at off-site properties to the south, west, and east.

As noted in the semiannual groundwater monitoring reports, the principal chemical constituents of concern detected in groundwater included total petroleum hydrocarbons (TPH; including TPH quantified as gasoline [TPHg], diesel fuel [TPHd], jet propellant 4 [JP-4], jet propellant 5 [JP-5], and jet propellant 8 [JP-8]); benzene, toluene, ethylbenzene, and total xylenes (collectively known as BTEX); 1,2-dichloroethane (1,2-DCA); and methyl tertiary-butyl ether (MTBE). As part of the standard monitoring program for this site, TPH analyzed using extraction sample preparation have been quantified against a standard of site fuel collected from the remediation system for the north central area of the site (fuel product) and reported as TPHfp. TPHd, JP-4, and/or JP-5 analyses have been performed but are not part of the standard monitoring program. Tert-butyl alcohol also has been detected in groundwater samples from several wells in the south-central and southeastern area and also has been detected in groundwater samples from some locations in the northern part of the site.

Historical Groundwater Levels and LNAPL in the Uppermost Groundwater Zone

Residual LNAPL above and below the current position of the water table in the uppermost groundwater zone is a recognized feature of the conceptual model for the site.¹ Table 1 lists construction details for selected groundwater monitoring and remediation wells in the south-central and southeastern areas. Table 2 lists historical groundwater depths and elevations and free product depths and thicknesses in monitoring and remediation wells in these areas.

² AMEC Geomatrix, Inc., 2008, Additional Off-Site Assessment Report, Off-Site 24-Inch Block Valve Area, Defense Fuel Support Point, Norwalk, California, August 28.

³ AMEC Geomatrix, Inc., 2010, Supplemental Vertical Delineation, Off-Site 24-Inch Block Valve Area, Defense Fuel Support Point, Norwalk, California, April 23.

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Historical groundwater levels in the uppermost groundwater zone have ranged from approximately 20 to 40 feet bgs (32 to 56 feet msl) since 1990. LNAPL thicknesses measured in the monitoring wells have ranged from a sheen (less than measurable thickness) to as much as approximately 16 feet (MW-SF-2 in the south-central area in 1997). Groundwater, free product, and soil vapor extraction implemented since 1990 have substantially reduced the areal extent and thickness of this free product. Free product is currently measured at thickness of less than 1 foot in a subset of wells with originally detected product.

South-Central Area

In July 2008, Geomatrix Consultants, Inc. (now known as AMEC) evaluated the potential distribution of residual LNAPL ("smear zone") in the south-central area. The approximate historical area of LNAPL occurrence in the south-central area is shown on Figure 3. Cross sections A-A' and B-B' are presented as Figures 4 and 5 (cross section alignments are shown on Figure 3).

The LNAPL smear zone was interpreted based on historical product thicknesses measured in monitoring wells, on review and interpretation of lithologic logs from borings, and on historical fluctuations in groundwater levels in the area. The smear zone in the central part of the south-central area LNAPL plume is interpreted to have a maximum thickness of approximately 14 feet and to lie between elevations of approximately 38 and 52 feet msl. Current groundwater elevations in the south-central area are on the order of 47 to 52 feet msl.

Southeastern Area

The historical outline of the occurrence of free product in the southeastern area is shown on Figure 3. Free product was detected in monitoring well GWM-O-15 at a thickness of up to 6.56 feet in March 1995 when the groundwater elevation was at approximately 43.3 feet msl. The maximum thickness of free product measured in GMW-36 was 3.92 feet in October 2002 when the groundwater elevation was at approximately 45 feet msl. The groundwater elevation in the vicinity of these wells was approximately 49 feet msl in May 2010. Based on the historical water levels and product thickness, the smear zone in the southeastern area may be on the order of 6 feet thick and may lie between elevations of approximately 43 and 49 feet msl.

Based on data available and reviewed to date, the lower extent of residual LNAPL interpreted in both the south-central and southeastern areas lies within the uppermost groundwater zone and an appreciable distance (on the order of 10 feet) above the base of the uppermost groundwater zone and the top of the Bellflower aquitard.

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OBJECTIVES

The objectives of this assessment are to:

- further evaluate the vertical distribution of LNAPL above and within the uppermost groundwater zone in the south-central and southeastern areas;
- confirm the presence of the Bellflower aquitard by advancing the CPT probe up to 10 feet into the top of this unit; and
- obtain additional information on the chemical composition of LNAPL or adsorbed-phase residual hydrocarbons and fuel constituents present at the assessment locations.

PROPOSED SCOPE OF WORK

The proposed approach to address the objectives of this investigation consists of the following tasks:

- Task 1 – pre-field activities
- Task 2 – LIF calibration and response validation,
- Task 3 – laser induced fluorescence cone penetrometer testing (CPT/LIF)
- Task 4 – soil core sampling and laboratory testing, and
- Task 5 – data analysis and reporting.

Bail-down testing of LNAPL in monitoring wells is not proposed in this work plan because the overall free product thicknesses measured in groundwater monitoring and remediation wells at the site are one foot or less.

Approximate locations of proposed CPT/LIF assessment borings (CPT/LIF-1 through CPT/LIF-5) are shown on Figure 6. The scope and methods of the proposed work are described in the sections below.

Task 1 – Pre-Field Activities

Prior to commencement of field work, the following activities will be conducted:

- obtaining an encroachment permit or access agreement from the City of Norwalk;
- establishing access agreements with owners of properties south of the site;
- updating the existing site-specific Health and Safety Plan to incorporate the planned field work;

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- notifying the RWQCB a minimum of 1 week in advance of the planned field activities;
- marking the proposed boring locations;
- notifying Underground Service Alert a minimum of 3 business days in advance of the planned field activities;
- completing an underground utility check using a private utility locating subcontractor;
- retaining and coordinating with drilling and laboratory subcontractors;
- obtaining a drilling permit from the Los Angeles County Department of Public Health – Environmental Health; and
- coordinating with KMEP personnel to arrange for a KMEP field inspector to be present during field activities in the vicinity of KMEP pipelines, if necessary.

The proposed assessment boring locations will be finalized in the field based on the results of the geophysical survey (utility clearance) and availability of access to offsite properties.

Task 2 – LIF Calibration and Response Validation

The LIF tool (described in Task 3) will be calibrated to a known standard provide by the equipment manufacture prior to field scans. In addition, the LIF tool response to site LNAPL will be verified by scanning newly collected field LNAPL samples with the LIF tool prior to deploying the CPT/LIF tool and by comparison of the CPT/LIF data with pore fluid saturation data and laboratory analyses of soil cores collected as part of Task 4. The following activities will be performed to collect LNAPL samples, verify the LIF tool response to site LNAPL, and characterize the chemistry of the LNAPL samples:

- Free product in groundwater monitoring and/or remediation wells in the south-central and southeastern areas will be measured to obtain updated free product thickness in wells. Free product samples will be collected in each area from one or more wells with a measurable thickness of free product.
- One set of LNAPL split samples will be provided to the CPT/LIF contractor for LIF response assessment and wavelength tuning recommendations to facilitate real-time evaluation of LNAPL encountered in the field.
- Another set of LNAPL split samples will be submitted to Alpha Analytical, Inc. (Alpha Analytical), a laboratory in Sparks, Nevada, certified by the Environmental Laboratory Accreditation Program of the California Department of Public Health, and analyzed for TPHg and TPHfp using Environmental Protection Agency (EPA) Method 8015 modified

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(M) and volatile organic compounds (VOCs) including fuel oxygenates using EPA Method 8260B.

Task 3 – Laser Induced Fluorescence Cone Penetrometer Testing (CPT/LIF)

After calibrating and verifying the LIF tool response (Task 2), a CPT/LIF assessment will be conducted at four locations (CPT/LIF-1 through CPT/LIF-4) in the south-central area and one location (CPT/LIF-5) in the southeastern area. The tentatively proposed CPT/LIF boring locations are shown on Figure 6. Proposed boring locations CPT/LIF-1 through CPT/LIF-5 are based on the historical and recent presence of free product in wells in the south-central and southeastern areas and are expected to provide data from areas in which substantial thickness of residual LNAPL, if present, would be relatively likely. Proposed boring CPT/LIF-4 is near the location of off-site groundwater monitoring well GMW-O-14, a monitoring well that historically contained LNAPL and a location in which RWQCB staff has expressed recent interest. These locations may be adjusted based on further review of free product thickness data or existing boring logs, site access, logistical considerations, or other factors.

At each location, a sounding will be conducted using a CPT rig equipped with an ultraviolet optical screening tool (UVOST) module (i.e., the LIF tool) after clearing the location using air knife. Each of these soundings will extend through the uppermost groundwater zone and up to 5 to 10 feet into sediments of the Bellflower aquitard, or to refusal, whichever is shallower. Based on previous investigations in the southeastern area, the top of the Bellflower aquitard is expected to be encountered at a depth of approximately 45 to 50 feet bgs and the aquitard is expected to consist of a lithologic sequence of predominantly fine-grained sediments with some interbedded sands. The soundings will be terminated within the upper part of the Bellflower aquitard to reduce the risk that the soundings would provide a temporary conduit that would allow movement of impacted groundwater from the uppermost groundwater zone to the Exposition aquifer.

The UVOST module uses principles of fluorescence spectrometry by irradiating the soil with ultraviolet light produced by a laser and transmitted to the cone through fiber optic cables and into the soil. Hydrocarbon molecules present in the soil absorb the light energy during radiation and re-emit the light at a longer wavelength, which is measured by the UVOST system. The UVOST system also measures emission decay with time at four different wavelengths, allowing the system to verify a product signature at each measuring point. The product signature will be further evaluated by comparing the wavelengths captured by the UVOST system in the field to the wavelengths produced by the free product samples during LIF calibration and response validation process. Additional information on the UVOST methods we anticipate will be used for this assessment is provided in Attachment A.

The CPT/LIF profile from each boring will be reviewed and up to two target intervals will be selected for collection of soil cores as described above. After CPT/LIF assessment and soil core sampling is completed, borings will be destroyed by backfilling with cement-bentonite grout emplaced through a tremie pipe. Ground surface at each boring location will be repaired to

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reasonably match surrounding conditions. Following completion of the field investigation, boring locations will be surveyed by a licensed surveyor.

Task 4 – Soil Core Sampling and Laboratory Analysis

The follow soil core sampling and laboratory analysis work will be performed at each of the five locations in Figure 6 after completing the CPT/LIF assessment:

- Based on the CPT/LIF assessment results, up to two relatively intact soil core samples will be collected from depths selected based on the unique LNAPL smear zone profile at each CPT/LIF assessment boring location. The soil core samples will be collected using a piston-type sampling device or equivalent to minimize the disturbance of the sample during the retrieval process. Soil that is not packaged for laboratory samples will be logged and field screened for VOCs using a photoionization detector. Because CPT data will also be collected in the borings and will be used to interpret soil behavior types, soil core for lithologic logging or other purposes will not be collected from other depth intervals.
- One set of soil core split samples will be submitted to Alpha Analytical for analysis of TPHg, TPHfp, and TPH fractionation by EPA Method 8015M and VOCs using EPA Method 8260B. Soil samples for VOC analysis will be sampled in accordance with EPA Method 5035. The VOC analysis results will be used in evaluation of presence or absence of oxygenated compounds. The TPH analysis results will be used in correlation of LNAPL saturation with the LIF measurement data to assess presence or absence of LNAPL.
- Another set of soil core split samples will be submitted to PTS Laboratories, Inc., a California certified laboratory in Santa Fe Springs, California, and analyzed for pore fluid saturation using American Petroleum Institute Method RP40 and grain size distribution using ASTM International Methods D422/D4464. These results will be used in correlation of residual LNAPL saturation levels with the estimated saturations using LIF to delineate the residual LNAPL in the assessment areas.

For Tasks 3 and 4, drilling equipment will be steam-cleaned using potable water prior to use. Sampling equipment will be cleaned before each use by steam cleaning or by washing with Alconox-water solution and double-rinsing with potable water. Waste generated during the investigation including equipment wash and rinse water and soil cuttings from air knifing will be separately contained in Department of Transportation -approved 55-gallon steel drums. Equipment rinse and wash water will be transferred to a holding tank at SFPP's onsite groundwater treatment system for treatment and discharge. Soil cuttings will be profiled and disposed of at an appropriate off-site disposal facility.

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Task 5 – Data Analysis and Reporting

After completion of the CPT/LIF assessment activities and receipt of final laboratory analytical results and CPT/LIF data, the following analyses will be performed.

- LIF measurements will be qualitatively or semi-quantitatively correlated to the presence of LNAPL using the analytical laboratory results of the intact soil core sampling and TPH fractionation.
- The vertical extent of LNAPL at each boring location will be assessed based on LIF measurements.
- The nature of the LNAPL, if present, in soil will be evaluated using the chemical laboratory analyses and physical analyses of pore fluid saturation and grain size distribution.
- The presence of fuel oxygenates in LNAPL or sorbed-phase in sediments at each boring location will be assessed based on the VOC analysis results for LNAPL and soil core samples.

A data summary report will be prepared to describe assessment activities and summarize results of the assessment. The data summary report will include tables, figures, CPT/LIF sounding logs, and laboratory analytical data and will be submitted to the RWQCB.

SCHEDULE

We anticipate initiating implementation of this work plan upon receiving approval from the RWQCB. The report summarizing the results of the CPT/LIF assessment will be prepared and submitted to the RWQCB within 60 days of receiving final laboratory analytical results and CPT/LIF data.

If you have any questions, please contact either of the undersigned at (949) 642-0245.
Sincerely yours,

AMEC Geomatrix, Inc.



Thandar Phyu, PG
Project Hydrogeologist



G. Richard Rees, CHg
Senior Hydrogeologist

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Attachments:

Table 1 - Groundwater Monitoring and Remediation Wells in South-Central and Southeastern Areas
Table 2 - Historical Groundwater Data for South-Central and Southeastern Areas

Figure 1 - Site Location Map
Figure 2 - Site Plan
Figure 3 – Approximate Historical Area of LNAPL and Cross Section Alignments
Figure 4 - Cross Section A-A'
Figure 5 - Cross Section B-B'
Figure 6 - Proposed CPT/LIF Locations

Attachment A - Laser Induced Fluorescence (LIF) – Ultraviolet Optical Screening Tool (UVOST) Methods

cc: Mr. Steve Defibaugh, KMEP
Ms. Shiow-Whei Chou, AMEC
Mr. Mark Wuttig, CH2M Hill
Lt. Col. Jon Ramer, DESC
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Ms. Adriana Figueroa, City of Norwalk
Mr. Norman A. Dupont, Esq.
Mr. Charles Emig, City of Cerritos
Office of Congresswoman Grace F. Napolitano

TABLES

TABLE 1

GROUNDWATER MONITORING AND REMEDIATION WELLS

South-Central and Southeastern Areas

Defense Fuel Support Point, Norwalk
Norwalk, California

Well	Installation Date	Installed By	Total Depth (ft bgs)	Casing Diameter (inches)	Screen Interval (ft bgs)	Slot Size (inches)
GMW-9	7/8/91	GTI	50	4	20 - 50	0.01
GMW-22	8/2/91	GTI	61	4	25 - 60	0.01
GMW-23	8/2/91	GTI	60	4	25 - 60	0.01
GMW-24	8/5/91	GTI	60	4	25 - 60	0.01
GMW-25	1/10/92	GTI	50	6	20 - 50	0.01
GMW-26	1/7/92	GTI	51.5	4	20 - 50	0.01
GMW-27	1/10/92	GTI	50	4	20 - 50	0.01
GMW-28	1/7/92	GTI	50	4	20 - 50	0.01
GMW-29	1/9/92	GTI	50	4	20 - 50	0.01
GMW-30	1/9/92	GTI	51.5	6	20 - 50	0.01
GMW-36	4/11/94	GTI	50	4	20 - 50	0.01
GMW-O-10	7/29/92	GTI	51.5	4	20 - 50	0.01
GMW-O-11	5/20/92	GTI	51.5	4	20 - 50	0.01
GMW-O-12	5/21/92	GTI	51.5	4	20 - 50	0.01
GMW-O-14	5/20/92	GTI	51.5	4	20 - 50	0.01
GMW-O-15	4/19/94	GTI	50	4	20 - 50	0.02
GMW-O-16	4/19/94	GTI	50	4	20 - 50	0.02
GMW-O-18	7/25/94	GMX	41	4	20.8 - 40.4	0.01
GMW-O-19	7/29/94	GMX	41.5	4	20.2 - 39.9	0.01
GMW-O-20	6/15/95	GMX	45.9	4	--	--
GMW-O-21	10/1/97	GMX	45.9	4	25.5 - 45.5	0.01
GMW-O-23	6/25/07	GMX	44	4	20 - 40	0.02
GWR-1	7/11/91	GTI	50	4	25 - 50	0.01
GWR-3	1/10/92	GTI	50	6	20 - 50	0.01
HL-1	10/14/86	HLA	39	4	18 - 38	0.01
HL-4	10/16/86	HLA	39	4	18 - 38.5	0.01
HL-5	10/16/86	HLA	39.5	4	18.5 - 39	0.01
MW-8	8/24/90	WC	51	4	18 - 48	0.01
MW-18 (MID)	6/10/91	WC	62.2	4	50 - 60	0.01
MW-O-1	1/22/91	GMX	40	2	25 - 40	0.02
MW-O-2	1/23/91	GMX	40	2	25 - 40	0.02
MW-SF-1	6/18/90	GMX	40	4	25 - 40	0.02
MW-SF-2	6/18/90	GMX	40	4	25 - 40	0.02
MW-SF-3	6/18/90	GMX	40	4	25 - 40	0.02
MW-SF-4	6/19/90	GMX	40	4	25 - 40	0.02
MW-SF-5	9/19/90	GMX	40	4	23 - 38	0.02
MW-SF-6	9/19/90	GMX	40	4	24 - 39	0.02
MW-SF-9	6/15/95	GMX	40	4	--	--
MW-SF-10	09/23/03	GMX	30.5	4	10.3 - 29.9	0.02
MW-SF-11	--	GMX	--	4	--	--

TABLE 1

**GROUNDWATER MONITORING AND REMEDIATION WELLS
South-Central and Southeastern Areas**

Well	Installation Date	Installed By	Total Depth (ft bgs)	Casing Diameter (inches)	Screen Interval (ft bgs)	Slot Size (inches)
MW-SF-12	--	GMX	--	4	--	--
MW-SF-13	--	GMX	--	4	--	--
MW-SF-14	--	GMX	--	4	--	--
MW-SF-15	--	GMX	--	4	--	--
MW-SF-16	--	GMX	--	4	--	--
PZ-5	9/26/00	GMX	40.3	4	20.6 - 39.4	0.01
PZ-7A	4/7/03	GMX	32	2	21.5 - 31.2	0.01
PZ-7B	4/7/03	GMX	47.5	2	42 - 46.7	0.01
PZ-10	4/10/03	GMX	38.5	2	23.2 - 37.9	0.02

Abbreviations:

"--" = information not available.

ft bgs = feet below ground surface.

ft msl = feet above mean sea level.

GMX = Geomatrix Consultants, Inc.

GTI = Groundwater Technology/Groundwater Technology Government Services.

HLA = Harding Lawson Associates.

WC = Woodward-Clyde.

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Defense Fuel Support Point, Norwalk
Norwalk, California

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-9	07/15/91	74.44	29.18	33.63	4.45	NC
GMW-9	09/18/91	74.44	29.04	35.52	6.48	NC
GMW-9	12/09/91	74.44	29.40	35.93	6.53	NC
GMW-9	12/10/91	74.44	29.31	36.00	6.69	NC
GMW-9	06/04/92	74.44	28.88	34.28	5.40	NC
GMW-9	08/07/01	74.44	27.23	27.74	0.51	NC
GMW-9	10/21/02	74.44	28.95	28.97	0.02	NC
GMW-9	04/07/03	74.44	29.56	29.59	0.03	NC
GMW-9	10/06/03	74.44	28.14	28.30	0.16	NC
GMW-9	04/19/04	74.44	--	28.71	--	45.73
GMW-9	05/02/05	74.44	--	24.72	--	49.72
GMW-9	10/31/05	74.44	25.31	25.56	0.25	NC
GMW-9	05/01/06	74.44	25.65	25.86	0.21	NC
GMW-9	12/04/06	74.44	27.79	27.88	0.09	NC
GMW-9	04/30/07	74.44	--	26.71	--	47.73
GMW-9	11/12/07	74.44	27.04	27.32	0.28	NC
GMW-9	08/08/08	74.44	27.96	28.01	0.05	NC
GMW-9	10/16/08	74.77	28.35	28.36	0.01	NC
GMW-9	04/21/09	74.44	--	28.16	--	46.28
GMW-9	05/24/10	74.44	--	30.47	--	43.97
GMW-9	05/28/10	74.44	--	30.35	--	44.09
GMW-22	09/18/91	74.17	29.10	34.58	5.48	NC
GMW-22	12/09/91	74.17	29.18	34.67	5.49	NC
GMW-22	06/04/92	74.17	28.45	33.58	5.13	NC
GMW-22	06/21/93	74.17	27.59	30.62	3.03	NC
GMW-22	01/06/94	74.17	27.66	31.19	3.53	NC
GMW-22	03/15/95	74.17	30.67	32.25	1.58	NC
GMW-22	08/28/95	74.17	28.90	32.91	4.01	NC
GMW-22	05/28/96	74.17	29.75	34.31	4.56	NC
GMW-22	11/20/96	74.17	29.78	33.02	3.24	NC
GMW-22	07/01/97	74.17	30.91	34.32	3.41	NC
GMW-22	12/31/97	74.17	29.98	33.75	3.77	NC
GMW-22	05/01/98	74.17	19.13	26.55	7.42	NC
GMW-22	05/15/00	74.17	26.45	30.67	4.22	NC
GMW-22	11/13/00	74.17	28.67	31.82	3.15	NC
GMW-22	05/07/01	74.17	27.88	32.30	4.42	NC
GMW-22	08/07/01	74.17	25.78	29.76	3.98	NC
GMW-22	11/05/01	74.17	25.95	31.05	5.10	NC
GMW-22	04/08/02	74.17	26.55	26.59	0.04	NC

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-22	05/02/05	74.17	23.09	26.46	3.37	NC
GMW-22	10/31/05	74.17	--	27.80	--	46.37
GMW-22	05/01/06	74.17	24.70	24.94	0.24	NC
GMW-22	12/04/06	74.17	Sheen	25.43	0.00	NC
GMW-22	04/30/07	74.17	--	25.79	--	48.38
GMW-22	11/12/07	74.17	25.91	26.45	0.54	NC
GMW-22	08/12/08	74.17	--	26.70	--	47.47
GMW-22	10/31/08	74.17	27.04	28.25	1.21	NC
GMW-22	11/04/08	74.17	--	26.97	--	47.20
GMW-22	04/21/09	74.17	27.20	27.30	0.10	NC
GMW-23	09/18/91	74.85	30.15	34.69	4.54	NC
GMW-23	12/09/91	74.85	30.18	35.99	5.81	NC
GMW-23	06/21/93	74.85	28.39	31.92	3.53	NC
GMW-23	01/06/94	74.85	28.43	31.89	3.46	NC
GMW-23	08/28/95	74.85	28.43	31.89	3.46	NC
GMW-23	05/28/96	74.85	27.12	28.07	0.95	NC
GMW-23	11/20/96	74.85	26.66	28.42	1.76	NC
GMW-23	07/01/97	74.85	28.99	30.34	1.35	NC
GMW-23	12/31/97	74.85	28.04	28.92	0.88	NC
GMW-23	05/01/98	74.85	25.43	25.44	0.01	NC
GMW-23	05/04/99	74.85	26.65	27.09	0.44	NC
GMW-23	08/09/99	74.85	26.39	28.52	2.13	NC
GMW-23	11/15/99	74.85	26.79	29.60	2.81	NC
GMW-23	05/15/00	74.85	26.90	29.87	2.97	NC
GMW-23	11/13/00	74.85	27.00	31.18	4.18	NC
GMW-23	05/07/01	74.85	28.62	28.63	0.01	NC
GMW-23	08/07/01	74.85	25.54	26.07	0.53	NC
GMW-23	11/05/01	74.85	25.85	26.32	0.47	NC
GMW-23	04/08/02	74.85	26.40	26.81	0.41	NC
GMW-23	10/21/02	74.85	28.07	28.94	0.87	NC
GMW-23	04/07/03	74.85	26.67	26.70	0.03	NC
GMW-23	10/06/03	74.85	26.35	27.32	0.97	NC
GMW-23	04/19/04	74.85	26.94	26.95	0.01	NC
GMW-23	05/02/05	74.85	--	23.34	--	51.51
GMW-23	10/31/05	74.85	26.08	26.13	0.05	NC
GMW-23	05/01/06	74.85	--	23.99	--	50.86
GMW-23	12/04/06	74.85	--	24.82	--	50.03
GMW-23	04/30/07	74.85	--	24.98	--	49.87
GMW-23	11/12/07	74.85	--	25.41	--	49.44
GMW-23	04/14/08	74.85	--	25.62	--	49.23
GMW-23	10/13/08	74.85	--	26.21	--	48.64

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-23	04/20/09	74.85	--	26.29	--	48.56
GMW-23	10/19/09	74.85	--	27.51	--	47.34
GMW-23	5/24/2010	74.85	--	27.32	--	47.53
GMW-23	5/28/2010	74.85	--	27.27	--	47.58
GMW-24	09/18/91	74.04	28.65	40.08	11.43	NC
GMW-24	12/09/91	74.04	28.95	39.09	10.14	NC
GMW-24	12/10/91	74.04	28.86	39.20	10.34	NC
GMW-24	06/04/92	74.04	28.49	35.33	6.84	NC
GMW-24	01/06/94	74.04	27.68	30.73	3.05	NC
GMW-24	08/07/01	74.04	27.80	28.68	0.88	NC
GMW-24	05/02/05	74.04	25.49	25.70	0.21	NC
GMW-24	10/31/05	74.04	26.29	26.34	0.05	NC
GMW-24	05/01/06	74.04	26.07	27.29	1.22	NC
GMW-24	12/04/06	74.04	26.73	27.26	0.53	NC
GMW-24	04/30/07	74.04	--	27.07	--	46.97
GMW-24	11/12/07	74.04	27.46	27.50	0.04	NC
GMW-24	10/17/08	74.04	29.90	30.88	0.98	NC
GMW-24	10/21/08	74.04	28.30	29.64	1.34	NC
GMW-24	04/21/09	74.04	--	29.91	--	44.13
GMW-25	04/15/92	74.29	--	30.25	--	44.04
GMW-25	06/04/92	74.29	29.71	30.81	1.10	NC
GMW-25	06/21/93	74.29	27.39	31.79	4.40	NC
GMW-25	01/06/94	74.29	27.62	31.64	4.02	NC
GMW-25	05/28/96	74.29	27.88	32.71	4.83	NC
GMW-25	11/20/96	74.29	27.75	31.91	4.16	NC
GMW-25	07/01/97	74.29	28.37	34.58	6.21	NC
GMW-25	12/31/97	74.29	27.86	33.59	5.73	NC
GMW-25	05/01/98	74.29	16.76	24.44	7.68	NC
GMW-25	05/04/99	74.29	26.58	30.40	3.82	NC
GMW-25	08/09/99	74.29	26.73	29.99	3.26	NC
GMW-25	11/15/99	74.29	27.75	28.95	1.20	NC
GMW-25	05/15/00	74.29	27.39	28.17	0.78	NC
GMW-25	11/13/00	74.29	27.97	29.52	1.55	NC
GMW-25	05/07/01	74.29	26.27	28.62	2.35	NC
GMW-25	08/07/01	74.29	25.73	28.14	2.41	NC
GMW-25	11/05/01	74.29	26.07	28.40	2.33	NC
GMW-25	04/08/02	74.29	27.00	27.07	0.07	NC
GMW-25	10/21/02	74.29	29.41	29.45	0.04	NC
GMW-25	05/02/05	74.29	--	24.78	--	49.51
GMW-25	10/31/05	74.29	25.41	25.47	0.06	NC
GMW-25	05/01/06	74.29	--	25.87	--	48.42
GMW-25	12/04/06	74.29	--	26.65	--	47.64

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-25	04/30/07	74.29	--	26.60	--	47.69
GMW-25	11/12/07	74.29	27.25	27.30	0.05	NC
GMW-25	08/12/08	74.29	--	27.81	--	46.48
GMW-25	10/17/08	74.29	--	28.26	--	46.03
GMW-25	04/21/09	74.29	--	28.35	--	45.94
GMW-25	10/19/09	74.29	--	30.28	--	44.01
GMW-26	06/04/92	74.45	--	30.59	--	43.86
GMW-26	06/21/93	74.45	--	29.16	--	45.29
GMW-26	01/06/94	74.45	--	29.10	--	45.35
GMW-26	03/15/95	74.45	--	28.63	--	45.82
GMW-26	08/28/95	74.45	--	27.40	--	47.05
GMW-26	05/28/96	74.45	--	27.20	--	47.25
GMW-26	11/20/96	74.45	--	27.82	--	46.63
GMW-26	07/01/97	74.45	--	29.03	--	45.42
GMW-26	12/31/97	74.45	--	29.14	--	45.31
GMW-26	05/01/98	74.45	--	25.45	--	49.00
GMW-26	05/04/99	74.45	--	26.52	--	47.93
GMW-26	08/09/99	74.45	--	26.55	--	47.90
GMW-26	11/15/99	74.45	--	25.46	--	48.99
GMW-26	05/15/00	74.45	--	26.54	--	47.91
GMW-26	11/13/00	74.45	--	27.67	--	46.78
GMW-26	05/07/01	74.45	--	25.84	--	48.61
GMW-26	11/05/01	74.45	--	25.73	--	48.72
GMW-26	04/08/02	74.45	--	26.40	--	48.05
GMW-26	10/21/02	74.45	--	26.82	--	47.63
GMW-26	04/07/03	74.45	--	25.28	--	49.17
GMW-26	07/07/03	74.52	--	26.53	--	47.99
GMW-26	10/06/03	74.52	--	26.30	--	48.22
GMW-26	01/11/04	74.52	--	27.87	--	46.65
GMW-26	01/20/04	74.52	--	26.83	--	47.69
GMW-26	04/19/04	74.52	--	27.91	--	46.61
GMW-26	04/27/04	74.52	--	27.32	--	47.20
GMW-26	06/07/04	74.52	--	27.95	--	46.57
GMW-26	07/08/04	74.52	--	27.72	--	46.80
GMW-26	05/02/05	74.52	--	23.05	--	51.47
GMW-26	10/31/05	74.52	--	23.62	--	50.90
GMW-26	05/22/06	74.52	--	24.14	--	50.38
GMW-26	12/04/06	74.52	--	24.69	--	49.83
GMW-26	04/30/07	74.52	--	24.68	--	49.84
GMW-26	11/12/07	74.52	--	25.06	--	49.46
GMW-26	04/14/08	74.52	--	25.39	--	49.13

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-26	10/13/08	74.52	--	25.92	--	48.60
GMW-26	04/20/09	74.52	--	26.12	--	48.40
GMW-26	10/19/09	74.52	--	26.96	--	47.56
GMW-26	5/24/2010	74.52	--	27.70	--	46.82
GMW-26	5/28/2010	74.52	--	27.47	--	47.05
GMW-27	04/15/92	74.39	--	30.72	--	43.67
GMW-27	06/04/92	74.39	--	30.31	--	44.08
GMW-27	06/21/93	74.39	--	28.89	--	45.50
GMW-27	01/06/94	74.39	--	28.90	--	45.49
GMW-27	05/28/96	74.39	--	27.00	--	47.39
GMW-27	12/31/97	74.39	27.76	28.43	0.67	NC
GMW-27	05/01/98	74.39	--	25.07	--	49.32
GMW-27	05/07/99	74.39	--	26.44	--	47.95
GMW-27	08/09/99	74.39	--	26.46	--	47.93
GMW-27	11/15/99	74.39	--	26.71	--	47.68
GMW-27	05/15/00	74.39	--	26.44	--	47.95
GMW-27	11/13/00	74.39	--	27.52	--	46.87
GMW-27	05/07/01	74.39	--	25.67	--	48.72
GMW-27	08/07/01	74.39	--	25.25	--	49.14
GMW-27	11/05/01	74.39	--	25.65	--	48.74
GMW-27	04/08/02	74.39	--	28.79	--	45.60
GMW-27	10/21/02	74.39	--	26.72	--	47.67
GMW-27	04/07/03	74.39	--	26.13	--	48.26
GMW-27	10/06/03	74.39	--	26.32	--	48.07
GMW-27	01/11/04	74.41	--	27.82	--	46.59
GMW-27	01/27/04	74.39	--	26.52	--	47.87
GMW-27	04/19/04	74.41	--	27.62	--	46.79
GMW-27	04/27/04	74.41	--	27.00	--	47.41
GMW-27	06/07/04	74.41	--	27.70	--	46.71
GMW-27	07/08/04	74.41	--	27.46	--	46.95
GMW-27	05/02/05	74.41	--	24.01	--	50.40
GMW-27	10/31/05	74.41	--	23.03	--	51.38
GMW-27	05/09/06	74.41	--	23.51	--	50.90
GMW-27	12/04/06	74.41	--	24.45	--	49.96
GMW-27	04/30/07	74.41	--	24.52	--	49.89
GMW-27	11/12/07	74.41	--	24.90	--	49.51
GMW-27	04/14/08	74.41	--	25.21	--	49.20
GMW-27	08/11/08	74.41	--	29.68	--	44.73
GMW-27	10/13/08	74.41	--	25.81	--	48.60
GMW-27	11/21/08	74.41	--	26.20	--	48.21
GMW-27	04/20/09	74.41	--	26.04	--	48.37

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-27	10/19/09	74.41	--	27.39	--	47.02
GMW-27	5/24/2010	74.41	--	26.90	--	47.51
GMW-27	5/28/2010	74.41	--	26.96	--	47.45
GMW-28	04/15/92	74.62	--	30.96	--	43.66
GMW-28	06/04/92	74.62	--	30.59	--	44.03
GMW-28	06/21/93	74.62	--	29.14	--	45.48
GMW-28	01/06/94	74.62	--	29.11	--	45.51
GMW-28	05/28/96	74.62	--	27.22	--	47.40
GMW-28	11/20/96	74.62	--	27.86	--	46.76
GMW-28	07/01/97	74.62	--	29.03	--	45.59
GMW-28	12/31/97	74.62	28.00	28.65	0.65	NC
GMW-28	05/01/98	74.62	24.77	25.42	0.65	NC
GMW-28	08/09/99	74.62	--	26.64	--	47.98
GMW-28	11/15/99	74.62	--	26.80	--	47.82
GMW-28	11/13/00	74.62	--	27.50	--	47.12
GMW-28	08/07/01	74.62	--	25.47	--	49.15
GMW-28	11/05/01	74.62	--	25.85	--	48.77
GMW-28	04/08/02	74.62	--	26.21	--	48.41
GMW-28	10/21/02	74.62	--	26.96	--	47.66
GMW-28	04/07/03	74.62	--	26.35	--	48.27
GMW-28	07/07/03	74.68	--	26.43	--	48.25
GMW-28	10/06/03	74.62	--	26.31	--	48.31
GMW-28	01/11/04	74.68	--	27.68	--	47.00
GMW-28	01/20/04	74.68	--	26.85	--	47.83
GMW-28	04/19/04	74.68	--	27.58	--	47.10
GMW-28	04/27/04	74.68	--	27.13	--	47.55
GMW-28	06/07/04	74.68	--	27.70	--	46.98
GMW-28	07/08/04	74.68	--	27.59	--	47.09
GMW-28	05/02/05	74.68	--	23.71	--	50.97
GMW-28	10/31/05	74.68	--	25.16	--	49.52
GMW-28	11/12/07	74.62	--	25.16	--	49.46
GMW-28	04/14/08	74.62	--	25.50	--	49.12
GMW-28	11/04/08	74.62	--	26.61	--	48.01
GMW-28	04/20/09	74.68	--	26.18	--	48.50
GMW-28	10/19/09	74.68	--	27.21	--	47.47
GMW-28	5/24/2010	74.68	--	27.11	--	47.57
GMW-28	5/28/2010	74.68	--	27.12	--	47.56
GMW-29	04/15/92	74.86	29.27	33.35	4.08	NC
GMW-29	11/20/96	74.86	--	30.60	--	44.26
GMW-29	07/01/97	74.86	--	29.58	--	45.28
GMW-29	12/31/97	74.86	30.91	31.70	0.79	NC
GMW-29	05/01/98	74.86	27.81	28.43	0.62	NC

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-29	05/04/99	74.86	--	31.35	--	43.51
GMW-29	08/09/99	74.86	--	28.90	--	45.96
GMW-29	11/13/00	74.86	--	28.51	--	46.35
GMW-29	11/13/00	74.86	--	31.30	--	43.56
GMW-29	05/07/01	74.86	--	28.64	--	46.22
GMW-29	05/10/01	74.86	--	28.43	--	46.43
GMW-29	08/07/01	74.86	--	28.25	--	46.61
GMW-29	11/05/01	74.86	--	28.46	--	46.40
GMW-29	04/08/02	74.86	--	26.54	--	48.32
GMW-29	10/21/02	74.86	--	26.98	--	47.88
GMW-29	04/07/03	74.86	--	29.20	--	45.66
GMW-29	07/07/03	77.57	--	29.09	--	48.48
GMW-29	10/06/03	74.86	--	29.00	--	45.86
GMW-29	01/11/04	77.57	--	27.47	--	50.10
GMW-29	01/20/04	77.57	--	29.46	--	48.11
GMW-29	04/19/04	77.57	--	29.94	--	47.63
GMW-29	04/27/04	77.57	--	29.80	--	47.77
GMW-29	06/07/04	77.57	--	29.93	--	47.64
GMW-29	07/08/04	77.57	--	30.06	--	47.51
GMW-29	05/02/05	77.57	--	26.63	--	50.94
GMW-29	10/31/05	77.57	--	25.42	--	52.15
GMW-29	05/01/06	77.57	--	26.64	--	50.93
GMW-29	12/04/06	77.57	--	27.34	--	50.23
GMW-29	04/30/07	77.57	--	27.48	--	50.09
GMW-29	11/12/07	77.57	--	27.95	--	49.62
GMW-29	04/14/08	77.57	--	28.31	--	49.26
GMW-29	04/14/08	77.57	--	29.46	--	48.11
GMW-29	10/13/08	77.57	--	28.72	--	48.85
GMW-29	04/20/09	77.57	--	28.86	--	48.71
GMW-29	10/19/09	77.57	--	29.70	--	47.87
GMW-29	5/24/2010	77.57	--	29.92	--	47.65
GMW-29	5/28/2010	77.57	--	29.88	--	47.69
GMW-30	04/15/92	74.91	--	34.12	--	40.79
GMW-30	06/21/93	74.91	28.73	30.41	1.68	NC
GMW-30	01/06/94	74.91	--	29.71	--	45.20
GMW-30	03/15/95	74.91	28.38	29.65	1.27	NC
GMW-30	08/28/95	74.91	26.90	29.45	2.55	NC
GMW-30	05/28/96	74.91	26.69	29.41	2.72	NC
GMW-30	11/20/96	74.91	27.51	29.60	2.09	NC
GMW-30	07/01/97	74.91	28.96	30.32	1.36	NC
GMW-30	12/31/97	74.91	27.80	29.74	1.94	NC
GMW-30	05/01/98	74.91	19.11	24.27	5.16	NC

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-30	05/04/99	74.91	25.45	31.56	6.11	NC
GMW-30	08/09/99	74.91	25.76	30.10	4.34	NC
GMW-30	11/15/99	74.91	27.20	27.57	0.37	NC
GMW-30	05/15/00	74.91	27.27	27.60	0.33	NC
GMW-30	11/13/00	74.91	26.55	26.59	0.04	NC
GMW-30	05/07/01	74.91	--	28.47	--	46.44
GMW-30	08/07/01	74.91	--	25.60	--	49.31
GMW-30	11/05/01	74.91	25.96	26.00	0.04	NC
GMW-30	04/08/02	74.91	26.35	26.53	0.18	NC
GMW-30	10/21/02	74.91	27.32	27.51	0.19	NC
GMW-30	04/07/03	74.91	26.75	26.77	0.02	NC
GMW-30	10/06/03	74.91	26.45	26.51	0.06	NC
GMW-30	01/11/04	74.91	27.91	27.97	0.06	NC
GMW-30	04/19/04	74.91	27.49	27.60	0.11	NC
GMW-30	05/10/05	74.91	--	23.63	--	51.28
GMW-30	10/31/05	74.91	Sheen	26.71	0.00	NC
GMW-30	05/01/06	74.91	--	23.91	--	51.00
GMW-30	12/04/06	74.91	--	24.73	--	50.18
GMW-30	04/30/07	74.91	--	24.99	--	49.92
GMW-30	08/28/07	74.91	--	24.65	--	50.26
GMW-30	08/28/07	74.91	--	24.65	--	50.26
GMW-30	11/12/07	74.91	--	25.38	--	49.53
GMW-30	04/14/08	74.91	--	25.65	--	49.26
GMW-30	11/04/08	74.91	--	26.52	--	48.39
GMW-30	04/20/09	74.91	--	26.30	--	48.61
GMW-30	10/19/09	74.91	--	27.40	--	47.51
GMW-30	5/24/2010	74.91	--	27.32	--	47.59
GMW-30	5/28/2010	74.91	--	27.18	--	47.73
GMW-36	04/22/94	74.53	27.56	27.60	0.04	NC
GMW-36	05/28/96	74.53	25.71	26.88	1.17	NC
GMW-36	11/20/96	74.53	26.56	26.82	0.26	NC
GMW-36	07/01/97	74.53	25.09	25.71	0.62	NC
GMW-36	12/31/97	74.53	--	26.74	--	47.79
GMW-36	05/04/99	74.53	--	23.68	--	50.85
GMW-36	08/09/99	74.53	--	24.80	--	49.73
GMW-36	11/15/99	74.53	--	25.48	--	49.05
GMW-36	05/15/00	74.53	--	25.01	--	49.52
GMW-36	11/13/00	74.53	--	25.96	--	48.57
GMW-36	02/05/01	74.53	--	25.41	--	49.12
GMW-36	05/07/01	74.53	--	23.37	--	51.16
GMW-36	05/10/01	74.53	--	23.43	--	51.10
GMW-36	09/18/01	74.53	--	23.95	--	50.58

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-36	11/05/01	74.53	--	24.24	--	50.29
GMW-36	01/29/02	74.53	--	24.60	--	49.93
GMW-36	04/08/02	74.53	--	24.92	--	49.61
GMW-36	07/29/02	74.53	--	25.92	--	48.61
GMW-36	10/21/02	74.53	25.54	29.46	3.92	NC
GMW-36	11/04/02	74.53	25.55	29.05	3.50	NC
GMW-36	01/27/03	74.53	26.75	28.02	1.27	NC
GMW-36	04/07/03	74.53	26.63	27.47	0.84	NC
GMW-36	05/02/05	74.53	20.03	21.23	1.20	NC
GMW-36	10/31/05	74.53	22.69	22.73	0.04	NC
GMW-36	05/01/06	74.53	22.80	22.91	0.11	NC
GMW-36	12/04/06	74.53	--	23.86	--	50.67
GMW-36	03/12/07	74.53	--	24.29	--	50.24
GMW-36	04/30/07	74.53	--	24.40	--	50.13
GMW-36	08/28/07	74.53	--	24.31	--	50.22
GMW-36	11/12/07	74.53	24.85	24.86	0.01	NC
GMW-36	02/19/08	74.53	--	25.50	--	49.03
GMW-36	04/14/08	74.53	--	24.61	--	49.92
GMW-36	08/08/08	74.53	26.14	26.20	0.06	NC
GMW-36	10/16/08	74.77	26.09	26.11	0.02	NC
GMW-36	04/20/09	74.53	25.59	25.63	0.04	NC
GMW-36	04/21/09	74.53	--	25.60	--	48.93
GMW-36	07/20/09	74.53	--	25.90	--	48.63
GMW-36	10/19/09	74.53	26.45	26.56	0.11	NC
GMW-36	03/15/10	74.53	--	26.80	--	47.73
GMW-36	04/16/10	74.53	--	26.90	--	47.63
GMW-36	5/24/2010	74.53	25.90	25.96	0.06	NC
GMW-36	5/28/2010	74.53	25.88	25.94	0.06	NC
GMW-O-10	07/31/92	73.98	--	29.89	--	44.09
GMW-O-10	09/18/92	73.98	--	30.05	--	43.93
GMW-O-10	06/21/93	73.98	--	27.80	--	46.18
GMW-O-10	01/06/94	73.98	--	28.29	--	45.69
GMW-O-10	03/15/95	73.98	--	27.86	--	46.12
GMW-O-10	08/28/95	73.98	--	26.60	--	47.38
GMW-O-10	05/28/96	73.98	--	26.49	--	47.49
GMW-O-10	11/20/96	73.98	--	27.10	--	46.88
GMW-O-10	07/01/97	73.98	--	28.23	--	45.75
GMW-O-10	12/31/97	73.98	--	27.94	--	46.04
GMW-O-10	05/01/98	73.98	--	24.56	--	49.42
GMW-O-10	05/07/99	73.98	--	25.10	--	48.88
GMW-O-10	08/09/99	73.98	--	26.10	--	47.88
GMW-O-10	11/15/99	73.98	--	25.67	--	48.31

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-O-10	11/13/00	73.98	--	26.54	--	47.44
GMW-O-10	05/07/01	73.98	--	25.23	--	48.75
GMW-O-10	11/05/01	73.98	--	25.22	--	48.76
GMW-O-10	04/08/02	73.98	--	25.35	--	48.63
GMW-O-10	10/21/02	73.98	--	26.39	--	47.59
GMW-O-10	04/07/03	73.98	--	25.64	--	48.34
GMW-O-10	07/30/03	73.98	--	25.60	--	48.38
GMW-O-10	10/06/03	73.98	--	25.67	--	48.31
GMW-O-10	01/11/04	73.98	--	26.96	--	47.02
GMW-O-10	04/19/04	73.98	--	26.60	--	47.38
GMW-O-10	05/02/05	73.98	--	23.71	--	50.27
GMW-O-10	10/31/05	73.98	--	22.65	--	51.33
GMW-O-10	05/05/06	73.98	--	22.33	--	51.65
GMW-O-10	12/04/06	73.98	--	23.24	--	50.74
GMW-O-10	04/30/07	73.98	--	24.07	--	49.91
GMW-O-10	11/12/07	73.98	--	24.45	--	49.53
GMW-O-10	04/14/08	73.98	--	24.83	--	49.15
GMW-O-10	08/11/08	73.98	--	25.22	--	48.76
GMW-O-10	10/13/08	73.98	--	25.25	--	48.73
GMW-O-10	04/20/09	73.98	--	25.58	--	48.40
GMW-O-10	10/19/09	73.98	--	26.72	--	47.26
GMW-O-10	5/24/2010	73.98	--	26.92	--	47.06
GMW-O-10	5/28/2010	73.98	--	29.10	--	44.88
GMW-O-11	05/29/92	74.17	28.34	34.07	5.73	NC
GMW-O-11	09/18/92	74.17	28.56	34.45	5.89	NC
GMW-O-11	06/21/93	74.17	27.20	31.50	4.30	NC
GMW-O-11	01/06/94	74.17	27.09	31.01	3.92	NC
GMW-O-11	04/08/02	74.17	--	23.96	--	50.21
GMW-O-11	04/19/04	74.17	--	27.40	--	46.77
GMW-O-11	05/02/05	74.17	22.46	22.48	0.02	NC
GMW-O-11	10/31/05	74.17	21.73	21.92	0.19	NC
GMW-O-11	05/01/06	74.17	--	21.51	--	52.66
GMW-O-11	12/04/06	74.17	--	22.38	--	51.79
GMW-O-11	04/30/07	74.17	23.90	23.91	0.01	NC
GMW-O-11	11/12/07	74.17	--	24.40	--	49.77
GMW-O-11	08/15/08	74.17	--	29.30	--	44.87
GMW-O-11	10/17/08	74.17	--	24.45	--	49.72
GMW-O-11	04/21/09	74.17	25.34	25.36	0.02	NC
GMW-O-12	05/29/92	73.49	27.90	32.06	4.16	NC
GMW-O-12	09/18/92	73.49	27.83	33.10	5.27	NC
GMW-O-12	06/21/93	73.49	26.60	29.70	3.10	NC
GMW-O-12	01/06/94	73.49	26.40	28.00	1.60	NC

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-O-12	12/31/97	73.49	25.45	31.02	5.57	NC
GMW-O-12	05/01/98	73.49	19.94	22.69	2.75	NC
GMW-O-12	05/04/99	73.49	22.99	24.63	1.64	NC
GMW-O-12	05/07/01	73.49	--	22.28	--	51.21
GMW-O-12	05/10/01	73.49	--	24.25	--	49.24
GMW-O-12	11/05/01	73.49	--	22.63	--	50.86
GMW-O-12	04/08/02	73.49	--	23.81	--	49.68
GMW-O-12	10/06/03	73.49	--	24.82	--	48.67
GMW-O-12	04/19/04	73.49	--	26.91	--	46.58
GMW-O-12	05/02/05	73.49	--	21.79	--	51.70
GMW-O-12	10/31/05	73.49	--	26.67	--	46.82
GMW-O-12	05/01/06	73.49	--	21.80	--	51.69
GMW-O-12	12/04/06	73.49	--	22.58	--	50.91
GMW-O-12	04/30/07	73.49	--	22.81	--	50.68
GMW-O-12	11/12/07	73.49	--	23.13	--	50.36
GMW-O-12	04/14/08	73.49	Sheen	23.36	0.00	NC
GMW-O-12	10/13/08	73.49	--	24.20	--	49.29
GMW-O-12	04/20/09	73.49	--	24.21	--	49.28
GMW-O-12	10/19/09	73.49	--	25.08	--	48.41
GMW-O-12	5/24/2010	73.49	--	24.80	--	48.69
GMW-O-12	5/28/2010	73.49	--	24.74	--	48.75
GMW-O-14	05/29/92	74.08	--	29.22	--	44.86
GMW-O-14	09/18/92	74.08	29.44	29.59	0.15	NC
GMW-O-14	06/21/93	74.08	27.15	27.45	0.30	NC
GMW-O-14	05/28/96	74.08	--	26.03	--	48.05
GMW-O-14	11/20/96	74.08	--	25.52	--	48.56
GMW-O-14	07/01/97	74.08	--	26.39	--	47.69
GMW-O-14	12/31/97	74.08	25.03	25.06	0.03	NC
GMW-O-14	05/01/98	74.08	--	23.72	--	50.36
GMW-O-14	08/09/99	74.08	--	25.04	--	49.04
GMW-O-14	05/15/00	74.08	--	26.67	--	47.41
GMW-O-14	11/13/00	74.08	--	25.85	--	48.23
GMW-O-14	05/07/01	74.08	--	24.34	--	49.74
GMW-O-14	11/05/01	74.08	--	24.65	--	49.43
GMW-O-14	04/08/02	74.08	--	25.19	--	48.89
GMW-O-14	07/29/02	74.08	--	25.65	--	48.43
GMW-O-14	10/21/02	74.08	--	26.00	--	48.08
GMW-O-14	01/27/03	74.08	Sheen	25.64	0.00	NC
GMW-O-14	04/07/03	74.08	Sheen	25.36	0.00	NC
GMW-O-14	07/30/03	74.08	Sheen	25.14	0.00	NC
GMW-O-14	10/06/03	74.08	Sheen	25.12	0.00	NC
GMW-O-14	01/11/04	74.08	--	26.31	--	47.77

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-O-14	01/27/04	74.08	--	25.58	--	48.50
GMW-O-14	04/19/04	74.08	--	26.02	--	48.06
GMW-O-14	07/19/04	74.08	--	26.01	--	48.07
GMW-O-14	02/01/05	74.08	--	25.08	--	49.00
GMW-O-14	05/02/05	74.08	--	21.41	--	52.67
GMW-O-14	08/01/05	74.08	--	21.39	--	52.69
GMW-O-14	10/31/05	74.08	--	21.90	--	52.18
GMW-O-14	02/27/06	74.08	--	22.64	--	51.44
GMW-O-14	05/01/06	74.08	--	22.58	--	51.50
GMW-O-14	09/18/06	74.08	--	23.18	--	50.90
GMW-O-14	12/04/06	74.08	--	23.36	--	50.72
GMW-O-14	03/12/07	74.08	--	23.81	--	50.27
GMW-O-14	04/30/07	74.08	--	23.57	--	50.51
GMW-O-14	08/28/07	74.08	--	22.45	--	51.63
GMW-O-14	11/12/07	74.08	--	23.97	--	50.11
GMW-O-14	02/19/08	74.08	--	24.84	--	49.24
GMW-O-14	04/14/08	74.08	--	24.53	--	49.55
GMW-O-14	08/11/08	74.08	--	25.07	--	49.01
GMW-O-14	10/13/08	74.08	--	25.20	--	48.88
GMW-O-14	04/20/09	74.08	--	25.33	--	48.75
GMW-O-14	07/20/09	74.08	--	26.31	--	47.77
GMW-O-14	10/19/09	74.08	--	26.24	--	47.84
GMW-O-14	03/15/10	74.08	--	26.71	--	47.37
GMW-O-14	5/24/2010	74.08	--	26.11	--	47.97
GMW-O-14	5/28/2010	74.08	--	26.11	--	47.97
GMW-O-15	04/22/94	74.23	26.05	31.30	5.25	NC
GMW-O-15	03/15/95	74.23	24.32	30.88	6.56	NC
GMW-O-15	08/28/95	74.23	25.26	26.33	1.07	NC
GMW-O-15	05/28/96	74.23	24.19	30.19	6.00	NC
GMW-O-15	11/20/96	74.23	25.30	30.52	5.22	NC
GMW-O-15	05/15/00	74.23	--	27.10	--	47.13
GMW-O-15	05/07/01	74.23	22.62	24.58	1.96	NC
GMW-O-15	04/08/02	74.23	23.02	27.51	4.49	NC
GMW-O-15	10/21/02	74.23	24.52	24.71	0.19	NC
GMW-O-15	05/02/05	74.23	21.01	21.15	0.14	NC
GMW-O-15	10/31/05	74.23	22.10	22.25	0.15	NC
GMW-O-15	05/22/06	74.23	21.89	22.31	0.42	NC
GMW-O-15	12/04/06	74.23	22.86	22.91	0.05	NC
GMW-O-15	04/30/07	74.23	23.30	23.41	0.11	NC
GMW-O-15	11/12/07	74.23	23.85	23.95	0.10	NC
GMW-O-15	04/14/08	74.23	--	23.64	--	50.59
GMW-O-15	08/08/08	74.23	--	24.60	--	49.63

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-O-15	08/11/08	74.23	24.34	24.40	0.06	NC
GMW-O-15	10/16/08	74.23	--	24.53	--	49.70
GMW-O-15	04/20/09	74.23	24.61	24.66	0.05	NC
GMW-O-15	07/20/09	74.23	24.94	24.99	0.05	NC
GMW-O-15	10/19/09	74.23	25.43	25.55	0.12	NC
GMW-O-15	04/16/10	74.23	--	23.10	--	51.13
GMW-O-15	5/24/2010	74.23	--	25.67	--	48.56
GMW-O-15	5/28/2010	74.23	--	25.35	--	48.88
GMW-O-16	04/22/94	74.10	--	27.00	--	47.10
GMW-O-16	03/15/95	74.10	--	25.07	--	49.03
GMW-O-16	08/28/95	74.10	23.49	30.49	7.00	NC
GMW-O-16	05/28/96	74.10	--	24.92	--	49.18
GMW-O-16	11/20/96	74.10	--	25.89	--	48.21
GMW-O-16	07/01/97	74.10	--	24.16	--	49.94
GMW-O-16	05/04/99	74.10	--	23.19	--	50.91
GMW-O-16	08/09/99	74.10	--	24.27	--	49.83
GMW-O-16	11/15/99	74.10	--	25.02	--	49.08
GMW-O-16	05/15/00	74.10	--	24.44	--	49.66
GMW-O-16	11/13/00	74.10	--	25.71	--	48.39
GMW-O-16	05/07/01	74.10	--	23.15	--	50.95
GMW-O-16	11/05/01	74.10	--	23.16	--	50.94
GMW-O-16	04/08/02	74.10	--	24.25	--	49.85
GMW-O-16	10/21/02	74.10	--	25.72	--	48.38
GMW-O-16	04/07/03	74.10	--	24.59	--	49.51
GMW-O-16	10/06/03	74.10	--	24.55	--	49.55
GMW-O-16	01/11/04	74.10	--	28.00	--	46.10
GMW-O-16	04/19/04	74.10	--	24.98	--	49.12
GMW-O-16	07/20/04	74.10	--	25.37	--	48.73
GMW-O-16	05/02/05	74.10	--	19.48	--	54.62
GMW-O-16	08/01/05	74.10	--	20.45	--	53.65
GMW-O-16	10/31/05	74.10	--	21.04	--	53.06
GMW-O-16	02/27/06	74.10	--	22.31	--	51.79
GMW-O-16	05/01/06	74.10	--	22.36	--	51.74
GMW-O-16	09/18/06	74.10	--	23.19	--	50.91
GMW-O-16	12/04/06	74.10	--	23.33	--	50.77
GMW-O-16	04/30/07	74.10	--	23.82	--	50.28
GMW-O-16	11/12/07	74.10	--	24.35	--	49.75
GMW-O-16	02/19/08	74.10	--	24.69	--	49.41
GMW-O-16	04/14/08	74.10	--	24.08	--	50.02
GMW-O-16	10/13/08	74.10	--	25.12	--	48.98
GMW-O-16	04/20/09	74.10	--	25.20	--	48.90
GMW-O-16	10/19/09	74.10	--	25.81	--	48.29

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-O-16	03/15/10	74.10	--	26.30	--	47.80
GMW-O-16	04/16/10	74.10	--	25.20	--	48.90
GMW-O-16	5/24/2010	74.1	--	25.14	--	48.96
GMW-O-16	5/28/2010	74.1	--	25.13	--	48.97
GMW-O-18	09/27/94	74.36	--	28.08	--	46.28
GMW-O-18	03/15/95	74.36	--	25.81	--	48.55
GMW-O-18	08/28/95	74.36	--	25.26	--	49.10
GMW-O-18	05/28/96	74.36	--	25.67	--	48.69
GMW-O-18	11/20/96	74.36	--	26.70	--	47.66
GMW-O-18	12/31/97	74.36	--	26.48	--	47.88
GMW-O-18	05/01/98	74.36	--	29.04	--	45.32
GMW-O-18	05/04/99	74.36	--	24.02	--	50.34
GMW-O-18	08/09/99	74.36	--	24.91	--	49.45
GMW-O-18	11/15/99	74.36	--	25.56	--	48.80
GMW-O-18	05/15/00	74.36	--	29.17	--	45.19
GMW-O-18	05/07/01	74.36	--	24.10	--	50.26
GMW-O-18	04/08/02	74.36	Sheen	24.81	0.00	NC
GMW-O-18	05/02/05	74.36	--	20.13	--	54.23
GMW-O-18	10/31/05	74.36	--	21.79	--	52.57
GMW-O-18	05/01/06	74.36	--	22.60	--	51.76
GMW-O-18	12/04/06	74.36	--	23.61	--	50.75
GMW-O-18	04/30/07	74.36	--	24.21	--	50.15
GMW-O-18	11/12/07	74.36	--	22.46	--	51.90
GMW-O-18	04/14/08	74.36	--	24.50	--	49.86
GMW-O-18	10/13/08	74.36	--	25.46	--	48.90
GMW-O-18	04/20/09	74.36	--	25.59	--	48.77
GMW-O-18	10/19/09	74.36	--	26.31	--	48.05
GMW-O-18	03/15/10	74.36	--	26.54	--	47.82
GMW-O-18	04/16/10	74.36	--	24.25	--	50.11
GMW-O-18	5/24/2010	74.36	--	26.26	--	48.10
GMW-O-18	5/28/2010	74.36	--	26.03	--	48.33
GMW-O-19	09/27/94	74.46	--	27.72	--	46.74
GMW-O-19	03/15/95	74.46	--	25.33	--	49.13
GMW-O-19	08/28/95	74.46	--	24.36	--	50.10
GMW-O-19	05/28/96	74.46	--	25.29	--	49.17
GMW-O-19	11/20/96	74.46	--	26.28	--	48.18
GMW-O-19	07/01/97	74.46	--	24.70	--	49.76
GMW-O-19	12/31/97	74.46	--	25.92	--	48.54
GMW-O-19	08/09/99	74.46	--	24.09	--	50.37
GMW-O-19	11/15/99	74.46	--	24.82	--	49.64
GMW-O-19	05/15/00	74.46	--	24.43	--	50.03
GMW-O-19	09/18/01	74.46	--	23.07	--	51.39

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GMW-O-19	11/05/01	74.46	--	23.15	--	51.31
GMW-O-19	01/29/02	74.46	--	23.25	--	51.21
GMW-O-19	04/08/02	74.46	--	23.16	--	51.30
GMW-O-19	10/21/02	74.46	--	23.34	--	51.12
GMW-O-19	04/07/03	74.46	--	23.50	--	50.96
GMW-O-19	07/30/03	74.46	--	24.29	--	50.17
GMW-O-19	10/06/03	74.46	--	24.54	--	49.92
GMW-O-19	01/11/04	74.46	--	26.02	--	48.44
GMW-O-19	04/19/04	74.46	--	25.04	--	49.42
GMW-O-19	07/20/04	74.46	--	25.35	--	49.11
GMW-O-19	05/02/05	74.46	--	20.05	--	54.41
GMW-O-19	08/01/05	74.46	--	20.82	--	53.64
GMW-O-19	10/31/05	74.46	--	21.36	--	53.10
GMW-O-19	02/27/06	74.46	--	22.06	--	52.40
GMW-O-19	05/01/06	74.46	--	22.35	--	52.11
GMW-O-19	12/04/06	74.46	--	23.32	--	51.14
GMW-O-19	04/30/07	74.46	--	23.98	--	50.48
GMW-O-19	11/12/07	74.46	--	24.57	--	49.89
GMW-O-19	04/14/08	74.46	--	24.24	--	50.22
GMW-O-19	10/13/08	74.46	--	25.36	--	49.10
GMW-O-19	04/20/09	74.46	--	25.22	--	49.24
GMW-O-19	10/19/09	74.46	--	26.26	--	48.20
GMW-O-19	03/15/10	74.46	--	26.16	--	48.30
GMW-O-19	04/16/10	74.46	--	25.30	--	49.16
GMW-O-19	5/24/2010	74.46	--	25.53	--	48.93
GMW-O-19	5/28/2010	74.46	--	25.47	--	48.99
GMW-O-20	05/07/01	73.34	--	22.15	--	51.19
GMW-O-20	08/15/08	73.34	--	25.90	--	47.44
GMW-O-20	10/17/08	73.34	--	25.82	--	47.52
GMW-O-20	04/21/09	73.32	--	28.70	--	44.62
GMW-O-21	10/06/03	73.49	--	22.60	--	50.89
GMW-O-21	10/17/08	73.94	--	26.00	--	47.94
GMW-O-23	08/28/07	73.63	--	23.00	--	50.63
GMW-O-23	11/13/07	73.63	--	23.90	--	49.73
GMW-O-23	08/15/08	73.63	--	26.28	--	47.35
GMW-O-23	10/17/08	73.63	--	27.16	--	46.47
GMW-O-23	04/21/09	73.63	--	27.30	--	46.33
GWR-1	07/15/91	73.65	--	29.49	--	44.16
GWR-1	09/18/91	73.65	--	29.79	--	43.86
GWR-1	06/04/92	73.65	--	29.32	--	44.33
GWR-1	11/20/96	73.65	--	26.79	--	46.86
GWR-1	07/01/97	73.65	--	27.69	--	45.96

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GWR-1	12/31/97	73.65	--	27.34	--	46.31
GWR-1	05/01/98	73.65	--	24.04	--	49.61
GWR-1	05/07/99	73.65	--	25.56	--	48.09
GWR-1	08/09/99	73.65	--	25.64	--	48.01
GWR-1	11/15/99	73.65	--	25.86	--	47.79
GWR-1	05/15/00	73.65	--	25.65	--	48.00
GWR-1	11/13/00	73.65	--	26.40	--	47.25
GWR-1	05/07/01	73.65	--	24.75	--	48.90
GWR-1	08/07/01	73.65	--	24.39	--	49.26
GWR-1	11/05/01	73.65	--	24.80	--	48.85
GWR-1	04/08/02	73.65	--	29.39	--	44.26
GWR-1	10/21/02	73.65	--	26.03	--	47.62
GWR-1	04/07/03	73.65	--	25.69	--	47.96
GWR-1	10/06/03	73.65	--	25.36	--	48.29
GWR-1	01/11/04	73.65	--	26.72	--	46.93
GWR-1	05/02/05	73.65	--	21.62	--	52.03
GWR-1	08/01/05	73.65	--	22.06	--	51.59
GWR-1	10/31/05	73.65	--	24.16	--	49.49
GWR-1	05/01/06	73.65	--	22.70	--	50.95
GWR-1	09/18/06	73.65	--	24.31	--	49.34
GWR-1	12/04/06	73.65	--	23.95	--	49.70
GWR-1	04/30/07	73.65	--	41.65	--	32.00
GWR-1	11/12/07	73.65	--	24.05	--	49.60
GWR-1	04/14/08	73.65	--	24.40	--	49.25
GWR-1	10/13/08	73.65	--	25.06	--	48.59
GWR-1	04/20/09	77.40	--	28.78	--	48.62
GWR-1	10/19/09	77.40	--	29.98	--	47.42
GWR-1	5/24/2010	77.40	--	26.37	--	51.03
GWR-1	5/28/2010	77.40	--	25.91	--	51.49
GWR-3	04/15/92	74.93	30.18	35.18	5.00	NC
GWR-3	08/09/99	74.93	27.45	29.30	1.85	NC
GWR-3	05/15/00	74.93	28.67	31.92	3.25	NC
GWR-3	11/13/00	74.93	--	37.59	--	37.34
GWR-3	05/07/01	74.93	27.20	28.15	0.95	NC
GWR-3	11/05/01	74.93	Sheen	27.95	0.00	NC
GWR-3	04/08/02	74.93	--	27.58	--	47.35
GWR-3	05/02/05	74.93	--	26.12	--	48.81
GWR-3	05/01/06	74.93	--	26.46	--	48.47
GWR-3	12/04/06	74.93	--	28.27	--	46.66
GWR-3	04/30/07	74.93	--	27.97	--	46.96
GWR-3	11/12/07	74.93	--	27.90	--	47.03

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
GWR-3	10/17/08	74.93	--	29.88	--	45.05
GWR-3	04/21/09	74.93	--	29.97	--	44.96
HL-1	08/07/01	75.83	--	26.46	--	49.37
HL-1	04/08/02	75.83	--	27.30	--	48.53
HL-1	11/04/02	75.83	--	28.12	--	47.71
HL-1	04/07/03	75.83	--	27.72	--	48.11
HL-1	10/06/03	75.83	--	27.30	--	48.53
HL-1	01/11/04	75.83	--	28.72	--	47.11
HL-1	04/19/04	75.83	--	28.41	--	47.42
HL-1	05/02/05	75.83	--	23.71	--	52.12
HL-1	10/31/05	75.83	--	25.43	--	50.40
HL-4	05/07/99	75.75	--	27.76	--	47.99
HL-4	08/09/99	75.75	--	27.77	--	47.98
HL-4	11/15/99	75.75	--	27.85	--	47.90
HL-4	05/15/00	75.75	--	19.32	--	56.43
HL-4	11/13/00	75.75	--	28.59	--	47.16
HL-4	05/07/01	75.75	--	26.93	--	48.82
HL-4	11/05/01	75.75	--	26.90	--	48.85
HL-4	04/08/02	75.75	--	27.42	--	48.33
HL-4	10/21/02	75.75	--	28.02	--	47.73
HL-4	04/07/03	75.75	--	25.86	--	49.89
HL-4	10/06/03	75.75	--	27.59	--	48.16
HL-4	01/11/04	75.75	--	29.01	--	46.74
HL-4	04/19/04	75.75	--	28.81	--	46.94
HL-5	08/07/01	76.53	--	27.29	--	49.24
HL-5	10/21/02	76.13	--	28.40	--	47.73
HL-5	04/07/03	76.13	--	26.06	--	50.07
HL-5	10/06/03	76.13	--	27.65	--	48.48
HL-5	01/11/04	76.13	--	29.07	--	47.06
HL-5	04/19/04	76.13	--	28.88	--	47.25
MW-8	09/01/90	76.06	--	30.98	--	45.08
MW-8	07/01/91	76.06	--	30.55	--	45.51
MW-8	12/09/91	76.06	--	31.42	--	44.64
MW-8	06/04/92	76.06	--	29.30	--	46.76
MW-8	06/21/93	76.06	--	27.63	--	48.43
MW-8	01/06/94	76.06	--	28.65	--	47.41
MW-8	04/14/94	76.06	--	28.51	--	47.55
MW-8	05/28/96	76.06	--	26.96	--	49.10
MW-8	11/20/96	76.06	--	28.06	--	48.00
MW-8	05/03/99	76.06	--	25.82	--	50.24
MW-8	08/09/99	76.06	--	26.30	--	49.76
MW-8	11/15/99	76.06	--	26.93	--	49.13

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
MW-8	05/15/00	76.06	--	26.64	--	49.42
MW-8	11/13/00	76.06	--	27.69	--	48.37
MW-8	02/05/01	76.06	--	27.15	--	48.91
MW-8	05/07/01	76.06	--	25.43	--	50.63
MW-8	09/18/01	76.06	--	25.87	--	50.19
MW-8	01/29/02	76.06	--	26.33	--	49.73
MW-8	04/08/02	76.06	--	26.70	--	49.36
MW-8	10/21/02	76.06	--	27.87	--	48.19
MW-8	01/27/03	76.06	--	27.39	--	48.67
MW-8	04/07/03	76.06	--	26.75	--	49.31
MW-8	07/31/03	76.06	--	26.56	--	49.50
MW-8	10/06/03	76.06	--	26.82	--	49.24
MW-8	01/11/04	76.06	--	28.25	--	47.81
MW-8	01/27/04	76.06	--	27.52	--	48.54
MW-8	04/19/04	76.06	--	29.21	--	46.85
MW-8	07/19/04	76.06	--	27.68	--	48.38
MW-8	02/01/05	76.06	--	26.49	--	49.57
MW-8	05/02/05	76.06	--	22.01	--	54.05
MW-8	08/01/05	76.06	--	23.19	--	52.87
MW-8	10/31/05	76.06	--	25.72	--	50.34
MW-8	02/27/06	76.06	--	24.41	--	51.65
MW-8	05/01/06	76.06	--	24.37	--	51.69
MW-8	09/18/06	76.06	--	25.21	--	50.85
MW-8	12/04/06	76.06	--	25.46	--	50.60
MW-8	03/12/07	76.06	--	25.98	--	50.08
MW-8	04/30/07	76.06	--	25.18	--	50.88
MW-8	08/28/07	76.06	--	26.90	--	49.16
MW-8	11/12/07	76.06	--	26.40	--	49.66
MW-8	02/19/08	76.06	--	26.79	--	49.27
MW-8	04/14/08	76.06	--	26.29	--	49.77
MW-8	10/13/08	76.06	--	27.27	--	48.79
MW-8	04/20/09	76.06	--	27.19	--	48.87
MW-8	10/19/09	76.06	--	28.71	--	47.35
MW-8	5/24/2010	76.06	--	27.91	--	48.15
MW-8	5/28/2010	76.06	--	27.90	--	48.16
MW-18 (MID)	07/01/91	75.67	--	34.80	--	40.87
MW-18 (MID)	12/09/91	75.67	--	35.13	--	40.54
MW-18 (MID)	06/04/92	75.67	--	33.72	--	41.95
MW-18 (MID)	06/21/93	75.67	--	31.27	--	44.40
MW-18 (MID)	01/06/94	75.67	--	31.30	--	44.37
MW-18 (MID)	05/28/96	75.67	33.20	33.81	0.61	NC
MW-18 (MID)	11/20/96	75.67	--	32.82	--	42.85

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
MW-18 (MID)	07/01/97	75.67	--	29.10	--	46.57
MW-18 (MID)	12/31/97	75.67	32.67	33.25	0.58	NC
MW-18 (MID)	05/01/98	75.67	29.81	29.83	0.02	NC
MW-18 (MID)	08/09/99	75.67	--	31.33	--	44.34
MW-18 (MID)	11/19/99	75.67	--	31.86	--	43.81
MW-18 (MID)	05/15/00	75.67	--	24.58	--	51.09
MW-18 (MID)	11/13/00	75.67	--	26.78	--	48.89
MW-18 (MID)	05/07/01	75.67	--	30.38	--	45.29
MW-18 (MID)	08/07/01	75.67	--	30.46	--	45.21
MW-18 (MID)	11/05/01	75.67	--	30.66	--	45.01
MW-18 (MID)	04/08/02	75.67	--	31.22	--	44.45
MW-18 (MID)	10/21/02	75.67	--	32.24	--	43.43
MW-18 (MID)	10/06/03	75.67	--	31.42	--	44.25
MW-18 (MID)	04/19/04	75.67	--	32.34	--	43.33
MW-18 (MID)	05/02/05	75.67	--	27.67	--	48.00
MW-18 (MID)	10/31/05	75.67	--	25.96	--	49.71
MW-18 (MID)	05/01/06	75.67	--	28.92	--	46.75
MW-18 (MID)	12/04/06	75.67	--	29.74	--	45.93
MW-18 (MID)	04/30/07	75.67	--	29.77	--	45.90
MW-18 (MID)	11/12/07	75.67	--	30.23	--	45.44
MW-18 (MID)	04/14/08	75.67	--	30.45	--	45.22
MW-18 (MID)	10/13/08	75.67	--	31.15	--	44.52
MW-18 (MID)	04/20/09	75.67	--	31.49	--	44.18
MW-18 (MID)	10/19/09	75.67	--	32.62	--	43.05
MW-18 (MID)	5/24/2010	75.67	--	32.26	--	43.41
MW-18 (MID)	5/28/2010	75.67	--	32.17	--	43.50
MW-O-1	08/23/91	75.58	29.48	31.32	1.84	NC
MW-O-1	11/15/91	75.58	31.62	31.99	0.37	NC
MW-O-1	12/09/91	75.58	31.71	32.13	0.42	NC
MW-O-1	02/18/92	75.58	31.56	31.88	0.32	NC
MW-O-1	05/12/92	75.58	30.67	31.07	0.40	NC
MW-O-1	06/04/92	75.58	--	30.78	--	44.80
MW-O-1	08/24/92	75.58	30.34	31.06	0.72	NC
MW-O-1	05/03/93	75.58	26.88	29.57	2.69	NC
MW-O-1	06/21/93	75.58	--	29.60	--	45.98
MW-O-1	08/10/93	75.58	26.75	29.25	2.50	NC
MW-O-1	01/06/94	75.58	27.52	28.24	0.72	NC
MW-O-1	04/08/02	75.48	--	24.31	--	51.17
MW-O-1	10/06/03	75.48	--	25.54	--	49.94
MW-O-1	01/11/04	75.48	26.52	26.60	0.08	NC
MW-O-1	05/02/05	75.48	22.85	22.89	0.04	NC
MW-O-1	10/31/05	75.48	27.43	27.51	0.08	NC

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
MW-O-1	05/01/06	75.48	22.62	24.09	1.47	NC
MW-O-1	12/04/06	75.48	23.62	24.86	1.24	NC
MW-O-1	04/30/07	75.48	23.98	24.10	0.12	NC
MW-O-1	08/28/07	75.48	23.06	23.07	0.01	NC
MW-O-1	11/12/07	75.48	24.25	24.27	0.02	NC
MW-O-1	10/17/08	75.48	--	25.30	--	50.18
MW-O-1	04/21/09	75.48	--	25.41	--	50.07
MW-O-1	10/19/09	75.48	--	26.30	--	49.18
MW-O-2	08/23/91	74.38	21.45	29.81	8.36	NC
MW-O-2	11/15/91	74.38	28.17	37.33	9.16	NC
MW-O-2	12/09/91	74.38	28.20	37.33	9.13	NC
MW-O-2	02/18/92	74.38	21.28	30.32	9.04	NC
MW-O-2	05/12/92	74.38	19.60	29.56	9.96	NC
MW-O-2	06/04/92	74.38	27.81	37.36	9.55	NC
MW-O-2	02/03/93	74.38	28.18	30.12	1.94	NC
MW-O-2	05/03/93	74.38	26.62	28.13	1.51	NC
MW-O-2	06/21/93	74.38	--	27.67	--	46.71
MW-O-2	08/10/93	74.38	24.64	27.80	3.16	NC
MW-O-2	11/01/93	74.38	23.31	28.15	4.84	NC
MW-O-2	01/14/94	74.38	27.38	32.16	4.78	NC
MW-O-2	05/04/94	74.38	26.50	28.25	1.75	NC
MW-O-2	08/08/94	74.38	24.75	28.42	3.67	NC
MW-O-2	03/15/95	74.38	26.72	32.44	5.72	NC
MW-O-2	08/28/95	74.38	24.57	33.28	8.71	NC
MW-O-2	05/28/96	74.38	25.39	27.40	2.01	NC
MW-O-2	11/20/96	74.38	25.55	29.58	4.03	NC
MW-O-2	07/01/97	74.31	26.15	26.49	0.34	NC
MW-O-2	12/31/97	74.31	26.78	29.00	2.22	NC
MW-O-2	05/15/00	74.31	25.37	29.63	4.26	NC
MW-O-2	11/13/00	74.31	25.61	26.32	0.71	NC
MW-O-2	11/05/01	74.31	--	24.62	--	49.69
MW-O-2	04/08/02	74.31	--	25.71	--	48.60
MW-O-2	10/06/03	74.31	23.00	24.19	1.19	NC
MW-O-2	05/02/05	74.31	--	27.02	--	47.29
MW-O-2	10/31/05	74.31	27.58	27.82	0.24	NC
MW-O-2	05/22/06	74.31	21.31	21.32	0.01	NC
MW-O-2	12/04/06	74.31	--	23.10	--	51.21
MW-O-2	04/30/07	74.31	--	22.53	--	51.78
MW-O-2	11/12/07	71.90	--	23.10	--	48.80
MW-O-2	10/17/08	71.90	--	24.85	--	47.05
MW-SF-1	06/21/90	76.31	--	31.82	--	44.49
MW-SF-1	07/17/90	76.31	--	31.88	--	44.43

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
MW-SF-1	09/20/90	76.31	--	32.08	--	44.23
MW-SF-1	10/23/90	76.31	32.11	32.41	0.30	NC
MW-SF-1	11/06/90	76.31	32.11	32.48	0.37	NC
MW-SF-1	05/07/91	76.31	30.23	31.81	1.58	NC
MW-SF-1	06/05/91	76.31	31.05	31.75	0.70	NC
MW-SF-1	08/23/91	76.31	30.52	31.40	0.88	NC
MW-SF-1	11/15/91	76.31	31.51	35.96	4.45	NC
MW-SF-1	12/09/91	76.31	31.07	37.98	6.91	NC
MW-SF-1	02/18/92	76.31	31.82	32.49	0.67	NC
MW-SF-1	05/12/92	76.31	23.56	31.78	8.22	NC
MW-SF-1	06/04/92	76.31	29.71	38.70	8.99	NC
MW-SF-1	08/24/92	76.31	23.12	31.84	8.72	NC
MW-SF-1	11/23/92	76.31	24.15	32.37	8.22	NC
MW-SF-1	02/03/93	76.31	23.50	32.00	8.50	NC
MW-SF-1	05/03/93	76.31	19.51	30.27	10.76	NC
MW-SF-1	08/10/93	76.31	19.35	29.99	10.64	NC
MW-SF-1	11/01/93	76.31	20.12	30.16	10.04	NC
MW-SF-1	03/01/94	76.31	21.77	30.35	8.58	NC
MW-SF-1	05/04/94	76.31	21.74	30.35	8.61	NC
MW-SF-1	08/08/94	76.31	22.49	30.40	7.91	NC
MW-SF-1	11/02/94	76.31	23.03	30.63	7.60	NC
MW-SF-1	08/07/01	76.31	29.07	29.18	0.11	NC
MW-SF-1	04/08/02	78.93	--	29.81	--	49.12
MW-SF-1	11/04/02	78.93	31.02	31.03	0.01	NC
MW-SF-1	07/30/03	78.93	--	29.97	--	48.96
MW-SF-1	10/06/03	78.93	--	30.01	--	48.92
MW-SF-1	01/11/04	78.93	--	31.12	--	47.81
MW-SF-1	04/19/04	78.93	--	30.71	--	48.22
MW-SF-1	05/02/05	78.93	--	26.21	--	52.72
MW-SF-1	10/31/05	78.93	--	27.09	--	51.84
MW-SF-1	05/01/06	78.93	--	27.51	--	51.42
MW-SF-1	12/04/06	78.93	--	28.28	--	50.65
MW-SF-1	03/12/07	78.93	--	28.71	--	50.22
MW-SF-1	04/30/07	78.93	--	28.44	--	50.49
MW-SF-1	08/28/07	78.93	--	27.94	--	50.99
MW-SF-1	11/12/07	78.93	--	28.76	--	50.17
MW-SF-1	02/19/08	78.93	--	29.50	--	49.43
MW-SF-1	04/14/08	78.93	--	29.16	--	49.77
MW-SF-1	08/11/08	78.93	--	29.75	--	49.18
MW-SF-1	10/13/08	78.93	--	29.86	--	49.07
MW-SF-1	04/20/09	78.93	--	29.97	--	48.96
MW-SF-1	07/20/09	78.93	--	30.98	--	47.95

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
MW-SF-1	10/19/09	78.93	--	31.11	--	47.82
MW-SF-1	03/15/10	78.93	--	31.74	--	47.19
MW-SF-1	5/24/2010	78.93	--	30.79	--	48.14
MW-SF-1	5/28/2010	78.93	--	30.57	--	48.36
MW-SF-2	06/21/90	75.75	--	31.22	--	44.53
MW-SF-2	07/17/90	75.75	Sheen	31.29	0.00	NC
MW-SF-2	09/20/90	75.75	31.45	31.50	0.05	NC
MW-SF-2	11/06/90	75.75	31.52	31.90	0.38	NC
MW-SF-2	05/07/91	75.75	--	31.40	--	44.35
MW-SF-2	06/05/91	75.75	29.18	31.33	2.15	NC
MW-SF-2	11/15/91	75.75	31.01	35.27	4.26	NC
MW-SF-2	12/09/91	75.75	30.75	36.56	5.81	NC
MW-SF-2	11/20/96	78.45	30.31	36.68	6.37	NC
MW-SF-2	07/01/97	78.45	28.43	45.25	16.82	NC
MW-SF-2	12/31/97	78.45	30.86	33.92	3.06	NC
MW-SF-2	05/01/98	78.45	20.73	27.55	6.82	NC
MW-SF-2	05/15/00	78.45	27.56	30.01	2.45	NC
MW-SF-2	11/13/00	78.45	29.27	30.32	1.05	NC
MW-SF-2	05/07/01	78.45	28.00	29.75	1.75	NC
MW-SF-2	08/07/01	78.45	28.79	30.25	1.46	NC
MW-SF-2	11/05/01	78.45	29.50	30.49	0.99	NC
MW-SF-2	10/21/02	78.45	29.74	30.74	1.00	NC
MW-SF-2	10/06/03	78.93	29.87	29.88	0.01	NC
MW-SF-2	04/19/04	78.45	30.90	30.91	0.01	NC
MW-SF-2	05/02/05	78.45	26.25	26.52	0.27	NC
MW-SF-2	10/31/05	78.45	26.30	29.71	3.41	NC
MW-SF-2	05/01/06	78.45	27.22	27.96	0.74	NC
MW-SF-2	12/04/06	78.45	27.98	28.82	0.84	NC
MW-SF-2	04/30/07	78.45	28.34	28.35	0.01	NC
MW-SF-2	11/12/07	78.45	28.71	29.18	0.47	NC
MW-SF-2	08/12/08	78.45	--	31.11	--	47.34
MW-SF-2	10/17/08	78.45	31.00	31.55	0.55	NC
MW-SF-2	04/21/09	78.53	--	29.98	--	48.55
MW-SF-3	06/21/90	76.03	--	31.54	--	44.49
MW-SF-3	07/17/90	76.03	--	31.61	--	44.42
MW-SF-3	09/20/90	76.03	--	31.80	--	44.23
MW-SF-3	10/23/90	76.03	--	31.91	--	44.12
MW-SF-3	11/06/90	76.03	--	31.95	--	44.08
MW-SF-3	02/04/91	76.03	--	32.13	--	43.90
MW-SF-3	02/20/91	76.03	--	32.12	--	43.91
MW-SF-3	05/07/91	76.03	--	31.55	--	44.48
MW-SF-3	06/05/91	76.03	--	31.50	--	44.53

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
MW-SF-3	08/23/91	76.03	--	31.86	--	44.17
MW-SF-3	11/15/91	76.03	--	32.24	--	43.79
MW-SF-3	12/09/91	76.03	--	32.31	--	43.72
MW-SF-3	02/18/92	76.03	--	32.48	--	43.55
MW-SF-3	05/12/92	76.03	30.44	31.08	0.64	NC
MW-SF-3	06/04/92	76.03	31.29	32.19	0.90	NC
MW-SF-3	08/24/92	76.03	29.92	31.62	1.70	NC
MW-SF-3	11/23/92	76.03	29.66	32.06	2.40	NC
MW-SF-3	02/03/93	76.03	30.87	31.43	0.56	NC
MW-SF-3	05/03/93	76.03	24.46	30.10	5.64	NC
MW-SF-3	08/10/93	76.03	23.11	29.75	6.64	NC
MW-SF-3	11/01/93	76.03	23.52	29.87	6.35	NC
MW-SF-3	03/01/94	76.03	25.04	30.10	5.06	NC
MW-SF-3	05/04/94	76.03	23.82	30.12	6.30	NC
MW-SF-3	08/08/94	76.03	23.94	30.16	6.22	NC
MW-SF-3	11/02/94	76.03	24.65	30.34	5.69	NC
MW-SF-3	08/07/01	76.03	27.67	29.20	1.53	NC
MW-SF-3	04/08/02	77.62	--	27.17	--	50.45
MW-SF-3	11/04/02	77.62	29.72	29.93	0.21	NC
MW-SF-3	10/06/03	78.93	28.92	29.09	0.17	NC
MW-SF-3	04/19/04	77.62	29.92	30.81	0.89	NC
MW-SF-3	05/02/05	77.62	25.09	26.70	1.61	NC
MW-SF-3	10/31/05	77.62	--	27.91	--	49.71
MW-SF-3	05/01/06	77.62	26.37	26.81	0.44	NC
MW-SF-3	12/04/06	77.62	27.18	27.77	0.59	NC
MW-SF-3	04/30/07	77.62	27.45	27.72	0.27	NC
MW-SF-3	11/12/07	77.62	28.28	29.34	1.06	NC
MW-SF-3	08/12/08	77.62	29.05	30.30	1.25	NC
MW-SF-3	10/17/08	77.62	--	29.45	--	48.17
MW-SF-3	04/21/09	78.12	29.50	29.51	0.01	NC
MW-SF-4	06/21/90	76.32	--	31.73	--	44.59
MW-SF-4	07/17/90	76.32	--	31.80	--	44.52
MW-SF-4	09/20/90	76.32	--	31.98	--	44.34
MW-SF-4	10/23/90	76.32	--	32.07	--	44.25
MW-SF-4	11/06/90	76.32	32.10	32.21	0.11	NC
MW-SF-4	02/04/91	76.32	32.09	32.27	0.18	NC
MW-SF-4	05/07/91	76.32	31.59	31.70	0.11	NC
MW-SF-4	06/05/91	76.32	31.05	31.57	0.52	NC
MW-SF-4	08/23/91	76.32	29.90	31.60	1.70	NC
MW-SF-4	11/15/91	76.32	32.31	32.80	0.49	NC
MW-SF-4	12/09/91	76.32	32.38	32.97	0.59	NC
MW-SF-4	02/18/92	76.32	32.29	32.57	0.28	NC

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
MW-SF-4	05/12/92	76.32	30.95	31.69	0.74	NC
MW-SF-4	06/04/92	76.32	29.14	31.18	2.04	NC
MW-SF-4	08/24/92	76.32	26.86	31.72	4.86	NC
MW-SF-4	11/23/92	76.32	27.40	32.23	4.83	NC
MW-SF-4	02/03/93	76.32	27.35	31.96	4.61	NC
MW-SF-4	05/03/93	76.32	18.31	30.12	11.81	NC
MW-SF-4	08/10/93	76.32	18.86	29.84	10.98	NC
MW-SF-4	11/01/93	76.32	19.90	30.02	10.12	NC
MW-SF-4	03/01/94	76.32	20.86	30.45	9.59	NC
MW-SF-4	05/04/94	76.32	20.73	30.36	9.63	NC
MW-SF-4	08/08/94	76.32	21.14	30.34	9.20	NC
MW-SF-4	11/02/94	76.32	21.88	30.56	8.68	NC
MW-SF-4	11/20/96	79.38	32.17	35.90	3.73	NC
MW-SF-4	07/01/97	79.38	31.85	36.92	5.07	NC
MW-SF-4	12/31/97	79.38	32.10	33.89	1.79	NC
MW-SF-4	05/01/98	79.38	28.27	29.99	1.72	NC
MW-SF-4	11/19/99	79.38	28.80	36.87	8.07	NC
MW-SF-4	05/07/01	79.38	--	24.62	--	54.76
MW-SF-4	05/10/01	79.38	--	24.61	--	54.77
MW-SF-4	11/05/01	79.38	--	30.05	--	49.33
MW-SF-4	04/08/02	79.38	--	28.46	--	50.92
MW-SF-4	10/21/02	79.38	--	31.50	--	47.88
MW-SF-4	07/30/03	79.38	31.89	31.92	0.03	NC
MW-SF-4	10/06/03	79.38	--	30.82	--	48.56
MW-SF-4	01/27/04	79.38	31.30	31.94	0.64	NC
MW-SF-4	04/19/04	79.38	31.65	32.70	1.05	NC
MW-SF-4	07/19/04	79.38	31.42	31.81	0.39	NC
MW-SF-4	02/01/05	79.38	30.34	30.71	0.37	NC
MW-SF-4	05/02/05	79.38	26.85	27.00	0.15	NC
MW-SF-4	08/01/05	79.38	27.43	27.81	0.38	NC
MW-SF-4	10/31/05	79.38	--	27.11	--	52.27
MW-SF-4	02/27/06	79.38	28.20	28.39	0.19	NC
MW-SF-4	05/01/06	79.38	28.34	28.56	0.22	NC
MW-SF-4	09/18/06	79.38	29.56	29.94	0.38	NC
MW-SF-4	12/04/06	79.38	--	26.98	--	52.40
MW-SF-4	03/12/07	79.38	29.41	30.01	0.60	NC
MW-SF-4	04/30/07	79.38	29.11	29.96	0.85	NC
MW-SF-4	08/28/07	79.38	28.30	29.95	1.65	NC
MW-SF-4	11/12/07	79.38	29.69	29.70	0.01	NC
MW-SF-4	02/19/08	79.38	--	30.22	--	49.16
MW-SF-4	04/14/08	79.38	--	29.95	--	49.43
MW-SF-4	08/08/08	79.38	--	30.51	--	48.87

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
MW-SF-4	08/11/08	79.38	--	30.57	--	48.81
MW-SF-4	10/16/08	79.38	--	30.77	--	48.61
MW-SF-4	04/20/09	79.38	29.94	30.02	0.08	NC
MW-SF-4	07/20/09	79.38	31.61	31.65	0.04	NC
MW-SF-4	10/19/09	79.38	31.90	31.93	0.03	NC
MW-SF-4	03/15/10	79.38	31.91	31.95	0.04	NC
MW-SF-4	5/24/2010	79.38	--	31.60	--	47.78
MW-SF-4	5/28/2010	79.38	--	26.40	--	52.98
MW-SF-5	09/20/90	75.63	--	31.38	--	44.25
MW-SF-5	10/23/90	75.63	--	31.53	--	44.10
MW-SF-5	11/06/90	75.63	--	31.57	--	44.06
MW-SF-5	02/04/91	75.63	--	31.76	--	43.87
MW-SF-5	02/20/91	75.63	--	31.76	--	43.87
MW-SF-5	05/07/91	75.63	--	31.20	--	44.43
MW-SF-5	06/05/91	75.63	--	31.14	--	44.49
MW-SF-5	08/23/91	75.63	--	31.48	--	44.15
MW-SF-5	11/15/91	75.63	--	31.89	--	43.74
MW-SF-5	12/09/91	75.63	--	31.96	--	43.67
MW-SF-5	02/18/92	75.63	--	32.68	--	42.95
MW-SF-5	05/12/92	75.63	--	31.25	--	44.38
MW-SF-5	06/04/92	75.63	--	31.16	--	44.47
MW-SF-5	08/24/92	75.63	--	31.30	--	44.33
MW-SF-5	11/23/92	75.63	--	31.75	--	43.88
MW-SF-5	02/03/93	75.63	--	31.51	--	44.12
MW-SF-5	05/03/93	75.63	--	29.84	--	45.79
MW-SF-5	08/10/93	75.63	--	29.47	--	46.16
MW-SF-5	11/01/93	75.63	--	29.58	--	46.05
MW-SF-5	03/01/94	75.63	--	29.74	--	45.89
MW-SF-5	05/04/94	75.63	--	29.65	--	45.98
MW-SF-5	08/08/94	75.63	--	29.86	--	45.77
MW-SF-5	11/02/94	75.63	--	30.03	--	45.60
MW-SF-5	08/07/01	75.63	--	30.33	--	45.30
MW-SF-5	04/08/02	79.74	--	26.42	--	53.32
MW-SF-5	11/04/02	79.74	31.77	31.79	0.02	NC
MW-SF-5	10/06/03	79.74	31.14	31.15	0.01	NC
MW-SF-5	04/19/04	79.74	--	32.22	--	47.52
MW-SF-5	05/02/05	79.74	--	27.50	--	52.24
MW-SF-5	10/31/05	79.74	Sheen	27.99	0.00	NC
MW-SF-5	05/01/06	79.74	--	28.42	--	51.32
MW-SF-5	12/04/06	79.74	--	28.23	--	51.51
MW-SF-5	04/30/07	79.74	--	29.54	--	50.20
MW-SF-5	08/28/07	79.74	--	28.84	--	50.90

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
MW-SF-5	11/12/07	79.74	--	29.93	--	49.81
MW-SF-5	04/14/08	79.74	--	30.20	--	49.54
MW-SF-5	08/11/08	79.74	--	30.85	--	48.89
MW-SF-5	10/13/08	79.74	--	30.93	--	48.81
MW-SF-5	04/20/09	79.74	--	30.99	--	48.75
MW-SF-5	5/24/2010	79.74	--	31.55	--	48.19
MW-SF-5	5/28/2010	79.74	--	31.44	--	48.30
MW-SF-6	09/20/90	75.36	--	30.76	--	44.60
MW-SF-6	10/23/90	75.36	--	31.21	--	44.15
MW-SF-6	11/06/90	75.36	--	31.24	--	44.12
MW-SF-6	02/04/91	75.36	--	31.43	--	43.93
MW-SF-6	02/20/91	75.36	--	31.42	--	43.94
MW-SF-6	05/07/91	75.36	--	30.91	--	44.45
MW-SF-6	06/05/91	75.36	29.49	30.85	1.36	NC
MW-SF-6	08/23/91	75.36	27.45	31.18	3.73	NC
MW-SF-6	11/15/91	75.36	31.33	32.38	1.05	NC
MW-SF-6	12/09/91	75.36	31.26	32.90	1.64	NC
MW-SF-6	02/18/92	75.36	31.42	31.73	0.31	NC
MW-SF-6	05/12/92	75.36	27.88	30.93	3.05	NC
MW-SF-6	06/04/92	75.36	30.97	33.77	2.80	NC
MW-SF-6	08/24/92	75.36	25.49	30.93	5.44	NC
MW-SF-6	11/23/92	75.36	25.66	31.39	5.73	NC
MW-SF-6	02/03/93	75.36	25.38	31.17	5.79	NC
MW-SF-6	05/03/93	75.36	22.74	29.50	6.76	NC
MW-SF-6	08/10/93	75.36	22.09	29.14	7.05	NC
MW-SF-6	11/01/93	75.36	22.38	29.23	6.85	NC
MW-SF-6	03/01/94	75.36	23.42	29.39	5.97	NC
MW-SF-6	05/04/94	75.36	25.02	30.24	5.22	NC
MW-SF-6	08/08/94	75.36	23.89	29.47	5.58	NC
MW-SF-6	11/02/94	75.36	24.67	29.71	5.04	NC
MW-SF-6	11/20/96	80.59	31.88	39.82	7.94	NC
MW-SF-6	07/01/97	80.59	33.20	39.18	5.98	NC
MW-SF-6	12/31/97	80.59	34.38	39.94	5.56	NC
MW-SF-6	05/01/98	80.59	24.82	30.01	5.19	NC
MW-SF-6	05/15/00	80.59	29.67	31.19	1.52	NC
MW-SF-6	05/01/06	79.96	--	25.43	--	54.53
MW-SF-6	04/30/07	79.96	27.20	27.44	0.24	NC
MW-SF-6	11/12/07	79.96	--	27.14	--	52.82
MW-SF-6	08/12/08	79.96	--	29.82	--	50.14
MW-SF-6	10/17/08	79.96	--	29.75	--	50.21
MW-SF-6	04/21/09	76.80	--	28.45	--	48.35

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
MW-SF-9	11/19/99	74.10	--	25.57	--	48.53
MW-SF-9	11/05/01	74.10	--	32.11	--	41.99
MW-SF-9	04/08/02	74.10	--	31.62	--	42.48
MW-SF-9	07/30/03	74.10	--	25.12	--	48.98
MW-SF-9	10/06/03	74.10	--	25.23	--	48.87
MW-SF-9	01/11/04	74.10	26.00	26.02	0.02	NC
MW-SF-9	04/19/04	74.10	26.20	26.23	0.03	NC
MW-SF-9	05/02/05	74.10	--	20.41	--	53.69
MW-SF-9	10/31/05	74.10	--	27.09	--	47.01
MW-SF-9	05/01/06	74.10	--	22.57	--	51.53
MW-SF-9	12/04/06	74.10	--	23.30	--	50.80
MW-SF-9	04/30/07	74.10	--	22.66	--	51.44
MW-SF-9	08/28/07	74.10	--	20.55	--	53.55
MW-SF-9	11/12/07	74.10	--	22.96	--	51.14
MW-SF-9	04/14/08	74.10	--	24.23	--	49.87
MW-SF-9	10/13/08	74.10	--	24.83	--	49.27
MW-SF-9	04/20/09	74.10	--	25.27	--	48.83
MW-SF-9	10/19/09	74.10	--	26.45	--	47.65
MW-SF-9	5/24/2010	74.10	--	25.80	--	48.30
MW-SF-9	5/28/2010	74.10	--	25.66	--	48.44
MW-SF-10	10/17/08	76.53	--	27.49	--	49.04
MW-SF-10	10/19/09	76.53	--	28.61	--	47.92
MW-SF-11	08/28/07	78.56	--	28.22	--	50.34
MW-SF-11	11/12/07	78.56	--	29.03	--	49.53
MW-SF-11	08/15/08	78.56	--	30.13	--	48.43
MW-SF-11	10/17/08	78.56	--	30.50	--	48.06
MW-SF-11	04/21/09	78.56	--	30.03	--	48.53
MW-SF-12	08/28/07	78.07	--	27.58	--	50.49
MW-SF-12	11/12/07	78.07	--	28.33	--	49.74
MW-SF-12	08/12/08	78.07	--	30.02	--	48.05
MW-SF-12	10/17/08	78.08	--	30.42	--	47.66
MW-SF-12	04/21/09	78.07	--	29.52	--	48.55
MW-SF-13	08/28/07	73.40	--	22.85	--	50.55
MW-SF-13	11/12/07	73.40	--	23.70	--	49.70
MW-SF-13	08/15/08	73.40	24.11	27.38	3.27	NC
MW-SF-13	10/17/08	73.40	24.33	27.28	2.95	NC
MW-SF-13	10/21/08	73.40	24.26	27.14	2.88	NC
MW-SF-13	04/21/09	73.40	24.78	24.86	0.08	NC
MW-SF-14	08/28/07	78.16	--	27.53	--	50.63
MW-SF-14	08/15/08	78.16	29.24	29.77	0.53	NC
MW-SF-14	10/17/08	78.16	29.50	29.52	0.02	NC
MW-SF-14	04/21/09	78.16	--	29.61	--	48.55

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
MW-SF-15	08/28/07	78.27	27.61	27.65	0.04	NC
MW-SF-15	11/12/07	78.27	--	28.75	--	49.52
MW-SF-15	08/15/08	78.27	29.35	30.12	0.77	NC
MW-SF-15	10/17/08	78.27	29.44	30.80	1.36	NC
MW-SF-15	04/21/09	78.27	29.60	29.96	0.36	NC
MW-SF-16	08/28/07	78.21	--	27.51	--	50.70
MW-SF-16	11/12/07	78.21	--	28.40	--	49.81
MW-SF-16	08/15/08	78.21	--	29.36	--	48.85
MW-SF-16	10/17/08	78.21	--	29.51	--	48.70
MW-SF-16	04/21/09	78.21	--	29.60	--	48.61
PZ-5	05/07/01	73.97	--	23.13	--	50.84
PZ-5	10/06/03	73.97	--	24.58	--	49.39
PZ-5	05/02/05	73.97	--	19.12	--	54.85
PZ-5	10/31/05	73.97	--	21.13	--	52.84
PZ-5	02/27/06	73.97	--	22.06	--	51.91
PZ-5	05/01/06	73.97	--	22.20	--	51.77
PZ-5	09/18/06	73.97	--	22.91	--	51.06
PZ-5	12/04/06	73.97	--	23.26	--	50.71
PZ-5	03/12/07	73.97	--	23.71	--	50.26
PZ-5	04/30/07	73.97	--	23.85	--	50.12
PZ-5	08/28/07	73.97	--	23.85	--	50.12
PZ-5	11/12/07	73.97	--	24.26	--	49.71
PZ-5	02/19/08	73.97	--	24.68	--	49.29
PZ-5	04/14/08	73.97	--	24.10	--	49.87
PZ-5	08/11/08	73.97	--	24.53	--	49.44
PZ-5	10/13/08	73.97	--	25.12	--	48.85
PZ-5	04/20/09	73.97	--	24.81	--	49.16
PZ-5	07/20/09	73.97	--	25.20	--	48.77
PZ-5	10/19/09	73.97	--	26.41	--	47.56
PZ-5	03/15/10	73.97	--	25.99	--	47.98
PZ-5	04/16/10	73.97	--	25.12	--	48.85
PZ-5	5/24/2010	73.97	--	25.71	--	48.26
PZ-5	5/28/2010	73.97	--	25.68	--	48.29
PZ-7A	08/01/05	73.87	--	20.22	--	53.65
PZ-7A	5/24/2010	73.87	--	25.30	--	48.57
PZ-7A	5/28/2010	73.87	--	25.29	--	48.58
PZ-7B	08/01/05	73.79	--	20.80	--	52.99
PZ-7B	5/24/2010	73.79	--	25.32	--	48.47
PZ-7B	5/28/2010	73.79	--	25.30	--	48.49
PZ-10	07/30/03	74.19	--	25.74	--	48.45
PZ-10	10/06/03	74.19	--	25.79	--	48.40
PZ-10	01/27/04	74.19	--	26.13	--	48.06

TABLE 2

**HISTORICAL GROUNDWATER DATA
South-Central and Southeastern Areas**

Well	Date Measured	Top of Casing Elevation (ft msl)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Apparent Product Thickness (ft)	Groundwater Elevation (ft msl)
PZ-10	04/19/04	74.34	--	26.76	--	47.58
PZ-10	07/19/04	74.34	--	26.40	--	47.94
PZ-10	11/01/04	74.34	--	27.11	--	47.23
PZ-10	02/01/05	74.34	--	23.33	--	51.01
PZ-10	05/02/05	74.34	--	21.80	--	52.54
PZ-10	08/01/05	74.34	--	22.21	--	52.13
PZ-10	10/31/05	74.34	--	27.13	--	47.21
PZ-10	02/27/06	74.34	--	23.18	--	51.16
PZ-10	05/01/06	74.34	--	23.18	--	51.16
PZ-10	09/18/06	74.34	--	24.37	--	49.97
PZ-10	12/04/06	74.34	--	24.10	--	50.24
PZ-10	03/12/07	74.34	--	24.44	--	49.90
PZ-10	04/30/07	73.92	--	23.38	--	50.54
PZ-10	08/28/07	74.34	--	22.67	--	51.67
PZ-10	11/12/07	74.34	--	23.61	--	50.73
PZ-10	02/19/08	74.34	--	25.16	--	49.18
PZ-10	04/14/08	74.34	--	24.75	--	49.59
PZ-10	10/13/08	74.34	--	25.61	--	48.73
PZ-10	04/20/09	74.34	--	25.71	--	48.63
PZ-10	07/20/09	74.34	--	26.60	--	47.74
PZ-10	10/19/09	74.34	--	26.96	--	47.38
PZ-10	5/24/2010	74.34	--	26.51	--	47.83
PZ-10	5/28/2010	74.34	--	26.46	--	47.88

Abbreviations:

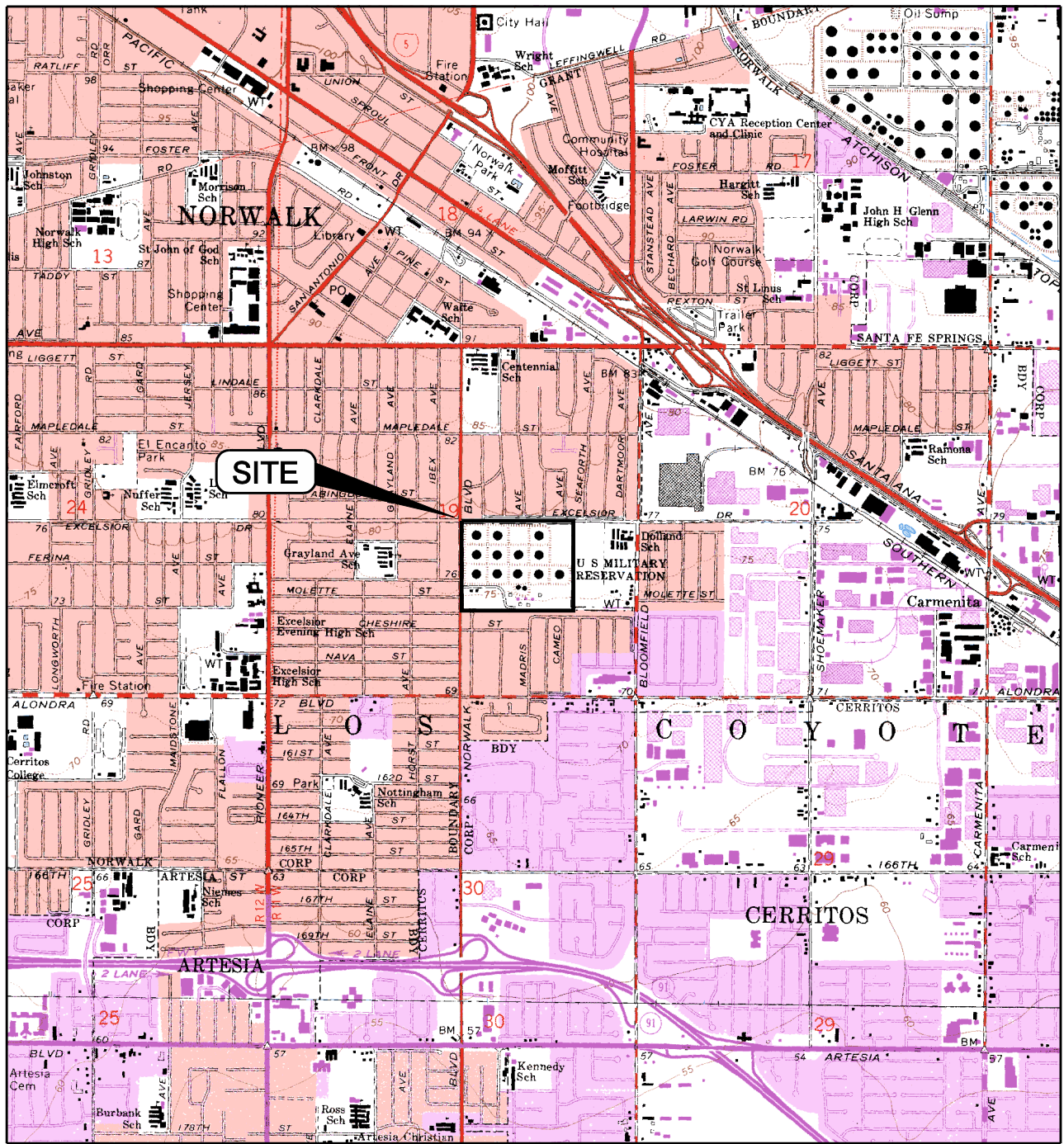
"--" = information not available.

ft bgs = feet below ground surface.

ft msl = feet above mean sea level.

NC = not calculated.

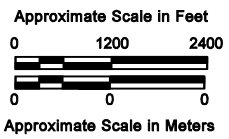
FIGURES



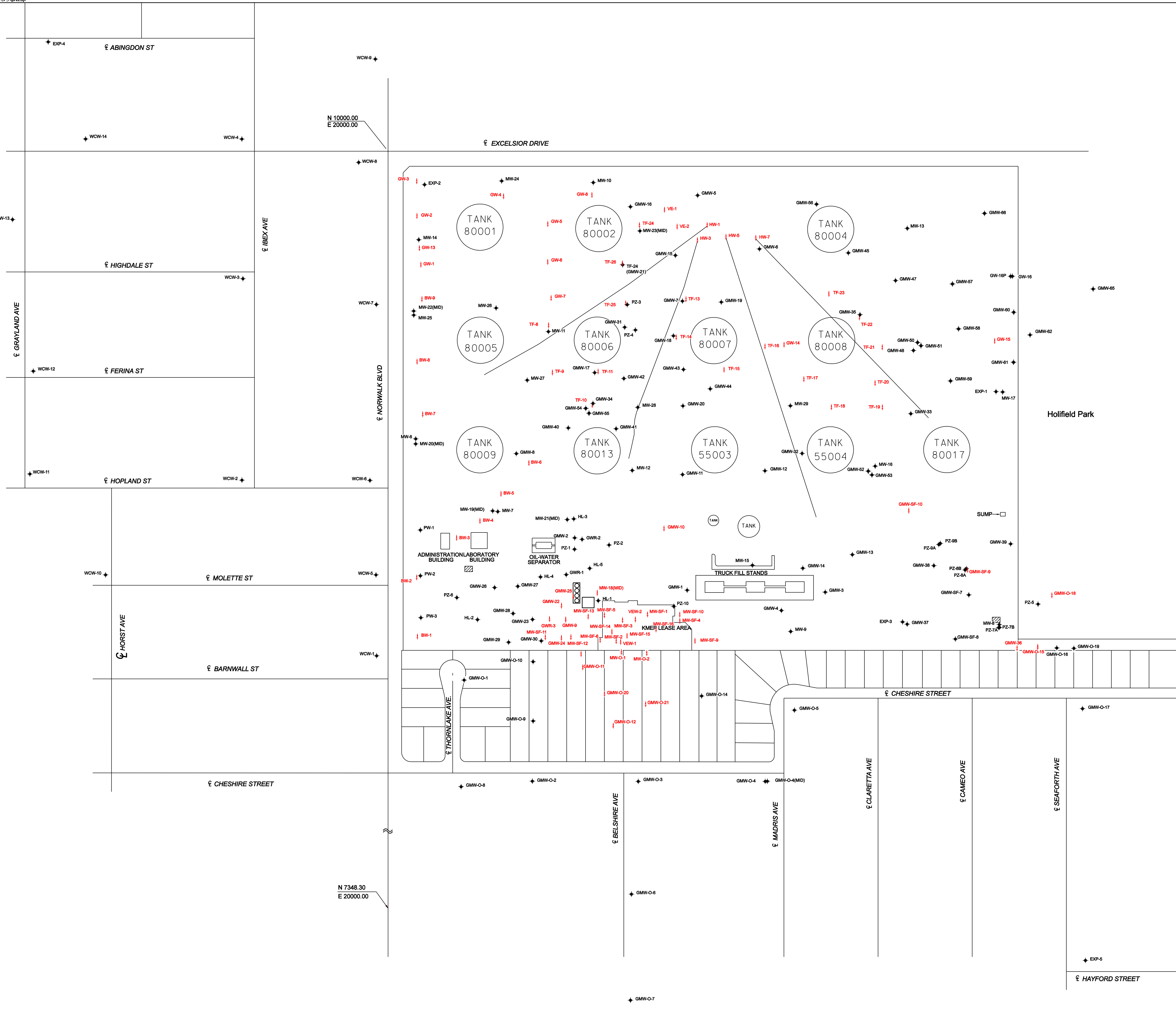
SITE

Base map modified from U.S.G.S. 7.5 minute quadrangle maps Los Alamitos 1964, California; photo-revised 1981; and Whittier 1965, California; photorevised 1981.

**SITE LOCATION MAP
DFSP NORWALK
Norwalk, California**



By: pah	Date: 07/20/10	Project No: 16030440
AMEC Geomatrix		Figure 1

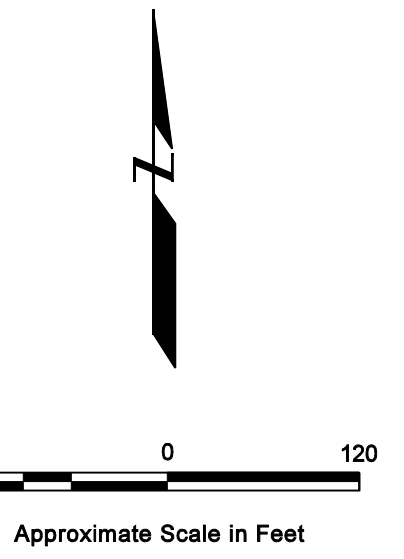


Explanation

- GMW-39 + Monitoring well used for sample collection and/or water level measurement
- VE-1 ↓ Vapor extraction, groundwater extraction, total fluids, or free product extraction well used for site remediation

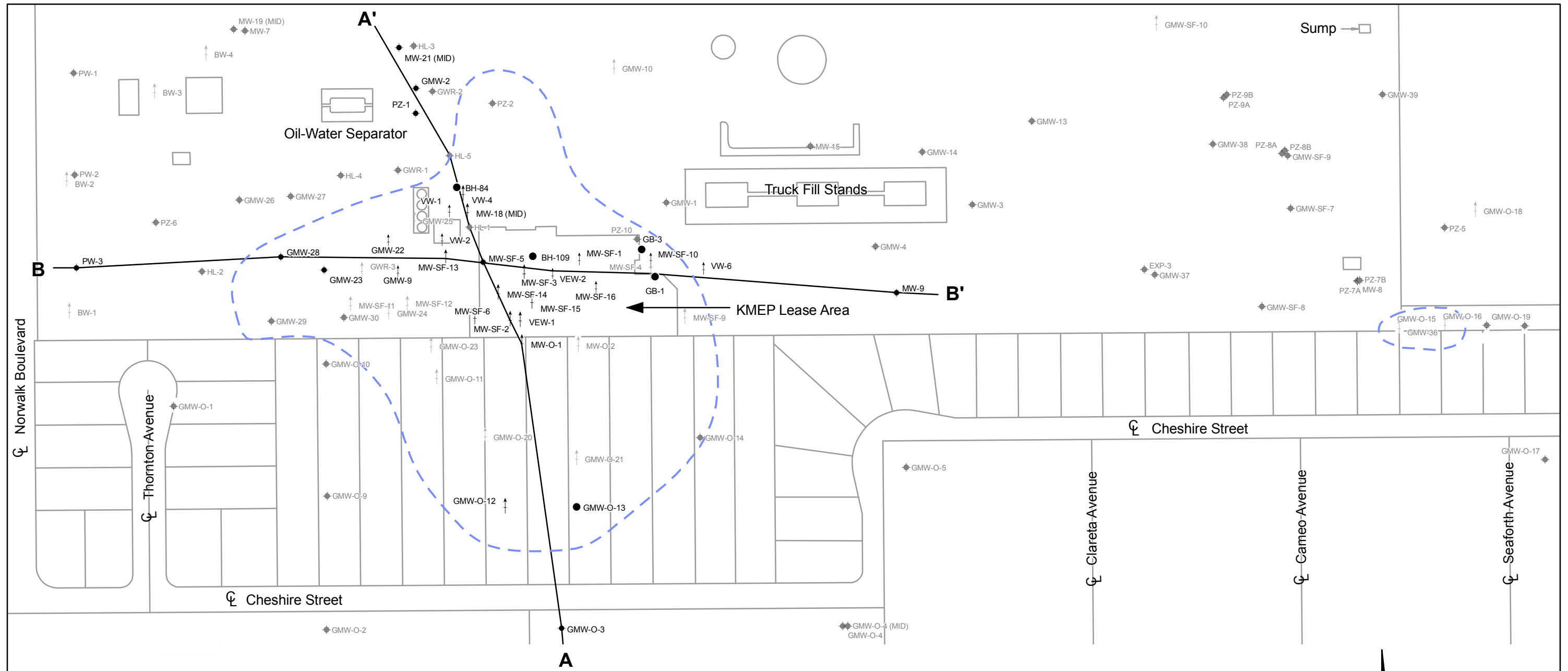
Survey Notes:

1. Base map prepared from data provided by Fluor Daniel GTI, Dulin & Boynton, Geomatrix, and Parsons.
2. Except as noted below, well locations surveyed by Dulin & Boynton.
3. Locations of wells HL-1, HL-3, and HL-4 based on field measurements by Fluor Daniel GTE and Woodward-Clyde.
4. Locations of wells BW-1 through BW-9 surveyed by Geomatrix based on reference to other wells surveyed by Dulin & Boynton.



**SITE PLAN
DFSP NORWALK
Norwalk, California**

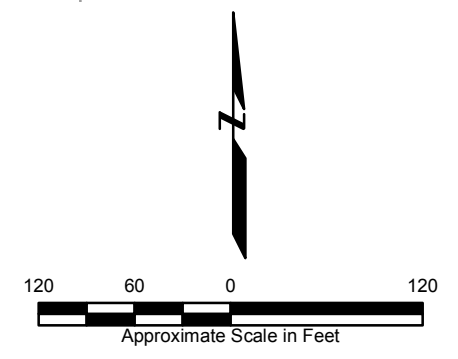
P:\S1603\GIS\sections_site_plan_tbd.mxd - 7/12/2010 @ 8:59:18 AM



Explanation

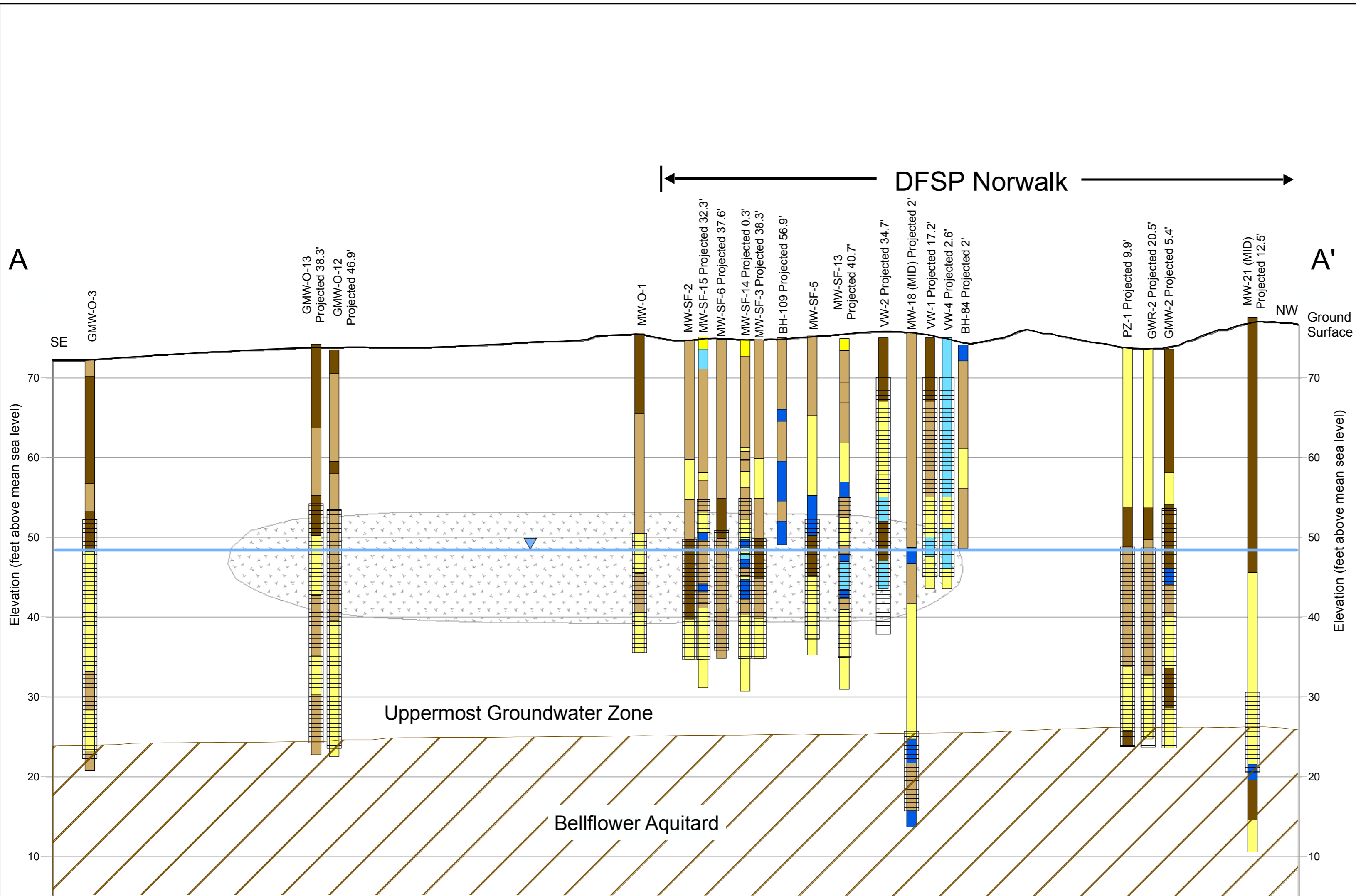
- GMW-5 ◆ Groundwater monitoring well location and designation (grey color indicates not on cross section).
- GB-3 ● Soil boring location and designation.
- MW-O-2 † Vapor extraction, groundwater extraction, or total fluids extraction well used for site remediation (grey color indicates not on cross section).
- A A' Cross section and designation.
- Basemap feature (road centerline, parcel, etc...)

[- - -] Estimated extent of historical measurable light nonaqueous phase hydrocarbons (LNAPL, free product) on groundwater based on data from 1996 (South-Central Area) and 1998 (Southeastern Area).



APPROXIMATE HISTORICAL AREA OF LNAPL AND CROSS SECTION ALIGNMENTS DFSP Norwalk Norwalk, California		
By: mww	Date: 7/2/2010	Project No. 16030440
AMEC Geomatrix		Figure 3

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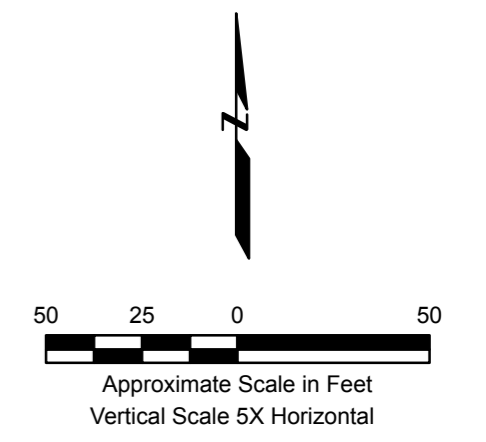


Explanation

- Approximate groundwater elevation in the uppermost groundwater zone (May 2010)
- Well screen
- Bellflower aquitard
- Inferred historical extent of NAPL (smear zone)
- Lithology Class (USCS)**
- GP - Poorly graded gravel
- SP/SW - Poorly/Well graded sand
- SM - Silty sand
- SC - Clayey sand
- ML/MH - Silt
- CL - Clay

Note:

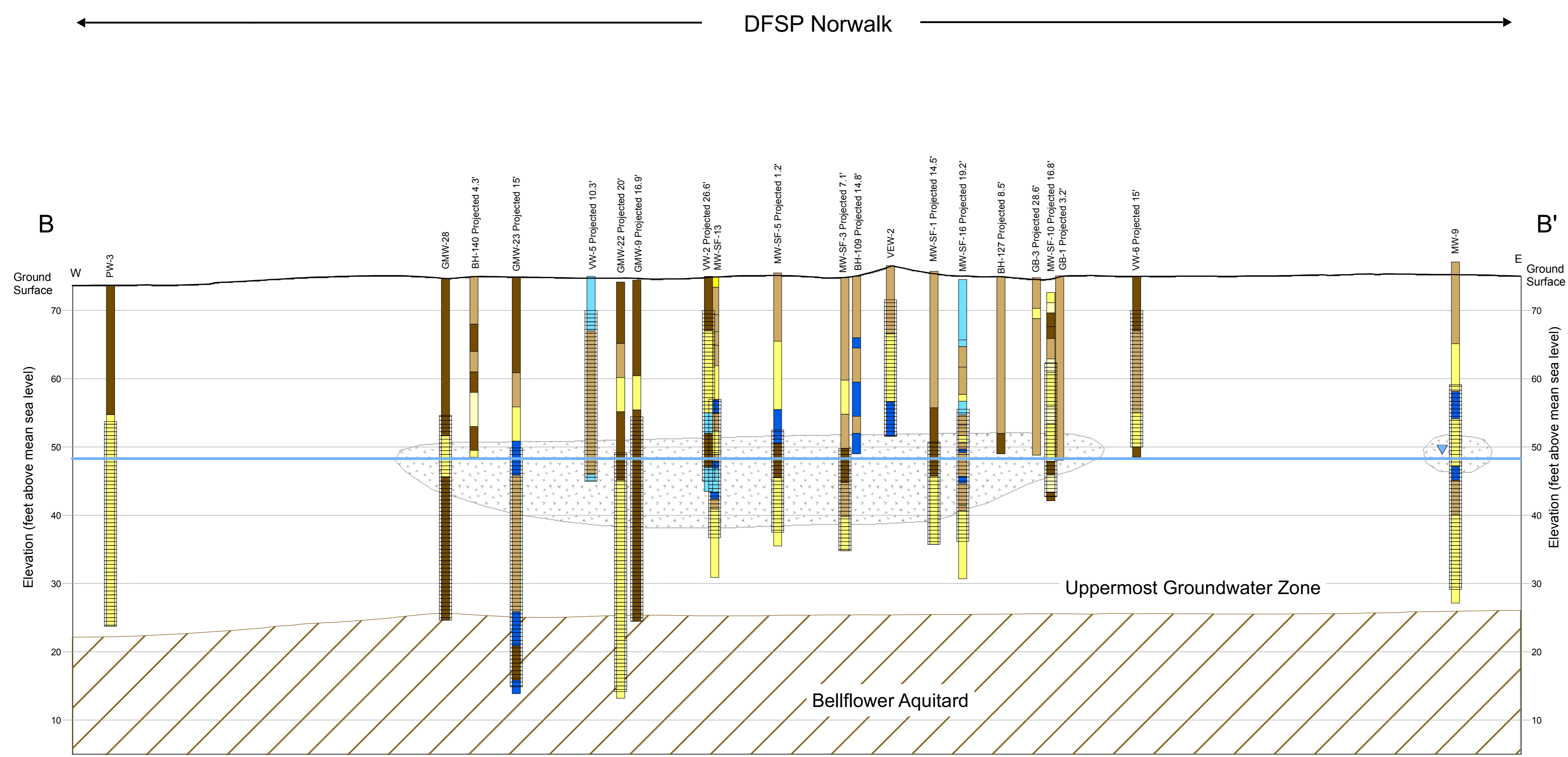
Top of the Bellflower Aquitard was interpreted based on review of the lithologic descriptions provided on the selected well and boring logs (Preliminary Conceptual Site Model, AMEC Geomatrix, Inc., February 13, 2009).



CROSS SECTION A-A'
SOUTH-CENTRAL AREA
DFSP Norwalk
Norwalk, CA

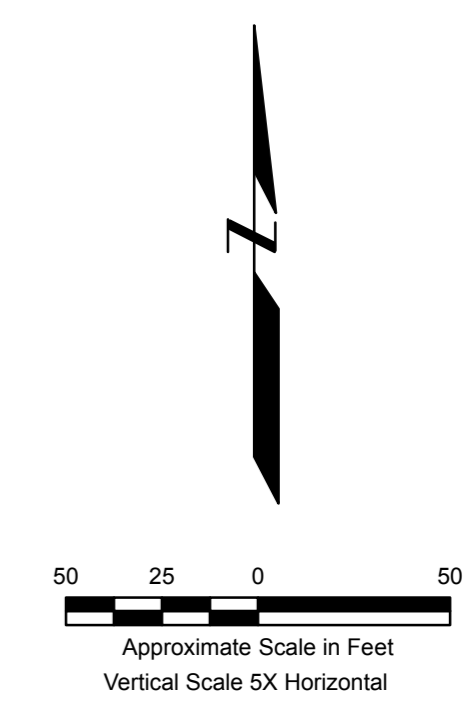
By: mww Date: 7/6/2010 Project No. 1603

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- Explanation**
- Approximate groundwater elevation in the uppermost groundwater zone (May 2010)
 - Well screen
 - Bellflower aquitard
 - Inferred historical extent of NAPL (smear zone)
- Lithology Class (USCS)**
- GP - Poorly graded gravel
 - SP/SW - Poorly/Well graded sand
 - SP-SM - Poorly graded sand/Silty sand
 - SM - Silty sand
 - SC - Clayey sand
 - ML/MH - Silt
 - CL/CH - Clay

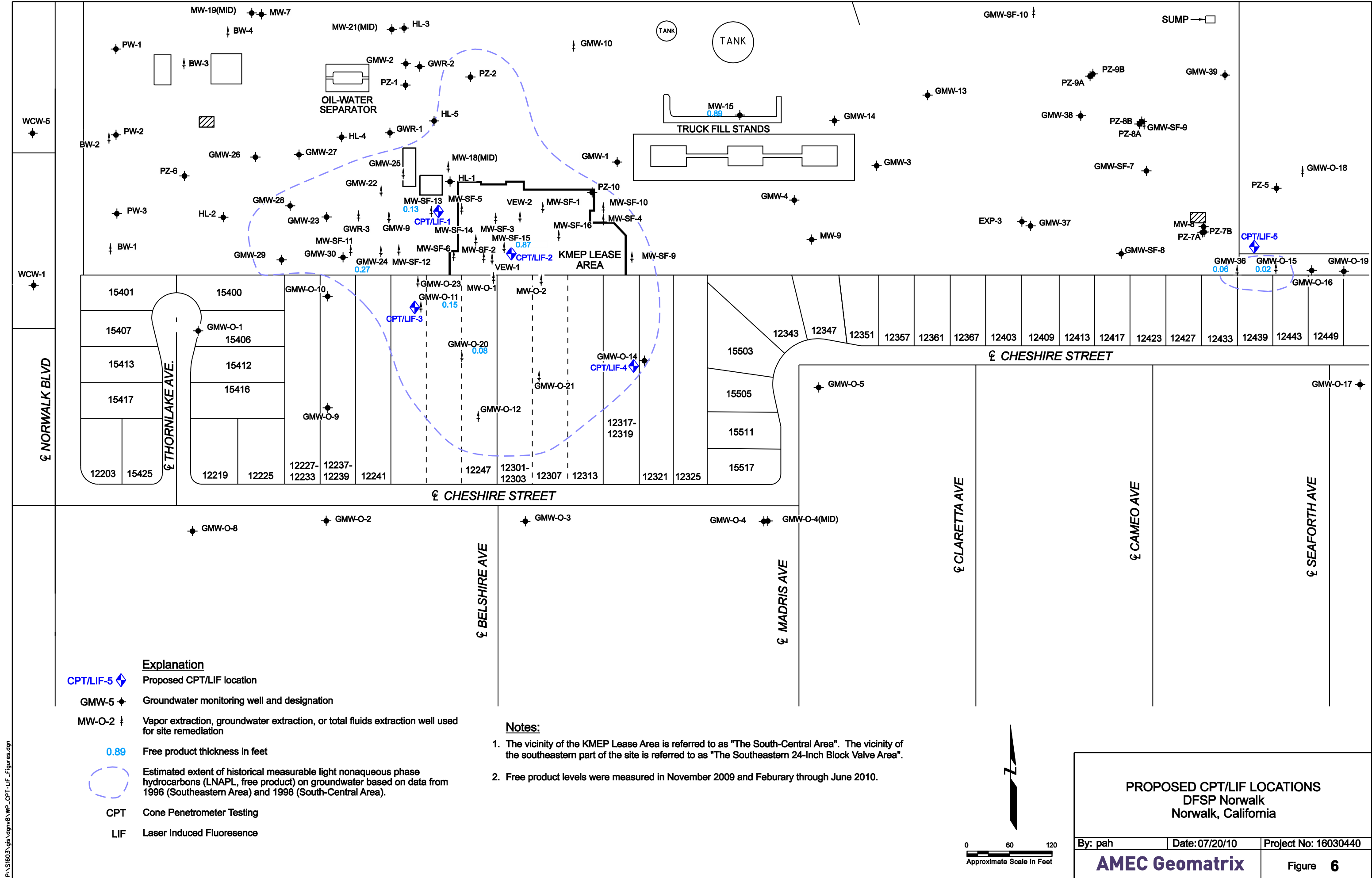
Note:
 Top of the Bellflower Aquitard was interpreted based on review of the lithologic descriptions provided on the selected well and boring logs (Preliminary Conceptual Site Model, AMEC Geomatrix, Inc., February 13, 2009).



CROSS SECTION B-B'
 SOUTH-CENTRAL AREA
 DFSP Norwalk
 Norwalk, California

By: mww Date: 7/6/2010 Project No. 1603

AMEC Geomatrix Figure **5**

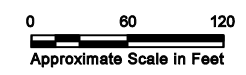


Explanation

- ◆ CPT/LIF-5 Proposed CPT/LIF location
- ◆ GMW-5 Groundwater monitoring well and designation
- † MW-O-2 Vapor extraction, groundwater extraction, or total fluids extraction well used for site remediation
- 0.89 Free product thickness in feet
- Estimated extent of historical measurable light nonaqueous phase hydrocarbons (LNAPL, free product) on groundwater based on data from 1996 (Southeastern Area) and 1998 (South-Central Area).
- CPT Cone Penetrometer Testing
- LIF Laser Induced Fluorescence

Notes:

1. The vicinity of the KMEP Lease Area is referred to as "The South-Central Area". The vicinity of the southeastern part of the site is referred to as "The Southeastern 24-Inch Block Valve Area".
2. Free product levels were measured in November 2009 and February through June 2010.



PROPOSED CPT/LIF LOCATIONS DFSP Norwalk Norwalk, California		
By: pah	Date: 07/20/10	Project No: 16030440
AMEC Geomatrix		Figure 6

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ATTACHMENT A

Laser Induced Fluorescence (LIF) –
Ultraviolet Optical Screening Tool (UVOST) Methods

Laser Induced Fluorescence (UVOST)

Gregg Drilling conducts Laser Induced Fluorescence (LIF) Cone Penetration Tests using a UVOST module that is located behind the standard piezocone, *Figure UVOST*. The laser induced fluorescence cone works on the principle that polycyclic aromatic hydrocarbons (PAH's), mixed with soil and/or groundwater, fluoresce when irradiated by ultra violet light. Therefore, by measuring the intensity of fluorescence, the lateral and vertical extent of hydrocarbon contamination in the ground can be determined.

The UVOST module uses principles of fluorescence spectrometry by irradiating the soil with ultra violet light produced by a laser and transmitted to the cone through fiber optic cables. The light is then passes through a small window in the side of the cone into the soil. Any hydrocarbon molecules present in the soil absorb the light energy during radiation and immediately re-emit the light at a longer wavelength. This re-emission is termed fluorescence. The UVOST system also measures the emission decay with time at four different wavelengths (350nm, 400nm, 450nm, and 500nm). This allows the software to determine a product "signature" at each data point. This process allows determination of the type of contaminant as shown in *Figure Concept*.

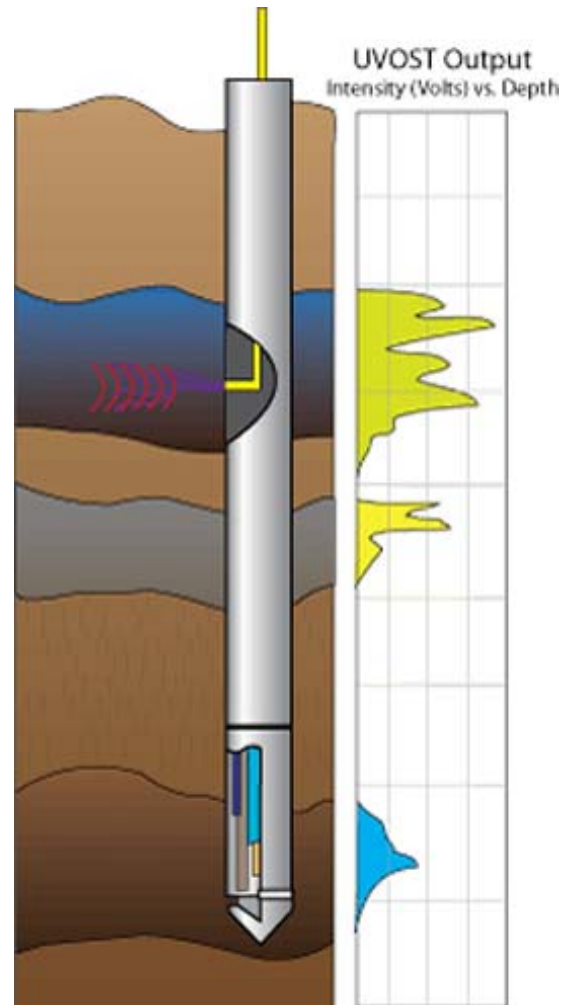
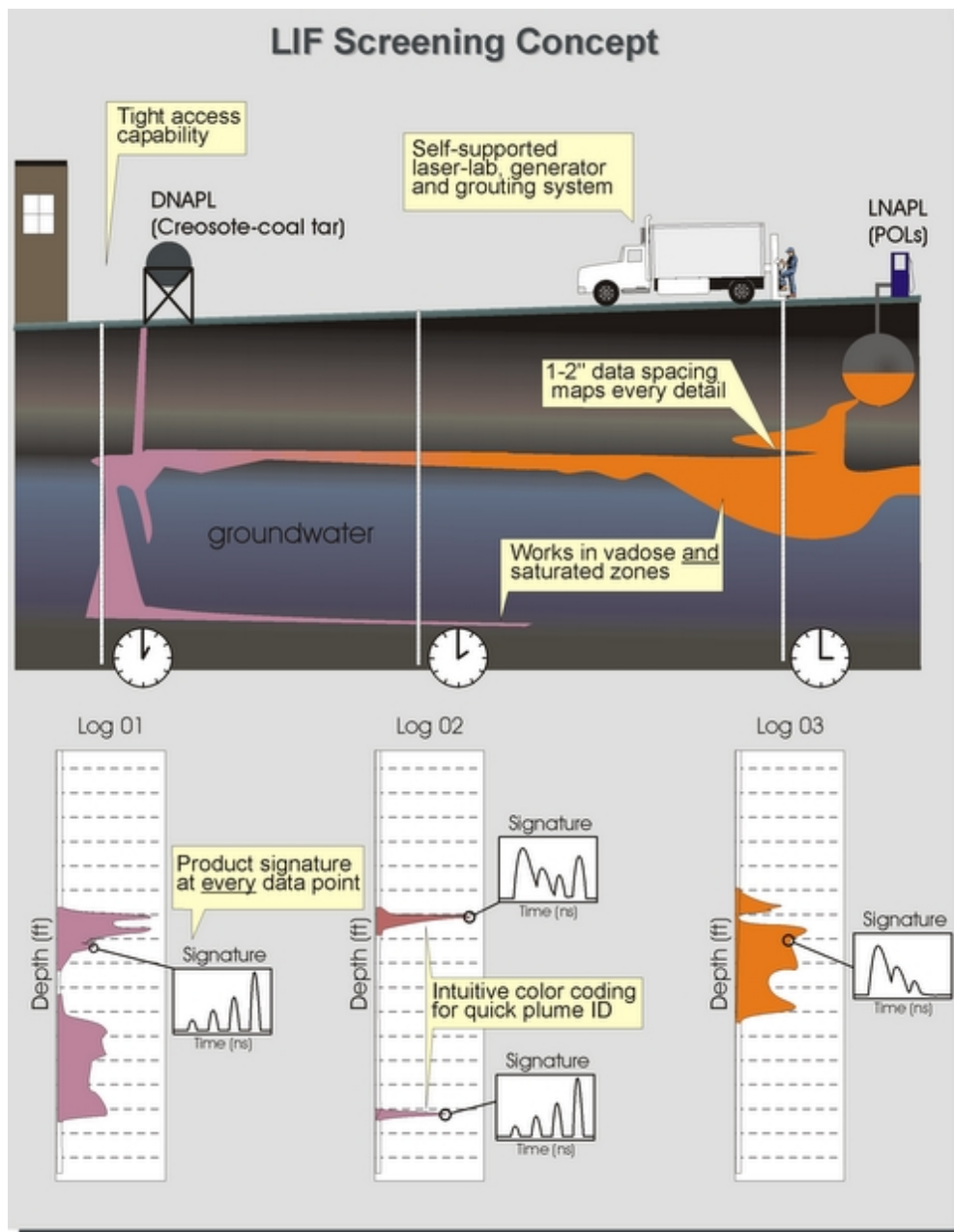


Figure UVOST: UVOST system deployed with the CPT

In general, the typical detection limit for the UVOST system is <100 ppm and it will operate effectively above and below the saturated zone. With the capability to push up to 600 feet per day, laser induced fluorescence offers a fast and efficient means for delineating PAH contaminant plumes. Color coded logs offer qualitative information in a quick glance and can be produced in the field for real-time decision making. Coupled with the data provided by the CPT, a complete site assessment can be completed with no samples or cuttings, saving laboratory costs as well as site and environmental impact.



*Figure Concept (figure provided by
Dakota Technologies)*

Hydrocarbons detected with UVOST	Hydrocarbons rarely detected using UVOST
Gasoline	Extremely weathered gasoline
Diesel	Coal tar
Jet (Kerosene)	Creosote
Motor Oil	Bunker Oil
Cutting fluids	Polychlorinated bi-phenols (PCB's)
Hydraulic fluids	Chlorinated solvent DNAPL
Crude Oil	Dissolved phase (aqueous) PAH's

Potential False Positives (fluorescence observed)	Potential False Negatives (do not fluoresce)
Sea-shells (weak-medium)	Extremely weathered fuels (especially gasoline)
Paper (medium-strong depending on color)	Aviation gasoline (weak)
Peat/meadow mat (weak)	Coal tars (most)
Calcite/calcareous sands (weak)	Creosotes (most)
Tree roots (weak-medium)	"Dry" PAHs such as aqueous phase, lamp black, purifier chips
Sewer lines (medium-strong)	Most chlorinated solvents
	Benzene, toluene, zylenes (relatively pure)



DAKOTA TECHNOLOGIES UVOST LOG REFERENCE

Main Plot :

Signal (total fluorescence) versus depth where signal is relative to the Reference Emitter (RE). The total area of the waveform is divided by the total area of the Reference Emitter yielding the %RE. This %RE scales with the NAPL fluorescence. The fill color is based on relative contribution of each channel's area to the total waveform area (see callout waveform). The channel-to-color relationship and corresponding wavelengths are given in the upper right corner of the main plot.

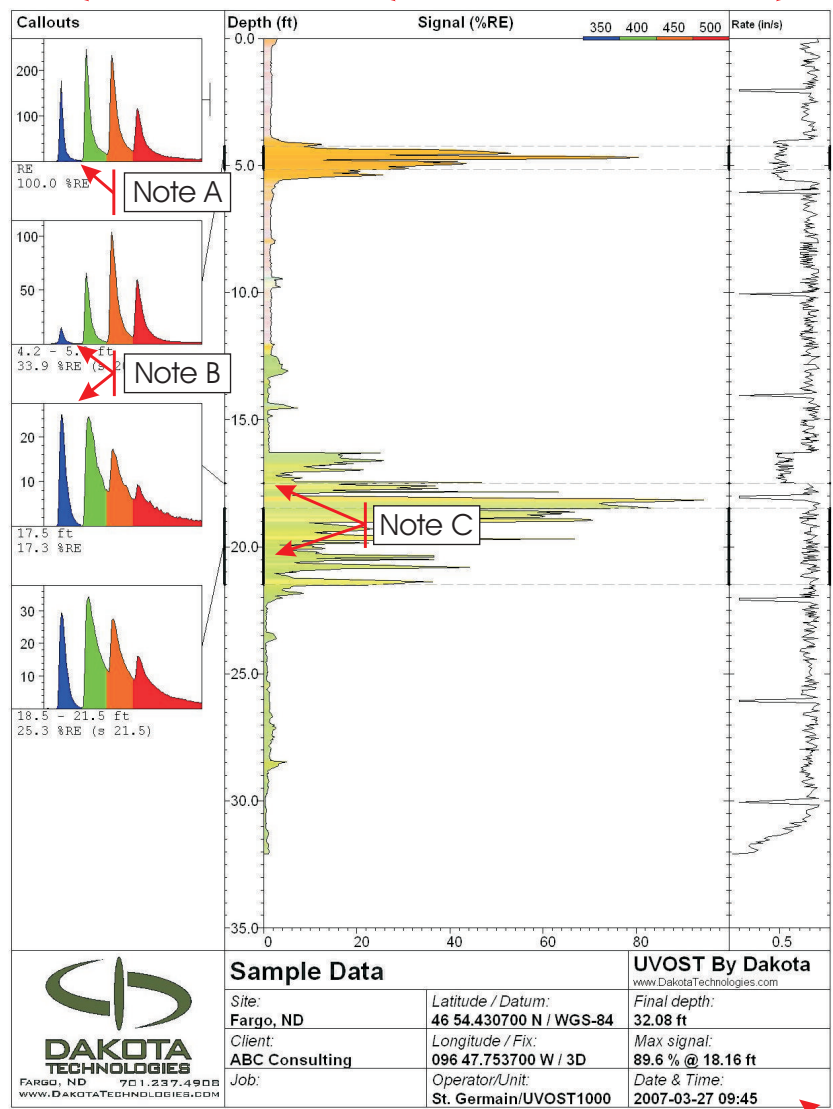
Callouts :

Waveforms from selected depths or depth ranges showing the multi-wavelength waveform for that depth.

The four peaks are due to fluorescence at four wavelengths and referred to as "channels". Each channel is assigned a color.

Various NAPLs will have a unique waveform "fingerprint" due to the relative amplitude of the four channels and/or broadening of one or more channels.

Basic waveform statistics and any operator notes are given below the callout.



Rate Plot :

The rate of probe advancement. ~ 0.8in (2cm) per second is preferred.

A noticeable decrease in the rate of advancement may be indicative of difficult probing conditions (gravel, angular sands, etc.) such as that seen here at ~5 ft.

Notice that this log was not terminated arbitrarily, but due to "refusal", as indicated by the sudden advancement rate drop at final depth.

Note A :

Time is along the x axis. No scale is given, but it is a consistent 320ns wide.
The y axis is in mV and directly corresponds to the amount of light striking the photodetector.

Note B :

These two waveforms show two different products, each with a unique waveform. The first is used motor oil and the second is diesel.

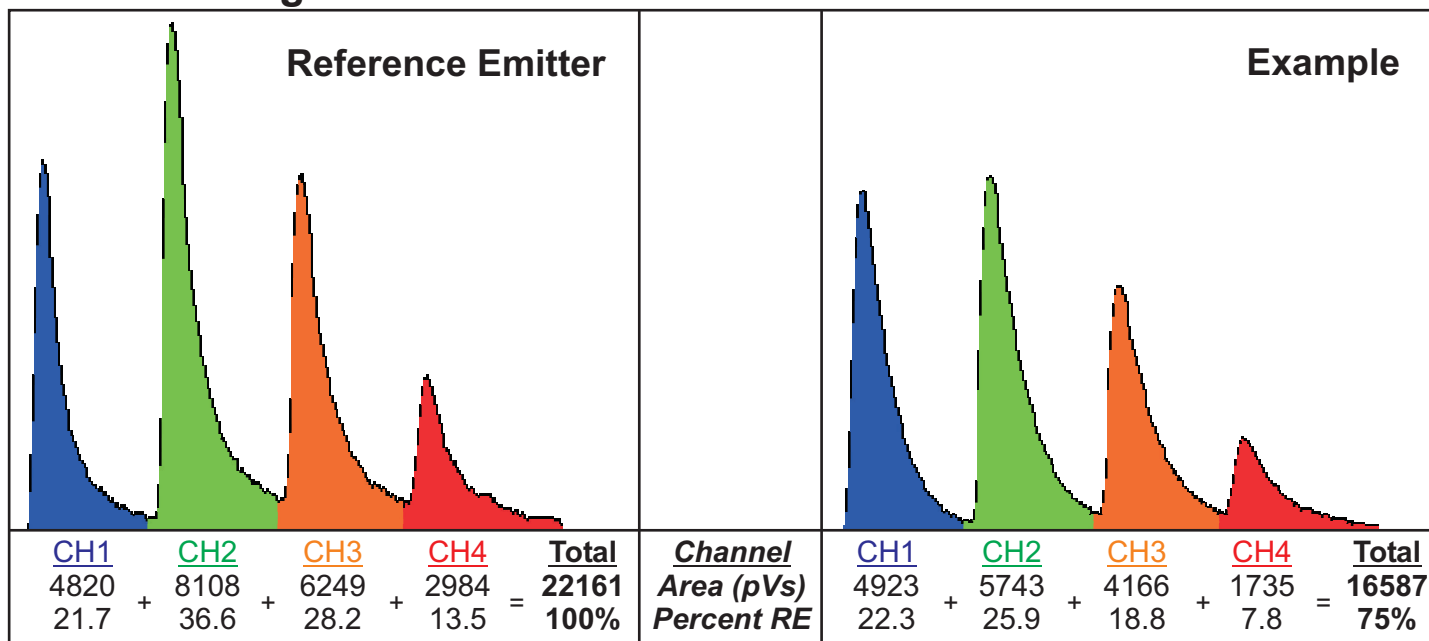
Note C :

Callouts can be a single depth (see 3rd callout) or a range (see 4th callout). The range is noted on the depth axis by a bold line. When the callout is a range, the average and standard deviation in %RE is given below the callout.

Info Box :

Contains pertinent log info including name and location.

Waveform Signal Calculation



Data Files

*.lif.raw.bin	Raw data file. Header is ASCII format and contains information stored when the file was initially written (e.g. date, total depth, max signal, gps, etc., and any information entered by the operator). All raw waveforms are appended to the bottom of the file in a binary format.
*.lif.plt	Stores the plot scheme history (e.g. callout depths) for associated Raw file. Transfer along with the Raw file in order to recall previous plots.
*.lif.jpg	A jpg image of the OST log including the main signal vs. depth plot, callouts, information, etc.
*.lif.dat.txt	Data export of a single Raw file. ASCII tab delimited format. No string header is provided for the columns (to make importing into other programs easier). Each row is a unique depth reading. The columns are: Depth, Total Signal (%RE), Ch1%, Ch2%, Ch3%, Ch4%, Rate, Conductivity Depth, Conductivity Signal. Summing channels 1 to 4 yields the Total Signal.
*.lif.sum.txt	A summary file for a number of Raw files. ASCII tab delimited format. The file contains a string header. The summary includes one row for each Raw file and contains information for each file including: the file name, gps coordinates, max depth, max signal, and depth at which the max signal occurred.
*.lif.log.txt	An activity log generated automatically located in the OST application directory in the 'log' subfolder. Each OST unit the computer operates will generate a separate log file per month. A log file contains much of the header information contained within each separate Raw file, including: date, total depth, max signal, etc.

Common Waveforms (highly dependent on soil, weathering, etc.)

