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ARCADIS U.S., Inc.
100 Montgomery Street, Suite 300
San Francisco, CA 94104
Tel 415.374.2744
Fax 415.374.2745
www.arcadis-us.com

ACEH Low Threat Closure Policy Checklist and Site Conceptual Model

Former BP Station #11132,
3201 35th Avenue
Oakland, California
ACEH Case #RO0000014

ENVIRONMENT

"I declare that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct."

Date:
June 28, 2013

Submitted by:

Contact:
Hollis E. Phillips

ARCADIS U.S., Inc

Phone:
415.432.6903

Email:
Hollis.phillips@arcadis-us.com

Hollis E. Phillips, PG
Project Manager

Our ref:
GP09BPNA.C112.Q0000



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Executive Summary

This Alameda County Environmental Health (ACEH) Low Threat Closure (LTC) Policy Checklist and Site Conceptual Model (SCM) was prepared by ARCADIS U.S., Inc. (ARCADIS) on behalf of Atlantic Richfield Company (ARCO), a BP affiliated company, for the former BP service station No. 11132 located at 3201 35th Avenue in Oakland, California (the Site; Appendix A). This report has been prepared in response to discussions between ARCADIS and ACEH during a meeting on March 26, 2013. The LTC Policy Checklist, along with a SCM is required to determine if the Site is a candidate for a low-threat closure.

This report package presents relevant site background information, summarizes previous site investigations, lists the removal action activities and results, presents an assessment of risk to public health and the environment, and includes an evaluation of site conditions relevant to the State Water Resources Control Board (State Water Board) *Low-Threat Underground Storage Tank Case Closure Policy*, adopted by the State Water Board on May 1, 2012 (State Water Board 2012) per the ACEH-provided LTC Policy Checklist.

The objective of this report is to provide the documentation required for ACEH to approve site closure as a low-risk fuel site as described in the LTC Policy (State Water Board 2012). This report is organized into the following sections:

Section 1 - Executive Summary

Section 2 – SCM and Appendices

Section 3 – ACEH LTC Policy Checklists

General Criteria A through H

Media Specific Criteria – Groundwater

Media Specific Criteria – Petroleum Vapor Intrusion to Indoor Air

Media Specific Criteria – Direct Contact and Outdoor Air Exposure

Section 4 – Supplemental ACEH SCM Forms

Site Well Construction Details

Well Survey

Site data collected to date has demonstrated that some of the requirements in the general and applicable media-specific criteria are satisfied according to the measures described in the State Water Board LTC Policy, the following is a summary of current site conditions in relation to the LTC policy:

- Petroleum hydrocarbon sources, including free product and other potential secondary sources, have been removed to the extent practical, with the exception of separate phase hydrocarbons (SPH) observed at OW-1 and MW-10.
- Current groundwater concentrations are: Gasoline Range Organics (GRO) ranging from below detection (<50 micrograms per liter [$\mu\text{g/L}$]) to 25,000 $\mu\text{g/L}$, benzene ranging from below detection (<0.50 $\mu\text{g/L}$) to 290 $\mu\text{g/L}$, toluene ranging from below detection (<0.50 $\mu\text{g/L}$) to 1,700 $\mu\text{g/L}$, ethylbenzene ranging from below detection (<0.50 $\mu\text{g/L}$) to 1,600 $\mu\text{g/L}$, xylenes ranging from below detection (<1.0 $\mu\text{g/L}$) to 5,300 $\mu\text{g/L}$, and methyl tert-butyl ether (MTBE) ranging from below detection (<0.50 $\mu\text{g/L}$) to 290 $\mu\text{g/L}$.
- The dissolved GRO, benzene, and MTBE plumes are stable and/or decreasing on-site; however further evaluation of off-site impacts is required to evaluate if the plume meets one of the classes outlined in the groundwater section of the LTC Policy.
- Off-site soil vapor has not been characterized and therefore an investigation adjacent to the residence on the south side of 35th Avenue should be undertaken.
- Soil impacts have been adequately characterized. All soil samples collected from 0 to 14 feet below ground surface (bgs) have not contained site contaminants of potential concern (COPCs) above the laboratory reporting limits and therefore are not a threat to human health or the environment.
- Sensitive receptors are not likely to be impacted, including surface-water bodies, municipal wells and drinking water sources based on the limited historical extent of the dissolved GRO, benzene, and MTBE plumes and plume stability.

Petroleum-hydrocarbon affected groundwater appears to be limited to monitoring wells located at the southwestern extent of the site and off-site (RW-1, MW-1, MW-2, MW-5, MW-8, MW-9, and MW-10), which have reported the highest historical groundwater concentrations. All of these monitoring wells are downgradient of the underground storage tanks (USTs), (with the exception of MW-1 which is upgradient) and in the vicinity of historical dual phase extraction (DPE) activities. Further delineation of groundwater impacts off-site will be proposed to determine the downgradient extent of petroleum impacts.

In 21 monitoring events conducted between the Second Quarter 2006 through the First Quarter 2013 the groundwater flow direction has varied from southeast to southwest with gradients ranging from 0.003 to 0.01 feet per foot (Appendix B). No data for the site was available prior to 2006.

A cumulative 234 gallons of free product and free product/water mixture have been removed from the Site to date. SPH was detected on-site during the most recent site visit (March 2013) at a thickness of 0.01 feet in monitoring well OW-1. Results from dual-phase extraction and SPH bail-down events presented in the summary letter submitted to ACEH in June 2013 indicate that SPH remaining at the Site is limited in extent and mobility. Further evaluation of the mobility of SPH and the potential for migration will be evaluated within the scope of supplementary site investigation activities.

All the wells that contain (or recently contained) COPC concentrations in groundwater generally indicate decreasing or stable trends. Historical and current maximum concentrations have been detected in the southwestern portion of the Site and at off-site monitoring wells. Further evaluation of off-site impacts will be evaluated within the scope of supplementary site investigation activities.

MW-10, on the south side of 25th Avenue, has contained elevated concentrations of site COPCs and indicated the presence of SPH. The well is located near a residence. Therefore a soil vapor investigation should be undertaken to investigate the potential of soil vapor migration to off-site residences.

Site data collected to date has demonstrated that several of the general and applicable media-specific criteria are satisfied according to the measures within State Water Board LTC Policy; however, further site investigation activities are required to further evaluate several criteria. Available data from the Site suggests that the nature and extent of COPCs has been adequately characterized on-site; however, additional investigation is required to eliminate data gaps related to downgradient concentrations of COPCs in soil vapor and groundwater. Proposed activities to characterize downgradient soil vapor and groundwater will be detailed in a forthcoming site investigation work plan.

Following completion of future site investigation activities, an updated ACEH checklist will be completed to evaluate if the Site is a candidate for closure as a low-risk fuel site as described in the State Water Board LTC Policy.



SCM Table

Table 1
Site Conceptual Model
Former BP Station #11132
3201 35th Avenue Oakland, California
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SCM Element	SCM Sub-Element	Description	Potential Data Gaps	How To Address	References
Geology and Hydrology	Regional	<p>Geology: The site is situated within an alluvial plain generally underlain by Cretaceous and Jurassic metamorphic rocks of the Franciscan Complex. There is considerable spatial variation in the thickness of the Quaternary alluvial valley sediments. The alluvium has generally been derived from erosion and nearby fluvial re-deposition of the underlying Franciscan Complex. Alluvium was deposited as debris flows, mud flows, and by braided streams. The sediments are generally poorly sorted and poorly to moderately bedded (Department of Water Resources [DWR], 2003).</p> <p>The alluvial plain consists of three formations; the Santa Clara Formation, the Alameda Formation, and the Temescal Formation. The Early Pleistocene Santa Clara Formation consists of alluvial fan deposits inter-fingered with lake, swamp, river channel, and flood plain deposits, ranging from 300 to 600 feet thick. The Late Pleistocene Alameda Formation was deposited primarily in an estuarine environment and consists of alluvial fan deposits bound by mud deposits on the top and bottom of the formation. The Alameda Formation ranges from 26 to 245 feet thick and is subdivided into the Yerba Buena Mud, San Antonio, Merritt, and Young Bay Mud Members. The Early Holocene Temescal Formation is an alluvial fan deposit consisting primarily of silts and clays with some gravel layers. The Temescal Formation ranges from 1 to 50 feet thick, thinning toward the bay. Below any sub-base and fill, shallow sand, silt, and clay at the site most likely are Temescal Formation.</p> <p>Hydrology: The site is located in the East Bay Plain Subbasin, Groundwater Basin No. 2-9.04 (DWR, 2003). The East Bay Plain Subbasin is a northwest trending alluvial basin, bounded on the north by San Pablo Bay, on the east by contact with Franciscan basement rock, and on the south by the Nile Cone Groundwater Basin. The East Bay Plain Subbasin extends beneath the San Francisco Bay to the west. The East Bay Plain Subbasin aquifer system consists of unconsolidated sediments of Quaternary age. These include the Santa Clara Formation, Alameda Formation, Temescal Formation, and artificial fill.</p> <p>Groundwater is found principally within the alluvium, but also within the Franciscan bedrock. The largest and deepest wells in this sub-area historically pumped one to two million gallons per day at depths greater than 200 feet. Overall, sustainable yields are low due in part to low recharge potential. The Merritt sand in West Oakland was an important part of the early water supply for the City of Oakland. It is shallow (up to 60 feet), but before the turn of the last century, septic systems contaminated the water supply wells (BAI, 2008).</p> <p>Throughout most of the Alameda County portion of the East Bay Plain, from Hayward north to Albany, water level contours show that the general direction of ground-water flow is from east to west or from the Hayward Fault to the San Francisco Bay. Ground-water flow direction generally correlates to topography.</p>	None	NA	<p>ARCADIS U.S. Inc., 2010. <i>Remedial Action Plan Former BP Station #11132</i>, May 28.</p> <p>California Department of Water Resources. 2003. <i>California's Groundwater</i>. Sacramento. Bulletin 118, update 2003.</p> <p>Broadbent & Associates, Inc., 2008. <i>Site Conceptual Model and Feasibility Study Report, Former BP Station No. 11132</i>, July 21.</p> <p>Supporting Docs: • Boring Logs</p>
	Site	<p>Geology: Sediments encountered at the site consist of primarily of silty clays or clayey silts with varying amounts of sand and gravel, extending from the ground surface to the total depth investigated, approximately 45 feet below ground surface (bgs; BAI, 2008). Interbedded lenses of sandy gravelly silts and sandy gravelly clays have also been reported in subsurface soils.</p> <p>Hydrology: Groundwater depth historically varies across the site from approximately 9 to 32 feet bgs. Average seasonal fluctuations are approximately 10 feet. Historically the groundwater gradient has ranged from 0.003 feet/foot to 0.02 feet/foot. Based on groundwater elevation data, the groundwater flow direction has varied from southeast to southwest. Most recently during the First Quarter 2013 sampling event, depth to water at the site ranged from 13.99 feet below top of casing (btoc) at MW-5 to 19.43 feet btoc at MW-4, consistent with historical measurements. Resulting groundwater surface elevations ranged from 150.48 feet above mean sea level (amsl) at MW-7 to 152.04 feet amsl at MW-9. Water level elevations yielded a potentiometric groundwater gradient to the southwest at approximately 0.01 feet/foot.</p>	None	NA	<p>ARCADIS U.S. Inc., 2010. <i>Remedial Action Plan Former BP Station #11132</i>, May 28.</p> <p>ARCADIS U.S. Inc., 2013. <i>First Quarter 2013 Goundwater Monitoring Report, Former ARCO Station #11132</i>, April 30.</p> <p>Broadbent & Associates, Inc., 2008. <i>Site Conceptual Model and Feasibility Study Report, Former BP Station No. 11132</i>, July 21.</p> <p>URS Corporation, 2004. <i>Soil and Groundwater Investigation Report, Former ARCO Station #11132</i>, October 18.</p> <p>Supporting Docs: • Boring Logs</p>
Surface Water Bodies	--	The closest surface water body is Peralta Creek, located approximately 350 feet northwest of the site. However, there is minimal potential for impact to this receptor due to the observed groundwater flow direction, which is consistently between the southeast and southwest. No other surface water bodies are located within a one-mile radius of the site.	None	NA	Broadbent & Associates, Inc., 2008. <i>Site Conceptual Model and Feasibility Study Report, Former BP Station No. 11132</i> , July 21.
Nearby Wells/Sensitive Receptors	--	A sensitive receptors survey was conducted by Alton Geoscience on February 20, 1991. This survey concluded that no public water supply wells are located within 2,500 feet of the site and no private water supply wells are located within 1,000 feet of the site. There is a residential area to the south across 35th Avenue. Three schools are located within a one-mile radius of the site: Allandale Elementary (located approximately 800 feet south of the site), Fruitvale Elementary School (located approximately 2,500 feet northwest of the site, and Bret Harte Middle School (located 2,700 feet north of the site). No hospitals or other potential receptors are located within a one-mile radius of the site. A phone conversation with Tom Francis, Senior Civil Engineer at East Bay Municipal Utility District (EBMUD), on June 26, 2013 confirmed no public water supply wells have been installed within 2,500 feet of the site since 1991.	None	NA	<p>Alton Geoscience, 1991. <i>Sensitive Receptor Survey</i>, February 20.</p> <p>Broadbent & Associates, Inc., 2008. <i>Site Conceptual Model and Feasibility Study Report, Former BP Station No. 11132</i>, July 21.</p> <p>Phone conversation with Tom Francis, Senior Civil Engineer at EBMUD, on 6/26/13</p>

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Beneficial Use	--	According to the East Bay Plain Groundwater Basin Beneficial Use Evaluation Report, the City of Oakland does not have "any plans to develop local groundwater resources for drinking water purposes, because of existing or potential saltwater intrusion, contamination, or poor or limited quantity." However, the California Regional Water Quality Control Board – San Francisco Bay Region's Basin Plan denotes existing beneficial uses of municipal and domestic supply (MUN), industrial process supply (PROC), industrial service supply (IND), and agricultural supply (AGR) for the East Bay Plain ground-water basin.	None	NA	Broadbent & Associates, Inc., 2008. <i>Site Conceptual Model and Feasibility Study Report, Former BP Station No. 11132</i> , July 21.
Local Water Supply	--	Local water is supplied by EBMUD. The supplier's water source is provided by Sierra snow melt and the Pardee Reservoir. The current water supply management plan for EBMUD indicates potential use of the East Bay Plain Basin for temporary storage of drinking water in wet years for eventual extraction; however, planned injection and extraction wells are located 8 miles south the site and will be screened within the deep aquifer.	None	NA	Broadbent & Associates, Inc., 2008. <i>Site Conceptual Model and Feasibility Study Report, Former BP Station No. 11132</i> , July 21.
Constituents of Potential Concern	--	Soil: The constituents of potential concern (COPCs) in soil at the Site include Total Petroleum Hydrocarbons as Gasoline (TPH-g), benzene, toluene, ethylbenzene, xylenes (collectively BTEX), and methyl tert-butyl ether (MTBE).	None	NA	Broadbent & Associates, Inc., 2008. <i>Site Conceptual Model and Feasibility Study Report, Former BP Station No. 11132</i> , July 21.
		Groundwater: The COPCs in soil at the Site include TPH-g, BTEX, and MTBE.	None	NA	ARCADIS U.S. Inc., 2013. <i>First Quarter 2013 Goundwater Monitoring Report, Former ARCO Station #11132</i> , April 30.
Potential Sources	--	Site investigation results indicate that the main source of petroleum impact to soil and groundwater is from the former underground storage tanks (USTs) on the southwestern portion of the site. An unknown amount of petroleum hydrocarbon contamination is presently bound within the soil matrix in this area, and dissolved within groundwater.	None	NA	ARCADIS U.S. Inc., 2010. <i>Remedial Action Plan Former BP Station #11132</i> , May 28.
Nature and Extent of Environmental Impacts	Extent in Soil	<p>Soil impacts originate from historical operations relating to the former USTs. Laboratory analysis of soil samples collected from soil borings confirmed the presence of petroleum hydrocarbons in soils beneath the site at concentrations in exceedance of SFR-RWQCB Environmental Screening Levels (ESLs). As indicated by historical analytical data, laboratory results for soil samples taken during various phases of characterization generally reported low to moderate levels of petroleum hydrocarbons, with higher concentrations reported in samples collected from soil borings in the vicinity of the UST complex. Elevated petroleum hydrocarbon concentrations were primarily detected in soil samples collected at 15 to 25 feet bgs from soil borings installed downgradient of the UST complex and dispenser islands. Impacted soils appear to primarily extend vertically from approximately 20 to 26 feet bgs. These samples were all collected below the vadose zone and therefor are likely affected by the dissolved phase concentrations.</p> <p>The lateral extent of soil impacts has not been completely defined. To the south of the site, soil samples collected from offsite monitoring wells MW-8 and MW-10, indicate concentrations of petroleum hydrocarbons above SFR- RWQCB ESLs at 20.0 feet bgs. The lateral extent of soil impacts to the north and east have been defined. Soil analytical data collected during the 2004 URS investigation indicated that soil borings UB-9 and UB-10 define the north and east lateral extents of soil contamination, respectively. Concentrations of petroleum hydrocarbons exceeding SF-RWQCB ESLs were present at soil samples collected from 20.5 and 25.5 feet bgs in these borings. Soil samples collected during the June 1990 installation of monitoring well MW-4 located further east of soil borings UB-9 and UB-10, were reported as not detected above the laboratory reporting limit for GRO and BTEX. Soil results for soil boring UB-12, located further north of UB-9 and UB-10, were reported below SF-RWQCB ESLs at all depths.</p> <p>To the southeast, concentrations of total xylenes were detected above SF-RWQCB ESLs in the soil samples collected from UB-11 at 15 feet bgs, and concentrations of MTBE were detected above SF-RWQCB ESLs at 35 feet bgs and 37 feet bgs during the 2004 site investigation. All other analytes were either below SFR-RWQCB ESLs or not detected above respective laboratory reporting limits. Further to the southeast, offsite monitoring well MW-7 did not contain concentrations of petroleum hydrocarbons above the laboratory reporting limit in the one sample submitted for chemical analysis (at 15 feet bgs).</p> <p>Soil samples collected throughout historical site investigations have indicated site COCs were not detected above the laboratory detection limits in all samples collected from 0 to 14 feet bgs. The Low Threat Closure (LTC) Policy Direct Contact and Outdoor Air Exposure criteria only takes into account soil from 0 to 14 feet bgs, which is not contaminated. While the exact extent of deeper (saturated) soil contamination is not delineated, based on the LTC criteria it is not a threat to human health or the environment and therefore does not warrant additional investigation.</p>	None	NA	<p>ARCADIS U.S. Inc., 2010. <i>Remedial Action Plan Former BP Station #11132</i>, May 28.</p> <p>URS Corporation, 2004. <i>Soil and Groundwater Investigation Report, Former ARCO Station #11132</i>, October 18.</p>

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Nature and Extent of Environmental Impacts	COC Extent in Groundwater	The site specific clean up goals used are based on SFR-RWQCB ESLs for TPHg (100 µg/L), benzene (1 µg/L), toluene (150 µg/L), ethylbenzene (300 µg/L), total xylenes (1,800 µg/L) and MTBE (13 µg/L). Groundwater has been sampled on a quarterly or semi-annual basis since the 1986 site investigation following the originally reported UST release. Most recently, in the First Quarter 2013, sheen was observed in monitoring wells MW-1, MW-10, and RW-1 and 0.01 feet of SPH was observed in OW-1 before bailing activities. HydraSleeves were used to collect groundwater samples in the First Quarter 2013. Groundwater concentrations plotted over time for Benzene, GRO, MTBE, TBA and groundwater elevation show steady or decreasing trends in all wells.	Yes	Additional downgradient well or grab groundwater sample(s)	ARCADIS U.S. Inc., 2010. <i>Remedial Action Plan Former BP Station #11132</i> , May 28. ARCADIS U.S. Inc., 2013. <i>First Quarter 2013 Goundwater Monitoring Report, Former ARCO Station #11132</i> , April 30. ARCADIS U.S. Inc., 2013b. <i>Results of DPE Test and SPH Removal, Former BP Service Station #11132</i> , June 12.
		<i>GRO</i> : The historical maximum concentration of 1,700,000 µg/L was detected in a groundwater sample collected on November 20, 2000 from well MW-1, located north of the former UST area. The most recent concentration detected at MW-1 was 5,000 µg/L on February 4, 2013. The maximum concentration during the most recent sampling event on February 4, 2013 was 25,000 µg/L, detected in a sample collected from well MW-2.	Yes	Additional downgradient well or grab groundwater sample(s)	ARCADIS U.S. Inc., 2013. <i>First Quarter 2013 Goundwater Monitoring Report, Former ARCO Station #11132</i> , April 30.
		<i>Benzene</i> : The historical maximum concentration of 19,000 µg/L was detected in a groundwater sample collected on July 3, 1992 from well MW-8, located west of the intersection of Suter Street and 35th Ave. The most recent concentration detected at MW-8 was 71 µg/L on February 6, 2012. The maximum concentration during the most recent sampling event on February 4, 2013 was 4,000 µg/L, detected in a sample collected from well MW-2.	Yes	Additional downgradient well or grab groundwater sample(s)	ARCADIS U.S. Inc., 2013. <i>First Quarter 2013 Goundwater Monitoring Report, Former ARCO Station #11132</i> , April 30.
		<i>Toluene</i> : The historical maximum concentration of 38,000 µg/L was detected in a groundwater sample collected on April 30, 1997 from well MW-10, located east of the intersection of Suter Street and 35th Ave. The most recent concentration detected at MW-10 was 39 µg/L on August 21, 2012. The maximum concentration during the most recent sampling event on February 4, 2013 was 1,700 µg/L, detected in a sample collected from well MW-2.	Yes	Additional downgradient well or grab groundwater sample(s)	ARCADIS U.S. Inc., 2013. <i>First Quarter 2013 Goundwater Monitoring Report, Former ARCO Station #11132</i> , April 30.
		<i>Ethylbenzene</i> : The historical maximum concentration of 24,000 µg/L was detected in a groundwater sample collected on July 31, 2000 from well MW-1, located north of the former UST area. The most recent concentration detected at MW-1 was 230 µg/L on August 21, 2012. The maximum concentration during the most recent sampling event on February 4, 2013 was 1,600 µg/L, detected in a sample collected from well MW-2.	Yes	Additional downgradient well or grab groundwater sample(s)	ARCADIS U.S. Inc., 2013. <i>First Quarter 2013 Goundwater Monitoring Report, Former ARCO Station #11132</i> , April 30.
		<i>Total Xylenes</i> : The historical maximum concentration of 120,000 µg/L was detected in two groundwater samples collected on July 31, 2000 from wells MW-1 and MW-9 located north and west of the former UST area, respectively. The most recent concentration detected at MW-1 was 68 µg/L on August 21, 2012 and the most recent concentration detected at MW-9 was 13 µg/L on February 4, 2013. The maximum concentration during the most recent sampling event on February 4, 2013 was 5,300 µg/L, detected in a sample collected from well MW-2.	Yes	Additional downgradient well or grab groundwater sample(s)	ARCADIS U.S. Inc., 2013. <i>First Quarter 2013 Goundwater Monitoring Report, Former ARCO Station #11132</i> , April 30.
		<i>MTBE</i> : The historical maximum concentration of 78,000 µg/L was detected in a groundwater sample collected on February 2, 1999 from well RW-1, located south of the former UST area. The most recent concentration detected at RW-1 was 15 µg/L on August 21, 2012. The maximum concentration during the most recent sampling event on February 4, 2013 was 290 µg/L, detected in a sample collected from well MW-7.	Yes	Additional downgradient well or grab groundwater sample(s)	ARCADIS U.S. Inc., 2013. <i>First Quarter 2013 Goundwater Monitoring Report, Former ARCO Station #11132</i> , April 30.

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Nature and Extent of Environmental Impacts	SPH Extent in Groundwater	<p>SPH was first detected in on-site well MW-1 during quarterly monitoring and sampling activities conducted on December 21, 1988 by KEI. Free product has been historically observed in wells MW-1, MW-2, MW-8, MW-9, MW-10 and RW-1 since monitoring began. Consistent free product measurement and removal began in 1990 at MW-1, in 1993 at wells MW-8, MW-9, and MW-10, and in 2001 at RW-1. The maximum historical thickness of SPH at the site was observed in well MW-1 at a thickness of 1.80 feet, measured on April 20, 1994.</p> <p>The free product currently observed at the site consists of a black, heavily-degraded, almost grease-like material. Through observation the product can be classified as very aged and viscous. Operation of the ground-water extraction remediation system from 1992 to 1995 appeared to have had little effect on free product thickness in wells associated with the site. SPH removal by bailing occurred on a monthly basis from at least the first quarter 2005 (the first quarterly report available on GeoTracker) to the third quarter 2009. The third quarter 2009 groundwater monitoring report indicates a total of 234 gallons of SPH/groundwater had been removed since 1990. Since free product removal was initiated, SPH thickness has steadily decreased in wells MW-1, MW-8, MW-9, MW-10, and RW-1. SPH was observed at a thickness of 0.99 feet in observation well OW-1 in November 2012 during DPE pilot test baseline activities and was removed prior to the start of the test. Following completion of DPE pilot test activities, three months of monthly baildown activities were performed from January to March 2013 and a steady decrease in SPH thickness was observed during that period. Only 0.01 feet of PSH was observed in March 2013 prior to bailing.</p> <p>During sampling of MW-10 SPH has been detected on the outside of the bailer indicating SPH is likely stuck on the inside of the well casing. Therefore the sheen that has been observed may be a result of the SPH on the inside of the well casing and not SPH in groundwater.</p>	Yes	<p>Vacuum Truck Events</p> <p>Destroy and Replace MW-10</p>	<p>ARCADIS U.S. Inc., 2010. <i>Remedial Action Plan Former BP Station #11132</i>, May 28.</p> <p>ARCADIS U.S. Inc., 2009. <i>Third Quarter 2009 Goundwater Monitoring Report, Former ARCO Station #11132</i>, October 5.</p> <p>ARCADIS U.S. Inc., 2013a. <i>First Quarter 2013 Goundwater Monitoring Report, Former ARCO Station #11132</i>, April 30.</p> <p>ARCADIS U.S. Inc., 2013b. <i>Results of DPE Test and SPH Removal, Former BP Service Station #11132</i>, June 12.</p>
Migration Pathways	Potential Conduits	<p>Typical utility trenches are located at a depth of 2 to 4 feet bgs and generally no greater than 8 feet bgs. The shallowest depth groundwater has been observed at the Site to date is 9 feet bgs. Therefore, migration of site COPCs via a utility conduit is unlikely.</p>	None	NA	<p>ARCADIS U.S. Inc., 2013a. <i>First Quarter 2013 Goundwater Monitoring Report, Former ARCO Station #11132</i>, April 30.</p>
Potential Release Mechanisms and Exposure Pathways	Volatilization	<p>A potential release mechanism at the Site may include volatilization of COPCs in subsurface soil to indoor air of current and future onsite commercial buildings, outdoor air, or air within a trench used by a future onsite utility worker. Another potential release mechanism at the Site may include volatilization of COPCs in groundwater to indoor air of current and future onsite commercial buildings, outdoor air, and/or indoor air of offsite commercial buildings or future offsite residences, or air within a trench used by a future onsite utility worker.</p> <p>In general, exposure to petroleum vapors migrating from soil or groundwater to indoor air may pose unacceptable human health risks. However, in many petroleum release cases, potential human exposures to vapors are mitigated by bioattenuation processes as vapors migrate toward the ground surface. Additionally, exposures to volatile petroleum hydrocarbon constituents associated with historical fuel system releases are insignificant relative to typical exposures from surface spills and fugitive vapors at active service stations. Therefore, the exposure pathway for inhalation of indoor air from possible volatilization of site-related soil and groundwater constituents is potentially complete but insignificant for current and future onsite service station workers. However, to support risk-based decision making for the Site, it is assumed that COPCs in groundwater may volatilize into current and future offsite buildings.</p> <p>Although the COPCs may volatilize from subsurface soil and/or groundwater to outdoor air or air within a utility trench and may be inhaled by onsite or offsite potential receptors, this exposure pathway is considered to be insignificant given the atmospheric dilution effects from wind.</p>	None	NA	
	Leaching to Groundwater	<p>Petroleum hydrocarbons released from USTs and associated piping and dispensers also may leach from soil to groundwater. This release mechanism is likely responsible for the majority of historical groundwater impacts. However this release mechanism has likely been partially mitigated through the removal of impacted soil, weathering, remediation, and natural attenuation. Current leaching to groundwater risks are due to the presence of residual sorbed mass in the smear zone downgradient of the USTs. Historical and recent LNAPL removal activities have removed a significant fraction of recoverable LNAPL.</p>	Yes	Vacuum Truck Events	
	Direct Contact with Groundwater	<p>As described previously, groundwater at the Site is not used as a potable source at this time and is not expected to be used as a drinking water source in the near future. No water wells are located within a 1,000-foot radius of the site. Therefore, potential direct contact exposures to COPCs in groundwater, such as tap water ingestion, dermal contact with tap water and inhalation of volatile organic compounds (VOCs) released from tap water, are not expected to occur for current and future onsite commercial workers, and current and future offsite commercial workers. In the future, onsite construction workers may be directly exposed to groundwater while performing routine utility activities in subsurface trenches. Typical utility trenches are located at a depth no greater than 8 feet bgs. During the First Quarter 2013 groundwater monitoring event, groundwater was encountered at depths ranging from approximately 14 to 19 feet bgs. Typically at construction sites when groundwater is exposed, dewatering occurs or workers are not required to work in standing water. Thus, it is unlikely that future onsite utility trench workers will be directly exposed to constituents in groundwater.</p>	None	NA	

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SCM Element	SCM Sub-Element	Description	Potential Data Gaps	How To Address	References
Potential Release Mechanisms and Exposure Pathways	Direct Contact with Soil	Constituents adhered onto dust particles may migrate from exposed subsurface soil by wind erosion to outdoor air and be breathed by potential onsite and offsite receptors. This transport mechanism is unlikely given that re-development of the Site is not planned, and the Site is either covered with a building, fuel dispensers, landscaping or asphalt pavement and soil is not exposed at the surface. Additionally soil is not contaminated from 0 to 14 feet bgs and therefore this is an incomplete pathway.	None	NA	
Potential Receptors	Potential Ecological Receptors	Since the Site is devoid of ecological habitat and surface water is absent, it is reasonable to assume that ecological receptors are absent from the Site and will also not be present in the future. As discussed previously, the Site is located approximately 350 feet downgradient (southeast) of Peralta Creek, which is the nearest surface water body to the Site. Based on the approximate groundwater flow direction at the Site (southwest), it is not likely that groundwater from the Site will migrate towards the surface water receptor, with subsequent exposures to aquatic organisms. Additionally, given the potential for COPCs to bioattenuate and dilute, this transport mechanism is considered insignificant. Based on this analysis, potential exposure pathways for ecological receptors are incomplete. Potentially complete exposure pathways for human receptors are presented in the following section.	None	NA	
	On-site and Off-site	Potential receptors were identified based on current and future land use(s) at the Site. Current and reasonably anticipated future land use at the Site are commercial (i.e., continued operation as a service station). Potential current and future human receptors at the Site include: <ul style="list-style-type: none"> • on-site commercial workers, • off-site residents on adjacent, downgradient properties, • off-site commercial workers on adjacent, downgradient properties, and • future on-site construction/utility workers. Off-site residents are considered potential receptors to support conservative risk-based decision making for the Site.	Yes	Off-site soil vapor investigation	
Exposure Pathway Evaluation	Current and Future On-site Commercial Workers	<ul style="list-style-type: none"> • No complete exposure pathways The COPCs may volatilize from soil and groundwater to soil gas and migrate to the indoor air of on-site building structures. Inhalation of volatile COPCs in indoor air by on-site commercial workers at this site may be a potentially complete exposure pathway. However, the potential vapor migration exposure pathway for current and future onsite indoor service station workers is likely to be insignificant compared to routine exposures associated with the profession. The workplace vapor concentrations are routinely much higher than any levels expected from vapor migration from the subsurface. Given the presence of indoor and exterior building sources of petroleum hydrocarbons, and the fact that fuel operations are currently conducted at the Site and that operations at the Site are likely to remain the same in the future, subsurface residual impacts are unlikely to contribute significantly to indoor VOC levels. Thus, inhalation of volatile COPCs in indoor air by current and future on-site commercial workers is not a significant exposure pathway.	None	NA	
	Current and Future Off-Site Commercial Workers	<ul style="list-style-type: none"> • Groundwater transport off-site and vapor migration into indoor air The COPCs may volatilize from groundwater to soil gas and migrate to the indoor air of off-site building structures. Inhalation of volatile COPCs in indoor air by current and future off-site commercial workers is a potentially complete exposure pathway. <p>Direct-contact exposure pathways (i.e., ingestion, dermal contact, and inhalation of volatile emissions from tap water) from groundwater are currently incomplete, since the community uses municipal-supplied water for potable uses. It is assumed that current land and beneficial water uses will continue in the foreseeable future. Therefore, these pathways are also assumed to be incomplete in the reasonably foreseeable future for off-site commercial workers located on downgradient, adjacent properties.</p>	Yes	Off-site soil vapor investigation	
	Future On-Site Construction/Utility Workers	<ul style="list-style-type: none"> • Inhalation (outdoor air) of vapors • Inhalation (outdoor air) of dust particles • Incidental ingestion of surface and subsurface soil • Dermal contact with surface and subsurface soil Potential future on-site utility trench workers may be directly exposed to COPCs in surface and subsurface soil via incidental ingestion, dermal contact and inhalation of dust particles in trench air. Since soil data indicates that the Site satisfies the Direct Contact and Outdoor Air Exposure – Utility Worker (soil: 0 to 10 feet bgs) criteria stated in the State Water Resources Control Board (State Water Board) Low Threat Closure (LTC) Policy, these pathways are also assumed to be incomplete in the reasonably foreseeable future for utility workers located on onsite.	None	NA	

Table 1
Site Conceptual Model
Former BP Station #11132
3201 35th Avenue Oakland, California
ACEH Case #RO0000014

SCM Element	SCM Sub-Element	Description	Potential Data Gaps	How To Address	References
Exposure Pathway Evaluation	Current and Future Off-Site Residents	<ul style="list-style-type: none"> Groundwater transport off-site and vapor migration into indoor air <p>The COPCs may volatilize from groundwater to soil gas and migrate to the indoor air of off-site building structures. Inhalation of volatile COPCs in indoor air by current and future off-site residents is a potentially complete exposure pathway.</p>	Yes	Off-site soil vapor investigation	

Abbreviations

bgs = below ground surface
msl = mean sea level
ft/ft = feet per foot
btoc = below top of casing
ACEH = Alameda County Environmental Health
DPE = dual-phase extraction
LUFT = leaking underground fuel tank
EBMUD = East Bay Municipal Utility District
COPCs = constituents of potential concern
GRO/TPH-G = Total Petroleum Hydrocarbons as Gasoline Range Organics
DRO/TPH-D = Total Petroleum Hydrocarbons as Diesel Range Organics
MTBE = methyl tertiary-butyl ether
USTs = underground storage tanks
SPH = separate phase hydrocarbons
SFRWQCB = San Francisco Bay Regional Water Quality Control Board
ESLs = environmental screening levels
mg/kg = milligrams per kilogram
µg/L = micrograms per liter
VOCs = volatile organic compounds

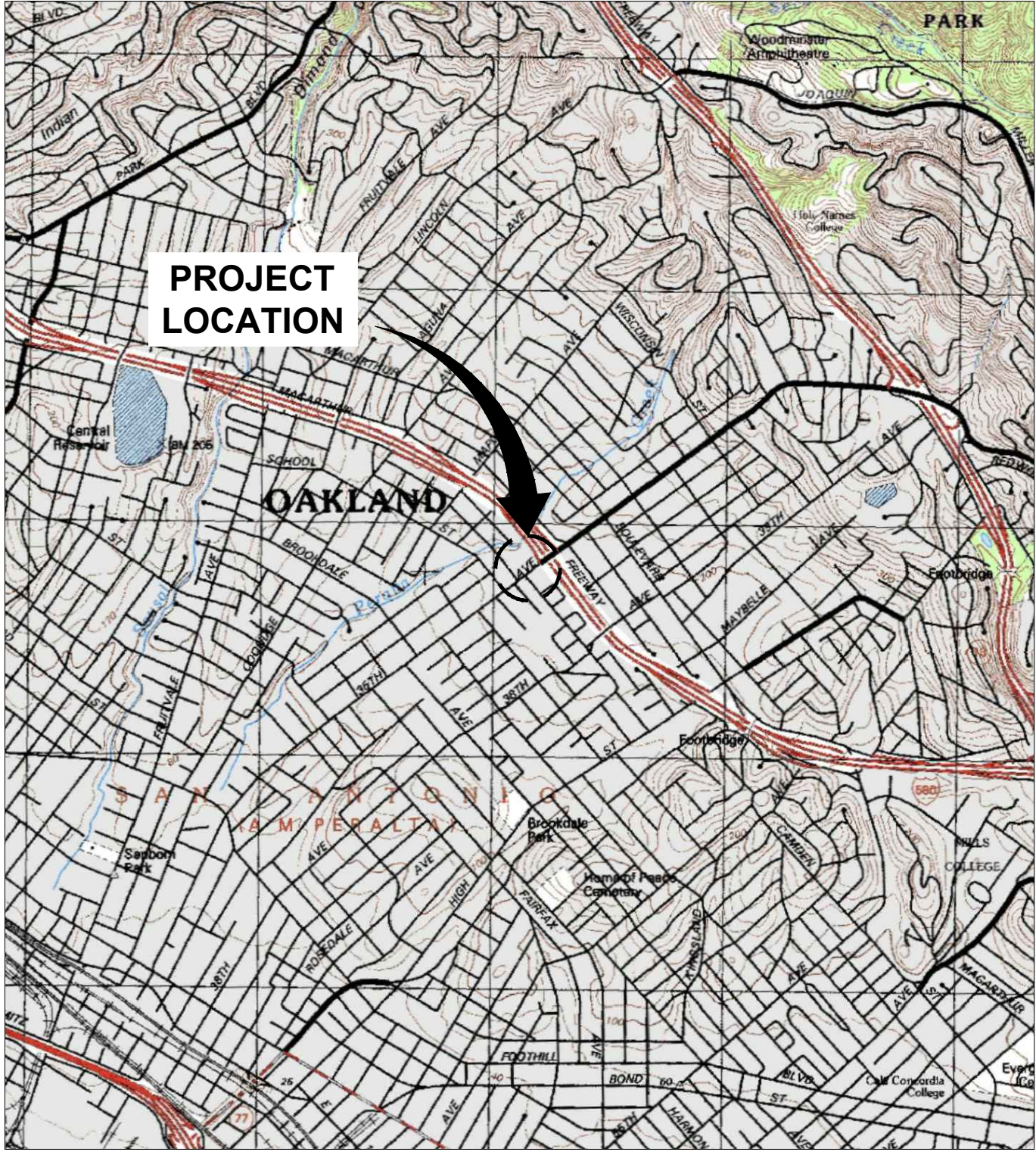
List of Appendices

Appendix A - Site Location and Site Plan Figures
Appendix B - Groundwater Flow Direction and Historical Gradients Table
Appendix C - Soil Boring Logs
Appendix D - Historical Soil Data
Appendix E - Groundwater Data and Figures
Appendix F - Historical Soil Vapor Data



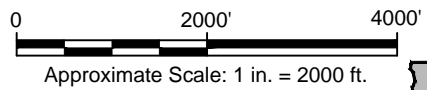
Appendix A


Site Location Map and Site Plan
Figures

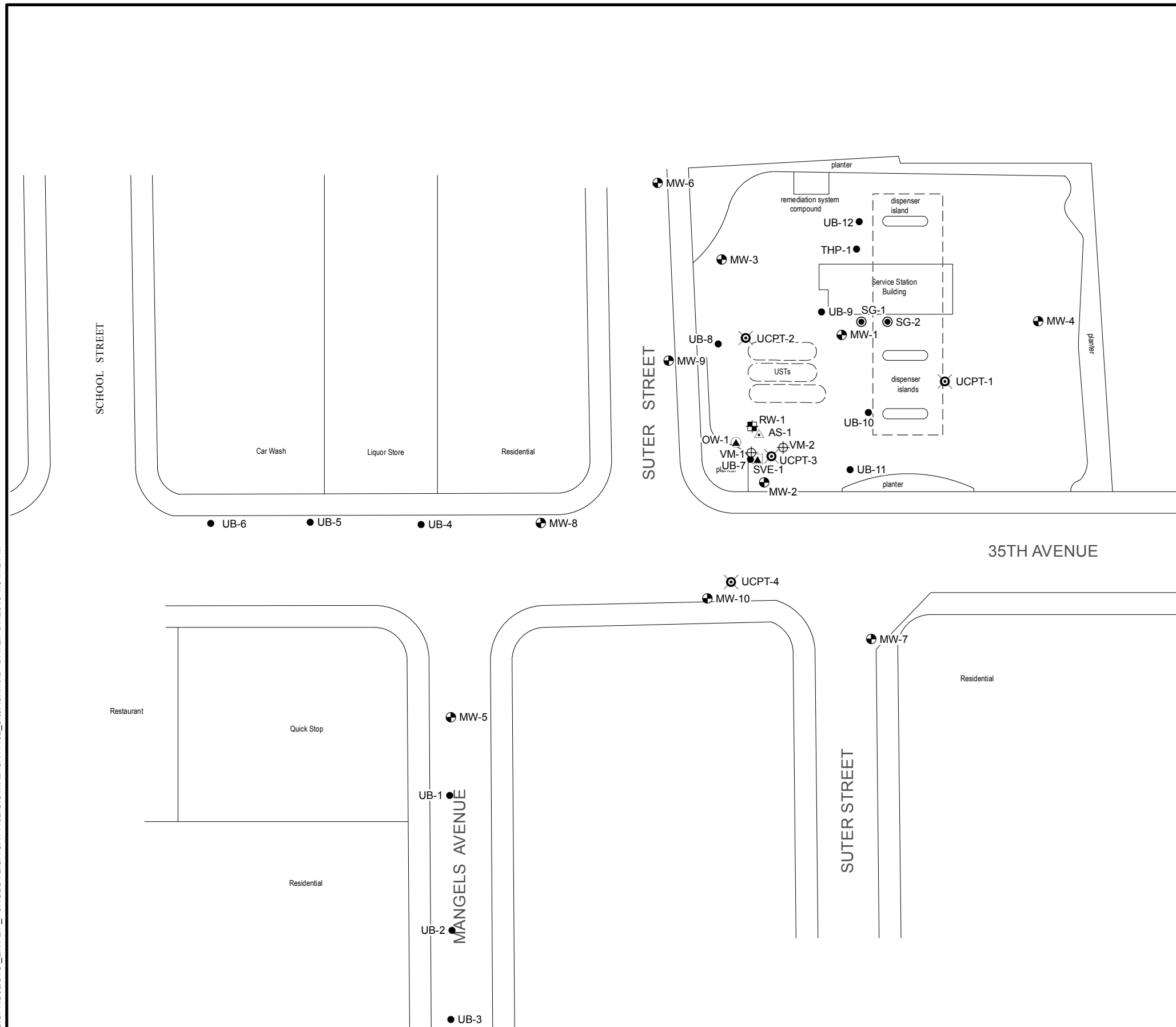


**PROJECT
LOCATION**

REFERENCE: BASE MAP USGS 7.5 MIN. TOPO. QUAD., OAKLAND EAST, CALIFORNIA, 1997.

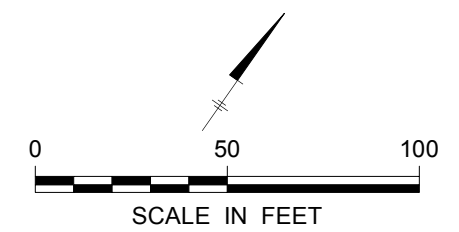


FORMER BP STATION No. 11132 3201 35TH AVENUE OAKLAND, CALIFORNIA	
SITE LOCATION MAP	
	FIGURE 1



LEGEND:

- MW-1 GROUNDWATER MONITORING WELL
- RW-1 GROUNDWATER RECOVERY WELL
- OW-1 OBSERVATION WELL
- SVE-1 SOIL VAPOR EXTRACTION WELL
- VM-1 SOIL VAPOR MONITORING WELL
- UB-1 SOIL BORING
- UCPT-1 CPT/UVOST LOCATION
- SG-1 SOIL GAS BORING
- AS-1 AIR SPARGE WELL
- CANOPY



FORMER BP SERVICE STATION #11132
3201 35TH AVENUE
OAKLAND, CALIFORNIA

SITE MAP

ARCADIS

FIGURE 2

NOTES:

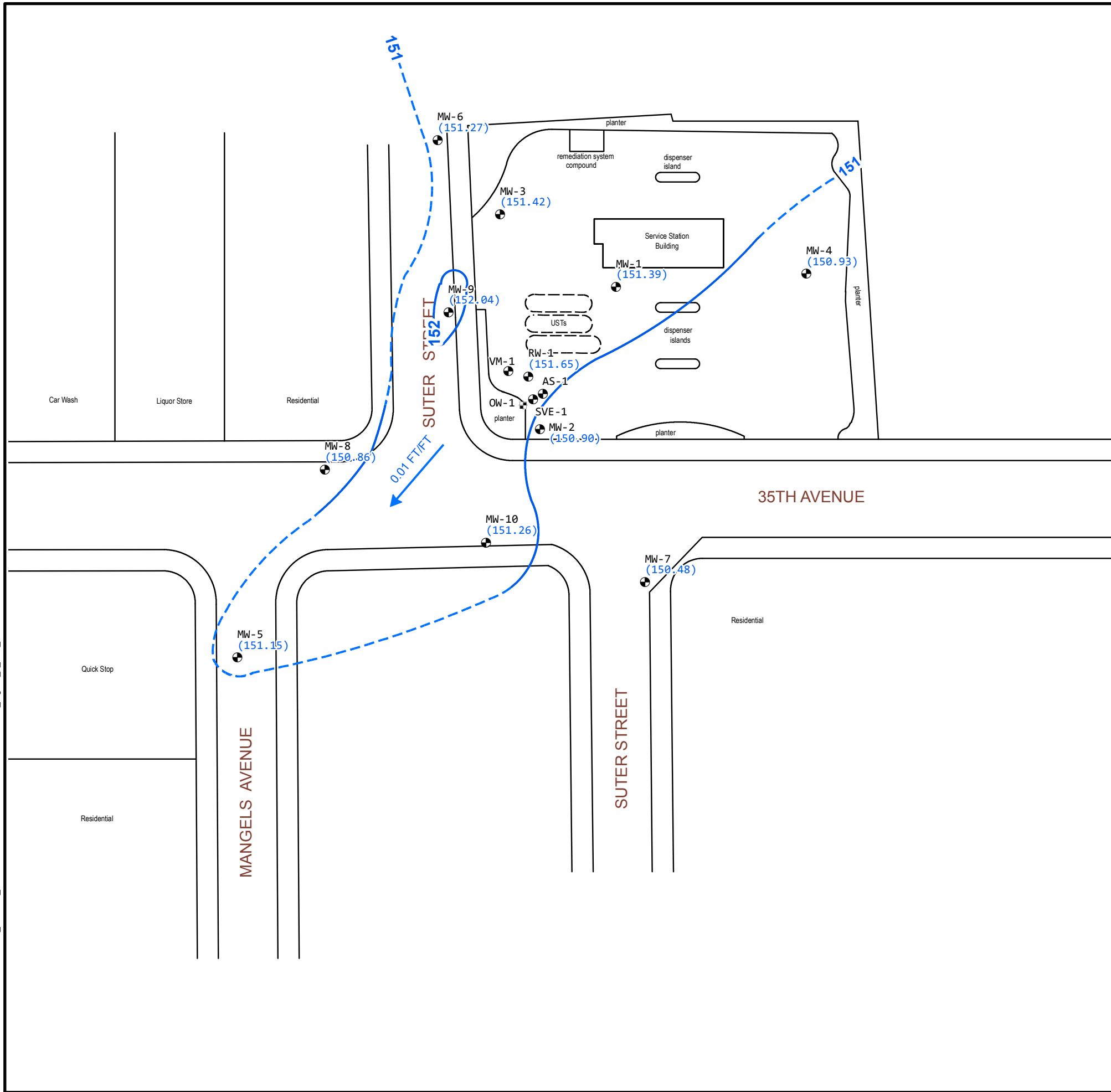
1. SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES. SITE DIMENSIONS AND FIGURES FACILITY LOCATIONS NOT VERIFIED.



Appendix B

Groundwater Flow Direction and
Historical Gradients Table

CITY: SAN FRANCISCO DIV/GROUP: ENV/IM DB: msmiller LD: PIC: PM: TM:
 PROJECT: H:\GIS\PROJECTS\ENWBP_FOXGLOVE\CA11132\GIS\MXD\CA11132_Figure_2_GW_Elev.mxd DATE: 4/29/2013 4:17:46 PM

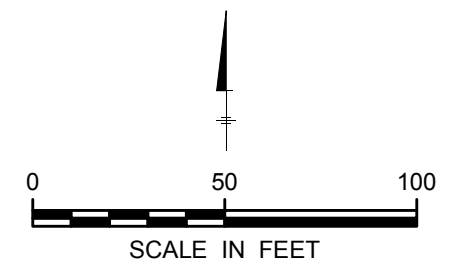


LEGEND:

- EXISTING MONITORING WELL
- GROUNDWATER RECOVERY WELL
- (150.93) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- 151 ——— GROUNDWATER ELEVATION CONTOUR LINE (DASHED WHERE INFERRED)
- 0.01 FT/FT GROUNDWATER FLOW DIRECTION (FEET PER FOOT)

NOTES:

1. SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES. SITE DIMENSIONS AND FIGURES FACILITY LOCATIONS NOT VERIFIED.
2. WELL MW-7 AND SUTER STREET LOCATIONS HAVE BEEN CORRECTED FROM PREVIOUS MAPS.



FORMER BP SERVICE STATION #11132 3201 35TH AVENUE OAKLAND, CALIFORNIA	
GROUNDWATER ELEVATION CONTOUR MAP FEBRUARY 4, 2013	
	FIGURE 2

Table 3
Historical Groundwater Flow Direction and Gradient
CA-11132
3201 35th Ave, Oakland, CA 94619

Date Measured	Approximate Gradient Direction	Approximate Gradient Magnitude (ft/ft)
5/19/2006	South	0.003 to 0.005
8/23/2006	Southwest	0.01
11/15/2006	South	0.004
2/14/2007	Southeast	0.01
5/22/2007	South	0.005
8/15/2007	South-Southwest	0.008
11/8/2007	Southwest	0.006
2/20/2008	Southeast	0.008
5/7/2008	South-Southwest	0.003
8/20/2008	South-Southwest	0.007
11/17/2008	South-Southwest	0.005
2/25/2009	Southeast	0.01
5/28/2009	South	0.004
8/6/2009	South-Southwest	0.005
3/4/2010	East-Southeast	0.02
9/2/2010	Southwest	0.01
3/15/2011	Southeast	0.01
8/17/2011	Southwest	0.003
2/6/2012	Southeast	0.005
8/21/2012	Southwest	0.007
2/4/2013	Southwest	0.01

Notes:

The data within this table collected prior to April 2006 was provided to Broadbent & Associated, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information



Appendix C

Soil Boring Logs

DRILL RIG	Hollow Stem	SURFACE ELEVATION	----	LOGGED BY	JCW
DEPTH TO GROUNDWATER	As Noted	BORING DIAMETER	8"	DATE DRILLED	7/30/86

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT.)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
ASPHALT AND BASE ROCK									
SILTY CLAY (FILL)	dark brown	firm	CL						
SILTY SAND (old trench backfill)	gray to tan	loose	SM						
SILTY CLAY with rock fragments	tan to light brown	fine to stiff	CL	5					
Large angular cobbles									
SANDY CLAY, grading to clayey sand and gravel	tan to light brown	very stiff	CL-SC	10					
No product odor									
				15					
				20					

EXPLORATORY BORING LOG		
MOBIL OIL CORPORATION 35TH AVENUE, OAKLAND		
PROJECT NO.	DATE	BORING NO.
H182-20	8/86	MW-1

DRILL RIG Hollow Stem	SURFACE ELEVATION ----	LOGGED BY JCW
DEPTH TO GROUNDWATER As Noted	BORING DIAMETER 8"	DATE DRILLED 7/30/86

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT.)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
SANDY CLAY, grading to clayey sand and gravel (contd)			CL-SC						
SILTY CLAY, with some occasional sand and fine gravel No product odor			CL	25					
				30					
				35					
				40					

			EXPLORATORY BORING LOG		
			MOBIL OIL CORPORATION 35TH AVENUE, OAKLAND		
PROJECT NO.		DATE		BORING NO.	
H182-20		8/86		MW-1	

DRILL RIG Hollow Stem			SURFACE ELEVATION ----			LOGGED BY JCW			
DEPTH TO GROUNDWATER As Noted			BORING DIAMETER 8"			DATE DRILLED 7/30/86			
DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT.)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
SILTY CLAY, with some occasional sand and fine gravel (Contd)			CL	45					
TOTAL DEPTH = 45.0 feet									
				EXPLORATORY BORING LOG					
				MOBIL OIL CORPORATION 35TH AVENUE, OAKLAND					
				PROJECT NO.		DATE		BORING NO.	
				H182-20		8/86		NO. MW-1	

MOBIL OIL CORPORATION
OAKLAND, CALIFORNIA

MW-1

Well completed to 45.0 feet in depth with 2-inch Class 160 PVC casing, flush-threaded joints. Screen (.020-inch slot) set from 10.0 to 45.0 feet. 6 X 12 Monterey sand placed from 4.5 to 45.0 feet and concrete seal placed from 0 to 4.5 feet.

DRILL RIG Hollow Stem	SURFACE ELEVATION -----	LOGGED BY JCW
DEPTH TO GROUNDWATER As Noted	BORING DIAMETER 8"	DATE DRILLED 7/31/86

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT.)
DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE						
ASPHALT AND BASE ROCK									
SILTY CLAY with rock fragments, dry	dark gray	stiff	CL						
Decreasing rock fragments (very faint "old" product odor)	blue-green			5					
Large angular gravel, damp No product odor			GL-GC	10					
				15					
SILTY CLAY; damp	tan to light brown	stiff	CL	20					

EXPLORATORY BORING LOG		
MOBIL OIL CORPORATION 35TH AVENUE, OAKLAND		
PROJECT NO.	DATE	BORING NO.
H182-20	8/86.	MW-2

DRILL RIG Hollow Stem	SURFACE ELEVATION ----	LOGGED BY JCW
DEPTH TO GROUNDWATER As Noted	BORING DIAMETER 8"	DATE DRILLED 7/31/86

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT.)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
SILTY CLAY (CONTD)	tan to light brown	stiff	CL						
SILTY CLAY with some fine sand and gravel (faint odor in sample above water table)	motld blue-gray to brown	stiff	CL-SC	25			▽		
				30					
				35					
TOTAL DEPTH = 35.0 feet									

EXPLORATORY BORING LOG		
MOBIL OIL CORPORATION 35TH AVENUE, OAKLAND		
PROJECT NO.	DATE	BORING NO.
H182-20	8/86	MW-2

MOBIL OIL CORPORATION
OAKLAND, CALIFORNIA

MW-2

Well completed to 35.0 feet in depth with 2-inch Class 160 PVC casing, flush-threaded joints. Screen (.020-inch slot) set from 10.0 to 35.0 feet. No. 3 Monterey sand placed from 4.5 to 35.0 feet, bentonite pellets placed from 4.0 to 4.5 feet, and concrete seal placed from 0 to 4.5 feet.

DRILL RIG Hollow Stem	SURFACE ELEVATION -----	LOGGED BY JCW
DEPTH TO GROUNDWATER As. Noted	BORING DIAMETER 8"	DATE DRILLED 7/31/86

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT.)
DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE						
ASPHALT AND BASE ROCK									
SILTY CLAY with rock fragments	tan	stiff	CL						
Large angular cobbles		dense	CL GC	5					
SILTY CLAY, damp	tan to light brown	stiff	CL						
Trace of gravel; moisture in fissures (No product odor)				CL GC	15				
				20					

EXPLORATORY BORING LOG

MOBIL OIL CORPORATION
35TH AVENUE, OAKLAND

PROJECT NO.	DATE	BORING NO.
H182-20	8/86	MW-3

DRILL RIG Hollow Stem	SURFACE ELEVATION -----	LOGGED BY JCW
DEPTH TO GROUNDWATER As Noted	BORING DIAMETER 8"	DATE DRILLED 7/31/86

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT.)
DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE						
SILTY CLAY (CONTD) with a trace of gravel	tan to light brown	stiff	CL						
No product odor									
Increasing gravel		medium dense	CL-GC						
Decreasing gravel		hard	CL						
Gravelly, increasing toward total depth			CL-GC	35					
TOTAL DEPTH = 35.0 feet									

EXPLORATORY BORING LOG		
MOBIL OIL CORPORATION 35TH AVENUE, OAKLAND		
PROJECT NO.	DATE	BORING NO.
H182-20	8/86	MW-3

MOBIL OIL CORPORATION
OAKLAND, CALIFORNIA

MW-3

Well completed to 35.0 feet in depth with 2-inch Class 160 PVC casing, flush-threaded joints. Screen (.020-inch slot) set from 10.0 to 35.0 feet. No. 3 Monterey sand placed from 5.5 to 35.0 feet, bentonite pellets placed from 5.0 to 5.5 feet, and concrete seal placed from 0 to 5.0 feet.

ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY
BORING



PROJECT NO. 30-081 DATE DRILLED 1/29/90
 CLIENT BP OIL COMPANY
 LOCATION 3201 35TH AVENUE, OAKLAND, CA
 LOGGED BY M. TAYLOR APPROVED BY _____

BORING NO.

 WELL NO.
 MW-4

FIELD SKETCH OF BORING LOCATION

DRILLING METHOD HOLLOW-STEM AUGER HOLE DIAM. 8"
 SAMPLER TYPE MODIFIED SPLIT SPOON
 CASING DATA SEE MONITORING WELL CONSTRUCTION DETAIL
 DRILLER WEST HAZMAT

TOP OF CASING ELEVATION 170.34

BLOWS PER FOOT (B)	FOOT (F)	CGI (PPM)	SAMPLE	DEPTH	WELL CONSTRUCTION OR BORING CLOSURE	USCS	PROFILE	WATER LEVEL	DATE	TIME	DESCRIPTION
								26.87	July 9, 1990		
				0	Christy Box						ASPHALT
				2	Portland Cement						
3,4,8	0			6	Bentonite Pellets	CL					SILTY CLAY; greenish brown; damp, high plasticity stiff
10,28,35	0			10	2" sch. 40 PVC Casing	CL					SILTY CLAY; gravelly, greenish brown with rust stain residue, dry to damp, low to medium plasticity, hard
10,17,28	0			16	2" sch. 40 PVC .020 Slot	CL					SILTY CLAY; gravelly, brown, dry to damp, low to medium plasticity hard
14,28,35	0			20		CL					SILTY CLAY; gravelly, brown rust residue, dry to damp, low plasticity, hard
7,15,28	0			24	Sand #3 Lonestar	CL					SILTY CLAY; gravelly, brown, moist medium plasticity, hard
11,17,25	0			30		CL					SILTY CLAY; very gravelly, brown wet, medium plasticity
				32							
				34							

ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY
BORING



PROJECT NO. 30-081 DATE DRILLED 1/29/90
 CLIENT BP OIL COMPANY
 LOCATION 3201 35TH AVENUE, OAKLAND, CA
 LOGGED BY M. TAYLOR APPROVED BY _____

BORING NO.

 WELL NO.
 MW-4

FIELD SKETCH OF BORING LOCATION

DRILLING METHOD HOLLOW-STEM AUGER HOLE DIAM. 8"
 SAMPLER TYPE MODIFIED SPLIT SPOON
 CASING DATA SEE MONITORING WELL CONSTRUCTION DETAIL
 DRILLER WEST HAZMAT

TOP OF CASING ELEVATION _____

BLOWS PER FOOT (B)	CGI (PPM)	SAMPLE	DEPTH	WELL CONSTRUCTION OR BIRING CLOSURE	USCS	PROFILE	WATER LEVEL	
							DATE	
							TIME	
							DESCRIPTION	
8, 18, 34	0		36	<p>2" sch. 40 PVC .020 Slot End Cap</p>	CL			SILTY CLAY; gravelly, brown, dry to damp
		38						
15, 28, 38	0		40					
			42					
			44					
			46					
			48					
			50					

ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY
BORING



PROJECT NO. 30-081 DATE DRILLED 2/1/90
 CLIENT BP OIL COMPANY
 LOCATION 3201 35TH AVENUE, OAKLAND, CA
 LOGGED BY M. TAYLOR APPROVED BY _____

BORING NO.

 WELL NO.
 MW-5

FIELD SKETCH OF BORING LOCATION

DRILLING METHOD HOLLOW-STEM AUGER HOLE DIAM. 8"
 SAMPLER TYPE MODIFIED SPLIT SPOON
 CASING DATA SEE MONITORING WELL CONSTRUCTION DETAIL
 DRILLER WEST HAZMAT

TOP OF CASING ELEVATION 165.14

BLOWS PER FOOT (M)	CGI (PPM)	SAMPLE	DEPTH	WELL CONSTRUCTION OR BIRING CLOSURE	USCS	PROFILE	WATER LEVEL
							24.75
							DATE
							July 9, 1990
							TIME
							DESCRIPTION
			0	Christy Box			ASPHALT
			2	Portland Cement			
13,23,35	0		4-6	Bentonite Pellets	CL		SANDY CLAY; gravelly, brown, damp, low plasticity hard
11,25,39	0		10	2" sch. 40 PVC Casing	CL		SILTY CLAY; gravelly, greenish brown, damp, low plasticity, gas odor present hard
8,11,21	0		16-18	2" sch. 40 PVC .020 Slot	CL		SILTY CLAY; gravelly, greenish brown, moist medium plasticity, gas odor hard
8,23,33	0		20-22		CL		SILTY CLAY; sandy and gravel, greenish brown, moist medium plasticity, gas odor hard
4,7,13	0		24-26	Sand #3 Lonestar	CL		SILTY CLAY; gravelly, reddish brown, moist to saturated medium plasticity very stiff
4,5,8	0		30-32		CL		SILTY CLAY; with fine sand, tan, damp to medium high plasticity, stiff
14,17,22	0		34	End Cap	CL		SILTY CLAY; gravelly, reddish brown moist high plasticity, hard

ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY
BORING



PROJECT NO. 30-081 DATE DRILLED 2/1/90
 CLIENT BP OIL COMPANY
 LOCATION 3201 35TH AVENUE, OAKLAND, CA
 LOGGED BY M. TAYLOR APPROVED BY _____

BORING NO.
 WELL NO.
 MW-6

FIELD SKETCH OF BORING LOCATION

TOP OF CASING ELEVATION 165.38


DRILLING METHOD HOLLOW-STEM AUGER HOLE DIAM. 8"
 SAMPLER TYPE MODIFIED SPLIT SPOON
 CASING DATA SEE MONITORING WELL CONSTRUCTION DETAIL
 DRILLER WEST HAZMAT

WATER LEVEL 24.75

DATE July 9, 1990

TIME

DESCRIPTION

BLOWS PER FOOT (N)	CGI (PPM)	SAMPLE	DEPTH	WELL CONSTRUCTION OR BORING CLOSURE	USCS	PROFILE	DESCRIPTION
			0	Christy Box			ASPHALT
			2	Portland Cement			
10,12, 15	0		4-6	Bentonite Pellets	CH		SILTY CLAY; gravelly, redish brown, damp, high plasticity, very stiff
8,15, 23	0		10	2" sch. 40 PVC Casing	CH		SILTY CLAY; gravelly, reddish brown moist, high plasticity, hard
5,12, 18	0		14-16	2" sch. 40 PVC .020 Slot	CH		SILTY CLAY; gravelly, brown, moist medium high plasticity, very stiff
11,15, 15	0		20		CH		SILTY CLAY; gravelly, brown, moist to saturated very stiff
23-30, 50/4"	0		24-26	Sand #3 Lonestar			 NO RECOVERY; large cobble or rock obstruction
6,13,17	0		30-32				NO RECOVERY; same
21,29, 35	0		34	End Cap	CL		drilled to 35' w/o sample recovery SILTY CLAY; gravelly saturated moist, brown, hard

ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY
BORING



PROJECT NO. 30-081 DATE DRILLED 2/1/90
 CLIENT BP OIL COMPANY
 LOCATION 3201 35TH AVENUE, OAKLAND, CA
 LOGGED BY M. TAYLOR APPROVED BY _____

BORING NO.
 WELL NO.
 MW-7

FIELD SKETCH OF BORING LOCATION

DRILLING METHOD HOLLOW-STEM AUGER HOLE DIAM. 8"
 SAMPLER TYPE MODIFIED SPLIT
 CASING DATA SEE MONITORING WELL CONSTRUCTION DETAIL
 DRILLER WEST HAZMAT

TOP OF CASING ELEVATION 167.61

BLOWING PER FOOT (B)	CGI (PPM)	SAMPLE	DEPTH	WELL CONSTRUCTION OR BORING CLOSURE	USCS	PROFILE	WATER LEVEL	DATE	DESCRIPTION
							27.29	JULY 9, 1990	
			0	Christy Box					ASPHALT
			2	Portland Cement					
14,14, 15	0		6	Bentonite Pellets	CH				SILTY CLAY; brown, damp, high plasticity, very stiff
11,27, 39	0		10		CL				SILTY CLAY; gravelly, reddish brown damp medium plasticity, hard
			12	2" sch. 40 PVC Casing					
15,21, 29	0		14		CL				SILTY CLAY; gravelly, reddish brown, damp, hard
			16	2" sch. 40 PVC .020 Slot					
36,15, 50/5"	0		20		CL				SILTY CLAY; gravelly, brown, moist medium plasticity, hard
			22						
8,15,21	0		24	Sand #3 Lonestar	CL				SILTY CLAY; gravelly, brown, moist medium plasticity, hard
			26						
			28						
5,8,12	0		30		CL				SILTY CLAY; gravelly, brown, saturated medium plasticity, very stiff
			32						
4,7,10	0		34		CH				SILTY CLAY; tannish brown, moist high plasticity, very stiff

ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY
BORING



PROJECT NO. 30-081-01 DATE DRILLED 2-25-91
 CLIENT BP Oil Company
 LOCATION 3201 35th Ave, Oakland
 LOGGED BY M. Taylor APPROVED BY M. Hopwood

BORING NO. SB-8
 WELL NO. MW-8
 Page 1 of 2

FIELD SKETCH OF BORING LOCATION

TOP OF CASING ELEVATION 165.74'

DRILLING METHOD Hollow stem auger HOLE DIAM. 8"
 SAMPLER TYPE Modified split spoon
 CASING DATA See well construction details
 DRILLER Soils Exploration Services, Inc.

BLOWS PER FOOT(M)	CGI (PPM)	SAMPLE	DEPTH	WELL CONSTRUCTION OR BORING CLOSURE	USCS	PROFILE	WATER LEVEL		
							DATE		
							TIME		
							DESCRIPTION		
			0	Christy Box					
			2						10" Concrete
			4						
5,13,25			6		GM				GRAVELLY SILT: green, damp, hard, low plasticity
			8	2" sch.-40 PVC Casing					
7,14,11			10						
			12		ML				SANDY SILT: greenish brown, damp, very stiff, low plasticity, gravelly
			14						
5,14,16			16						SILTY CLAY: brownish green, damp, very stiff, low to medium plasticity, with fine sand
			18						
2,6,10			20						Same, becomes moist, stiff, medium plasticity, with medium sand
			22		CL				
			24						
5,9,12			26	2" sch. 40 PVC 0.020" Slot					Same, becomes brown, moist to wet, very stiff, medium plasticity
			28						
			30						
3,9,14			32						Same, becomes brownish green, wet, with medium sand and gravel
			34						

ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY
BORING



PROJECT NO. 30-081-01 DATE DRILLED 2/25/91
 CLIENT BP Oil Company
 LOCATION 3201 35th Ave., Oakland
 LOGGED BY M. Taylor APPROVED BY M. Hopwood

BORING NO.
 SB-8
 WELL NO.
 MW-8
 Page 2 of 2

FIELD SKETCH OF BORING LOCATION

TOP OF CASING ELEVATION 165.74'

DRILLING METHOD Hollow stem auger HOLE DIAM. 8"
 SAMPLER TYPE Modified split spoon
 CASING DATA See well construction detail
 DRILLER Soils Explorations Services, Inc.

BLOWS PER FOOT (N)	CGI (PPM)	SAMPLE	DEPTH	WELL CONSTRUCTION OR BORING CLOSURE	USCS	PROFILE	WATER LEVEL		
							DATE		
							TIME		
							DESCRIPTION		
7, 11, 14			36		CL		SILTY CLAY: brown, wet, very stiff, medium to high plasticity, with medium sand and gravel		
		38	Same, becomes moist to wet, hard, medium plasticity						
11, 20, 20		40	BORING TERMINATED AT 41.5 FEET BELOW GRADE						
			42						
			44						
			46						
			48						
			50						
			52						
			54						
			56						
			58						
			60						

- Portland Cement
- Sample
- Sand #3 Lonestar
- Driven interval
- Bentonite Pellets
- Water level encountered during drilling

ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY
BORING



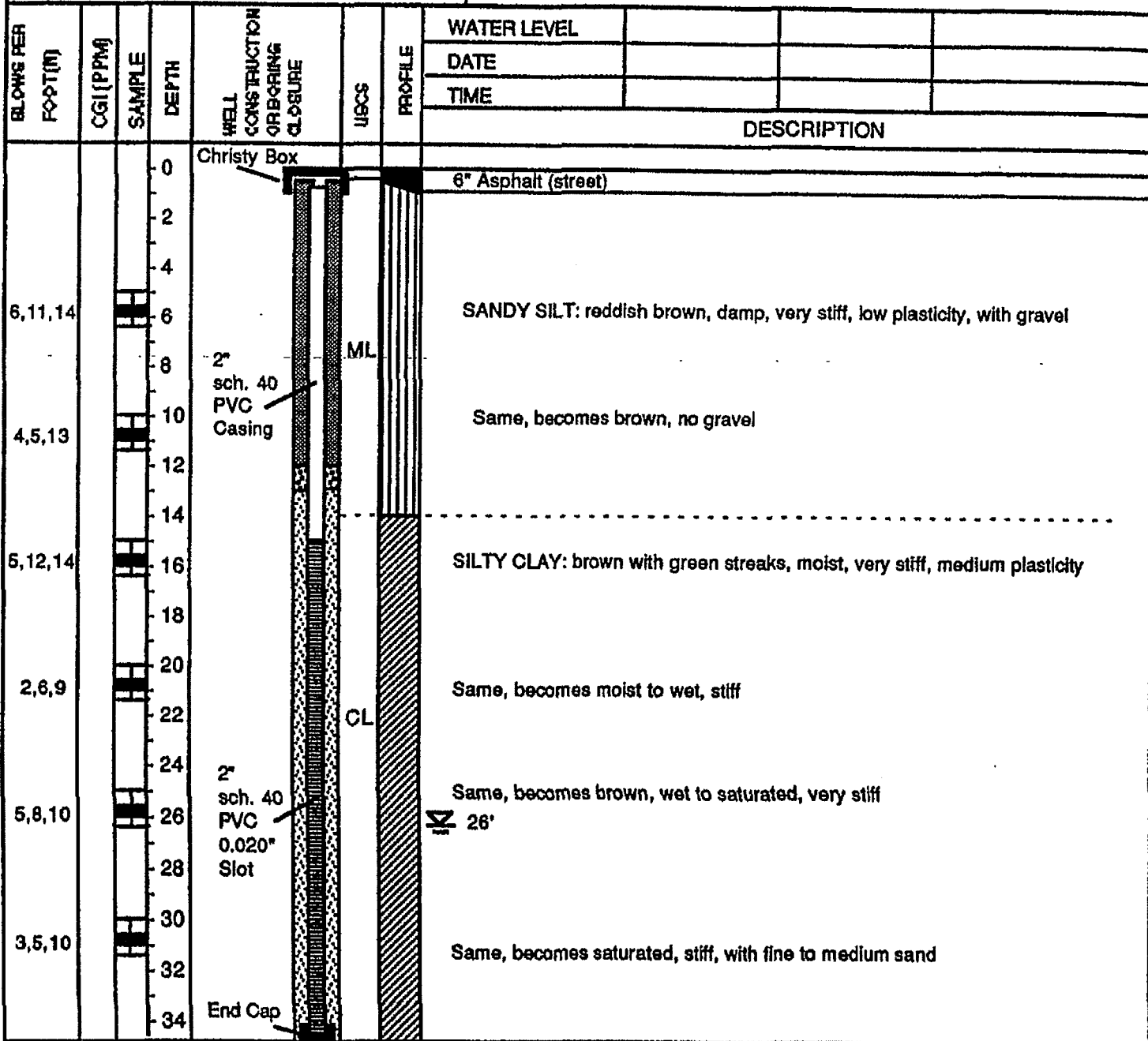
PROJECT NO. 30-081-01 DATE DRILLED 2-26-91
 CLIENT BP Oil Company
 LOCATION 3201 35th Ave, Oakland
 LOGGED BY M. Taylor APPROVED BY M. Hopwood

BORING NO. SB-9
 WELL NO. MW-9
 Page 1 of 2

FIELD SKETCH OF BORING LOCATION

TOP OF CASING ELEVATION 166.20

DRILLING METHOD Hollow stem auger HOLE DIAM. 8"
 SAMPLER TYPE Modified split spoon
 CASING DATA See well construction details
 DRILLER Soils Exploration Services, Inc.



ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY BORING



PROJECT NO. 30-081-01 DATE DRILLED 2/26/91
 CLIENT BP Oil Company
 LOCATION 3201 35th Ave., Oakland
 LOGGED BY M. Taylor APPROVED BY M. Hopwood

BORING NO. SB-9
 WELL NO. MW-9
 Page 2 of 2

FIELD SKETCH OF BORING LOCATION

TOP OF CASING ELEVATION 166.20'

DRILLING METHOD Hollow stem auger HOLE DIAM. 8"
 SAMPLER TYPE Modified split spoon
 CASING DATA See well construction detail
 DRILLER Soils Explorations Services, Inc.

BLOWS PER FOOT (N)	CGI (PPM)	SAMPLE	DEPTH	WELL CONSTRUCTION OR BORING CLOSURE	USCS	PROFILE	WATER LEVEL			
							DATE			
							TIME			
							DESCRIPTION			
6,12,17			36		CL		SILTY CLAY: reddish brown, saturated to wet, very stiff, medium plasticity			
			38				BORING TERMINATED AT 36.5 FEET BELOW GRADE			
			40							
			42							
			44							
			46							
			48							
			50							
			52							
			54							
			56							
			58							
			60							

- Portland Cement
- Sample
- Sand #3 Lonestar
- Driven interval
- Bentonite Pellets
- Water level encountered during drilling

ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY BORING



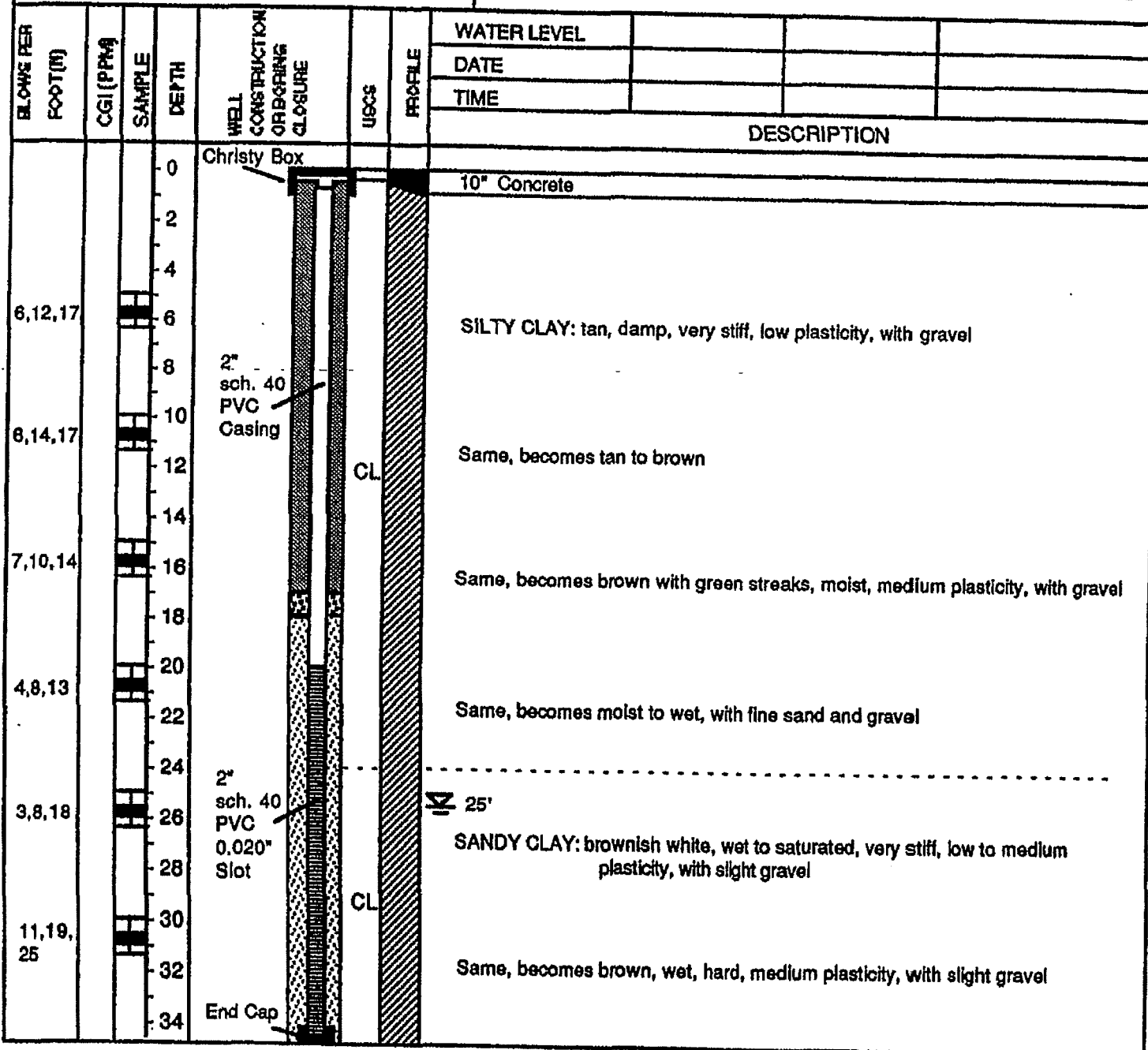
PROJECT NO. 30-081-01 DATE DRILLED 2-27-91
 CLIENT BP Oil Company
 LOCATION 3201 35th Ave, Oakland
 LOGGED BY M. Taylor APPROVED BY M. Hopwood

BORING NO. SB-10
 WELL NO. MW-10
 Page 1 of 2

FIELD SKETCH OF BORING LOCATION

TOP OF CASING ELEVATION 167.01'

DRILLING METHOD Hollow stem auger HOLE DIAM. 8"
 SAMPLER TYPE Modified split spoon
 CASING DATA See well construction details
 DRILLER Soils Exploration Services, Inc.



ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY
BORING



PROJECT NO. 30-081-01 DATE DRILLED 2/27/91
 CLIENT BP Oil Company
 LOCATION 3201 35th Ave., Oakland
 LOGGED BY M. Taylor APPROVED BY M. Hopwood







BORING NO.
 SB-10
 WELL NO.
 MW-10
 Page 2 of 2

FIELD SKETCH OF BORING LOCATION

TOP OF CASING ELEVATION 167.01'

DRILLING METHOD Hollow stem auger HOLE DIAM. 8"
 SAMPLER TYPE Modified split spoon
 CASING DATA See well construction detail
 DRILLER Soils Explorations Services, Inc.

BLOWS PER FOOT (B)	CGI (PPM)	SAMPLE	DEPTH	WELL CONSTRUCTION OR BORING CLOSURE	USCS	PROFILE	WATER LEVEL			
							DATE			
							TIME			
							DESCRIPTION			
7, 8, 11			36		CL		SILTY CLAY: brown, wet, very stiff, medium plasticity, with some fine sand			
			38	BORING TERMINATED AT 36.5 FEET BELOW GRADE						
			40							
			42							
			44							
			46							
			48							
			50							
			52							
			54							
			56							
			58							
			60							

-  Portland Cement
-  Sample
-  Sand #3 Lonestar
-  Driven interval
-  Bentonite Pellets
-  Water level encountered during drilling

ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY BORING



PROJECT NO. 30-081 DATE DRILLED 1/29/90
 CLIENT BP OIL COMPANY
 LOCATION 3201 35TH AVENUE, OAKLAND, CA
 LOGGED BY M. TAYLOR APPROVED BY _____

BORING NO.
 WELL NO.
 RW-1

FIELD SKETCH OF BORING LOCATION

DRILLING METHOD HOLLOW-STEM AUGER HOLE DIAM. 12"
 SAMPLER TYPE _____
 CASING DATA SEE MONITORING WELL CONSTRUCTION DETAIL
 DRILLER WEST HAZMAT

TOP OF CASING ELEVATION 168.01

BLOWS PER FOOT (M)	CGI (PPM)	SAMPLE	DEPTH	WELL CONSTRUCTION OR BORING CLOSURE	USCS	PROFILE	WATER LEVEL <u>27.93</u>
							DATE <u>July 9, 1990</u>
							TIME
							DESCRIPTION
			0	Christy Box			ASPHALT
			2	Portland Cement			SILTY CLAY; gravels, brown, damp, backfill
9,19,33	0		6	Bentonite Pellets	CL		SILTY CLAY; gravelly, greenish brown, dry to damp, low plasticity, odor present
16,33,40	0		10		CL		SILTY CLAY; gravelly, greenish brown, dry to damp, medium plasticity, odor present
15,36,43	0		16	6" sch. 40 PVC Casing	CL		SILTY CLAY; gravelly, brown, damp, medium odor present
11,16,25	0		20	6" sch. 40 PVC .020 Slot	CL		SILTY CLAY; gravelly, brown, damp, medium plasticity, odor present
6,7,16	0		26	Sand #3 Lonestar	CL		SILTY CLAY; sandy gravelly, greenish brown, medium plasticity
6,13,17	0		30		CL		SILTY CLAY; gravelly, sandy (fine) brown, saturated very stiff
			32				
			34				

ALTON GEOSCIENCE, Inc.
LOG OF EXPLORATORY
BORING



PROJECT NO. 30-081 DATE DRILLED 1/29/90
 CLIENT BP OIL COMPANY
 LOCATION 3201 35TH AVENUE, OAKLAND, CA
 LOGGED BY M. TAYLOR APPROVED BY _____

BORING NO.
 WELL NO.
 RW-1

FIELD SKETCH OF BORING LOCATION

DRILLING METHOD HOLLOW-STEM AUGER HOLE DIAM. 10"
 SAMPLER TYPE MODIFIED SPLIT SPOON
 CASING DATA SEE MONITORING WELL CONSTRUCTION DETAIL
 DRILLER WEST HAZMAT

TOP OF CASING ELEVATION _____

BLOWS PER FOOT (B)	CGI (PPM)	SAMPLE	DEPTH	WELL CONSTRUCTION OR BORING CLOSURE	USCS	PROFILE	WATER LEVEL
							DATE
							TIME
							DESCRIPTION
6, 16, 29	0		36	2" sch. 40 PVC .020 Slot	CL		SILTY CLAY; gravelly, sandy (fine) brown, saturated, medium high plasticity, hard
6, 16, 28			40	End Cap			SAME



1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: UB-1

Total Depth: 48 ft. bgs

PROJECT INFORMATION

DRILLING INFORMATION

Project: BP #11132 Soil and Water Investigation

Drilling Company: Gregg Drilling & Testing

Site Location: 3201 35th Avenue, Oakland, CA

Driller: Dustin Tidwell

Project Manager: Leonard Niles

Type of Drilling Rig: CPT

RG: Leonard Niles

Drilling Method: Direct Push

Geologist: Kevin Uno

Sampling Method: Groundwater Grab

Job Number: 38486822.0013001

Date(s) Drilled: 7/22/04

BORING INFORMATION

Groundwater Depth (ft bgs): Unknown, <48 ft. bgs.

Boring Location: 78 ft S of SW corner of Mangels Ave. and 35th Ave.

Air Knife or Hand Auger Depth: 5.0 feet bgs

Boring Diameter: 2-inch

Coordinates: Latitude Longitude

Boring Type: Exploratory

Depth (ft. bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID/ Comments
0							
2							
4		Air knife to 5 ft. bgs					
6		Boring not lithologically logged. Purpose of boring was to collect depth discrete soil samples and groundwater grab sample. See boring UB-2 for lithology.					Borehole grouted to grade with Portland neat cement.
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID
32	[Hatched Box]	SILTY CLAY: brown, trace rounded coarse sand. Medium stiff, moist.		CL		[Hatched Box]	UB-1-32.0 UB-1-32.5
34							
36							
38							
40							
42							
44							
46							
48							UB-1-48: Groundwater grab sample at 48 ft. bgs.



1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: UB-2

Total Depth: 48ft. bgs

PROJECT INFORMATION

Project: BP #11132 Soil and Water Investigation

Site Location: 3201 35th Avenue, Oakland, CA

Project Manager: Leonard Niles

RG: Leonard Niles

Geologist: Kevin Uno

Job Number: 38486822.0013001

DRILLING INFORMATION

Drilling Company: Gregg Drilling & Testing

Driller: Dustin Tidwell

Type of Drilling Rig: CPT

Drilling Method: Direct Push

Sampling Method: Groundwater Grab

Date(s) Drilled: 7/22/04

BORING INFORMATION

Groundwater Depth (ft bgs): Unknown, <48 ft. bgs

Boring Location: 155 ft S of SW corner of Mangels Ave. and 35th Ave.



















Air Knife or Hand Auger Depth: 5.0 feet bgs







Boring Diameter: 2-inch

Coordinates: Latitude Longitude

Boring Type: Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID/ Comments
0		Note: Lithology is interpreted from CPT logs. Soil not visually observed.					Borehole grouted to grade with Portland neat cement
2		Air knife to 5 ft. bgs					
4							
6		CLAYEY SILT		ML			
6.5		SILT					
7		CLAYEY SILT					
8		STIFF FINE GRAINED: -undifferentiated					
10		SILTY CLAY		CL			
10.5		CLAYEY SILT		ML			
12							
12.5		SILTY CLAY		CL			
13		SILT		ML			
14		CLAYEY SILT					

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID
16		STIFF FINE GRAINED					
18		SILTY CLAY		CL			
20		CLAY					
20		STIFF FINE GRAINED					
22		SILTY CLAY					
24		CLAYEY SILT		ML			
24		SILTY CLAY		CL			
24		CLAY					
26		CLAYEY SILT		ML			
26		STIFF FINE GRAINED					
26		CLAYEY SILT		CL			
28		CLAY		ML			
28		SILT					
28		CLAYEY SILT					
30		SILTY CLAY		CL			
30		STIFF FINE GRAINED					
30		CLAY					
32		SILTY CLAY					
32		CLAYEY SILT		ML			
34		SILT					
34		SAND: Cemented.		SM			
36		SANDY SILT		ML			
36		STIFF FINE GRAINED					

Depth (ft.bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID
38		SILTY CLAY		CL			
		CLAYEY SILT		ML			
40		STIFF FINE GRAINED		CL			
		SILTY CLAY					
42		CLAYEY SILT		ML			
		SILT					
44		CLAYEY SILT					
		STIFF FINE GRAINED					
		CLAYEY SILT					
46		STIFF FINE GRAINED		CL			
		SILTY CLAY					
		STIFF FINE GRAINED					
48		SAND: Cemented.		SM			
		CLAYEY SILT					
		SILT: Bottom of boring: 48 ft.bgs					

UB-2-48: Groundwater grab sample at 48 ft. bgs.



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Oakland, California 94612

LOG OF BORING

Borehole ID: UB-3

Total Depth: 48 ft. bgs

PROJECT INFORMATION

DRILLING INFORMATION

Project: BP #11132 Soil and Water Investigation

Drilling Company: Gregg Drilling & Testing

Site Location: 3201 35th Avenue, Oakland, CA

Driller: Dustin Tidwell

Project Manager: Leonard Niles

Type of Drilling Rig: CPT

RG: Leonard Niles

Drilling Method: Direct Push

Geologist: Kevin Uno

Sampling Method: Groundwater Grab

Job Number: 38486822.0013001

Date(s) Drilled: 7/22/04

BORING INFORMATION

Groundwater Depth (ft bgs): Unknown, <48 ft. bgs

Boring Location: 182 ft S of SW corner of Mangels and 35th Ave.

Air Knife or Hand Auger Depth: 5.0 feet bgs

Boring Diameter: 2-inch

Coordinates: Latitude Longitude

Boring Type: Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID/ Comments
0							Borehole grouted to grade with Portland neat cement
2							
4		Air knife to 5 ft. bgs					
6		Boring not lithologically logged. Purpose of boring was to collect depth discrete soil samples and groundwater grab sample. See boring UB-2 for lithology.					
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							



1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: UB-4

Total Depth: 50 ft. bgs

PROJECT INFORMATION

DRILLING INFORMATION

Project: BP #11132 Soil and Water Investigation

Drilling Company: Gregg Drilling & Testing

Site Location: 3201 35th Avenue, Oakland, CA

Driller: Dustin Tidwell

Project Manager: Leonard Niles

Type of Drilling Rig: CPT

RG: Leonard Niles

Drilling Method: Direct Push

Geologist: Kevin Uno

Sampling Method: Groundwater Grab

Job Number: 38486822.0013001

Date(s) Drilled: 7/21/04

BORING INFORMATION

Groundwater Depth (ft bgs): Unknown, < 50ft. bgs

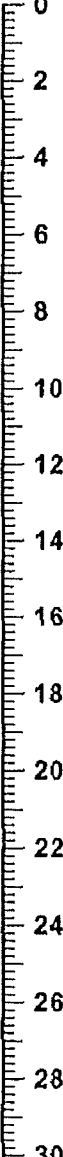
Boring Location: 135 ft E of E corner of School St. and 35th Ave.

Air Knife or Hand Auger Depth: 5.0 feet bgs

Boring Diameter: 2-inch

Coordinates: Latitude Longitude

Boring Type: Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID/ Comments
0  2 4 6 8 10 12 14 16 18 20 22 24 26 28 30		Air knife to 5 ft. bgs Boring not lithologically logged. Purpose of boring was to collect depth discrete soil samples and groundwater grab sample. See boring UB-5 for lithology.					Borehole grouted to grade with Portland neat cement



1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: UB-5

Total Depth: 50 ft. bgs

PROJECT INFORMATION

DRILLING INFORMATION
























Project: BP #11132 Soil and Water Investigation
Site Location: 3201 35th Avenue, Oakland, CA
Project Manager: Leonard Niles
RG: Leonard Niles
Geologist: Kevin Uno
Job Number: 38486822.0013001

Drilling Company: Gregg Drilling & Testing
Driller: Dustin Tidwell
Type of Drilling Rig: CPT
Drilling Method: Direct Push
Sampling Method: Cone Penetrometer Testing
Date(s) Drilled: 7/22/04

BORING INFORMATION

Groundwater Depth (ft bgs): Unknown, < 50 ft. bgs
Boring Location: Approx. 60 ft E of E corner of School St. and 35th Ave
Air Knife or Hand Auger Depth: 5.0 feet bgs
Boring Diameter: 2-inch
Coordinates: Latitude Longitude
Boring Type: Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID/ Comments
0		Air knife to five feet bgs. Note: Lithology is interpreted from CPT logs. Soil not visually observed.					Borehole grouted to grade with Portland neat cement
5.5		SILTY SAND		SM			
5.5		SAND: Cemented.					
6		STIFF FINE GRAINED		ML			
12		CLAYEY SILT					
12.5		SILT					
13.5		STIFF FINE GRAINED					

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID
16		CLAY		CL			
		STIFF FINE GRAINED					
18		SILTY CLAY					
		STIFF FINE GRAINED					
20		SILTY CLAY					
		CLAY					
		CLAYEY SILT		ML			
22		SILT		CL			
		SILTY CLAY		ML			
		CLAYEY SILT					
24		SILTY CLAY		CL			
		CLAY					
		SILTY CLAY					
		CLAYEY SILT		ML			
26		SILT					
28		CLAYEY SILT					
30		SILTY CLAY		CL			
		CLAYEY SILT		ML			
32		SAND: Cemented		SM			
		STIFF FINE GRAINED		ML			
34		SILT					
		SILTY CLAY		CL			
		STIFF FINE GRAINED		ML			
36							

Depth (ft. bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID
		CLAYEY SILT					
		STIFF FINE GRAINED					
38		SILT					
40		SILTY CLAY		CL			
		STIFF FINE GRAINED		ML			
		CLAYEY SILT					
42		STIFF FINE GRAINED					
		CLAYEY SILT					
44		SILT					
		CLAYEY SILT					
46		CLAYEY SILT					
		SILT					
48		CLAYEY SILT					
		STIFF FINE GRAINED					
		CLAYEY SILT: Bottom of boring: 50 ft. bgs					
50							

UB-5: Ground water grab sample at 50 ft. bgs.



1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: UB-6

Total Depth: 50 ft. bgs

PROJECT INFORMATION

DRILLING INFORMATION

Project: BP #11132 Soil and Water Investigation

Drilling Company: Gregg Drilling & Testing

Site Location: 3201 35th Avenue, Oakland, CA

Driller: Dustin Tidwell

Project Manager: Leonard Niles

Type of Drilling Rig: CPT

RG: Leonard Niles

Drilling Method: Direct Push

Geologist: Kevin Uno

Sampling Method: Groundwater Grab

Job Number: 38486822.0013001

Date(s) Drilled: 7/21/04

BORING INFORMATION

Groundwater Depth (ft bgs): Unknown, < 50 ft. bgs.

Boring Location: 20 ft. E of E corner of School St. and 35th Ave.

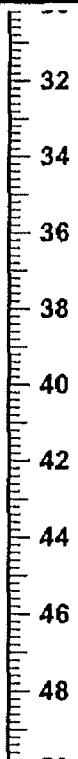


Air Knife or Hand Auger Depth: 5.0 feet bgs

Boring Diameter: 2-inch

Coordinates: Latitude Longitude

Boring Type: Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID/ Comments
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30		Air knife to 5 ft. bgs Boring not lithologically logged. Purpose of boring was to collect depth discrete soil samples and groundwater grab sample. See boring UB-5 for lithology.					Borehole grouted to grade with Portland neat cement

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID
		<p>SILTY CLAY: Light brown with 5-10% fine sand. Moist, Stiff. Low to medium plasticity.</p>		CL			<p>UB-6-30.0 UB-6-30.5</p> <p>UB-6: Groundwater grab sample at 50 ft. bgs.</p>



1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: UB-7

Total Depth: 41.5 feet bgs

PROJECT INFORMATION

DRILLING INFORMATION

Project: BP #11132 Soil and Water Investigation

Drilling Company: Gregg Drilling & Testing

Site Location: 3201 35th Avenue, Oakland, CA

Driller: Paul Rodgers

Project Manager: Leonard Niles

Type of Drilling Rig: Geoprobe

RG: Leonard Niles

Drilling Method: Direct Push

Geologist: Joe Gonzales

Sampling Method: Continuous core with acetate sleeve.

Job Number: 38486822.0013001

Date(s) Drilled: 04/19/04

BORING INFORMATION

Groundwater Depth (ft bgs): 36 feet bgs

Boring Location: 10 feet south of RW-1

Air Knife or Hand Auger Depth: 5.0 feet bgs

Boring Diameter: 2-inch

Coordinates: Latitude Longitude

Boring Type: Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID/ Comments
0		Air knife to five feet bgs					
2							Borehole grouted to grade with Portland neat cement
4							
6		GRAVELLY SANDY SILT: orangish brown, 50% silt, 30% medium to coarse sand, 20% fine subangular gravel, medium stiff to stiff, damp, increasing gravel with depth		ML	0		UB-7-5
8							
10		SANDY GRAVELLY SILT: brown, 50% silt, 15% fine to coarse sand, 35% fine to coarse subangular gravel, stiff, damp		ML	0.8		
12		orangish brown, decreasing gravel and sand, some clay, slight odor					
14		grades to clay			236		UB-7-15
16		SANDY GRAVELLY CLAY: brown, 50% clay, 20% fine to coarse sand, 30% fine to coarse subangular to subrounded gavel, very stiff, damp, slight odor		CL			
18							
20		same as above, mostly fine gravel, odor			133		
22							
24		SILTY CLAY: brown, 60% clay, 40% silt, trace fine to coarse sand and fine gravel, stiff, orange mottling, odor		CL	87		UB-7-25
26							
28							
30							

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID
32		SANDY GRAVELLY CLAY: brown, 50% clay, 15% fine to coarse sand, 35% fine gravel, very stiff, damp		CL	70		UB-7-35 UB-7 (hydropunch) Σ
34		decreasing gravel					
34	Increasing gravel and coarse sand						
36		SANDY GRAVELLY SILT: dark brown, 50% silt, 15% sand, 35% gravel, stiff to very stiff, wet	ML	17			
38		Increasing coarse sand with depth					
40		decreasing gravel, medium stiff, saturated, geoprobe refusal at 41.5 feet bgs		12	UB-7-41		
40							

Borehole ID: UB-8

Total Depth: 3.5 feet bgs

PROJECT INFORMATION

DRILLING INFORMATION

Project: BP #11132 Soil and Water Investigation

Drilling Company: Gregg Drilling & Testing

Site Location: 3201 35th Avenue, Oakland, CA

Driller: Paul Rodgers

Project Manager: Leonard Niles

Type of Drilling Rig: Vacmasters 4000

RG: Leonard Niles

Drilling Method: Air knife

Geologist: Joe Gonzales

Sampling Method: NA

Job Number: 38486822.0013001

Date(s) Drilled: 04/19/04

BORING INFORMATION

Groundwater Depth (ft bgs): Unknown


Boring Location: Near UST pad

Air Knife or Hand Auger Depth: 3.5 feet bgs

Boring Diameter: 6"

Coordinates: Latitude Longitude

Boring Type: Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID/ Comments
0 2		GRAVEL: Air knife to 3.5 feet bgs: Gravel with cobbles. Could not clear hole to five feet. Abandoned boring.					No samples taken Borehole grouted to grade with Portland neat cement

PROJECT INFORMATION

DRILLING INFORMATION

Project: BP #11132 Soil and Water Investigation

Drilling Company: Gregg Drilling & Testing

Site Location: 3201 35th Avenue, Oakland, CA

Driller: Paul Rodgers

Project Manager: Leonard Niles

Type of Drilling Rig: Geoprobe

RG: Leonard Niles

Drilling Method: Direct Push

Geologist: Joe Gonzales

Sampling Method: Continuous core with acetate sleeve.

Job Number: 38486822.0013001

Date(s) Drilled: 04/19/04

BORING INFORMATION

Groundwater Depth (ft bgs): 40 feet bgs

Boring Location: Near west side of station building

Air Knife or Hand Auger Depth: 5.0 feet bgs

Boring Diameter: 2-inch

Coordinates: Latitude Longitude

Boring Type: Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PIID (ppm)	Recovery	Sample ID/ Comments
0		Air knife to five feet bgs					Borehole grouted to grade with Portland neat cement
2							
4							
6		SANDY GRAVELLY SILT: brown, 50% silt, 20% fine to coarse sand, 30% fine subangular gravel, very stiff, damp		ML	0		UB-9-5
8							
10		same as above, with more gravel			0		
12		increasing clay with depth					
14							
16		SANDY GRAVELLY CLAY: orangish brown, 50% clay, 15% fine to coarse sand, 35% fine to coarse sand, stiff to very stiff, damp, varying amounts of sand and gravel		CL	0.5		UB-9-15
18		slight odor					
20		same as above, dark brown, decreasing gravel			23		
22							
24		some coarse gravel (4 cm diameter)					
26		SILTY CLAY: orangish brown, 60% clay, 40% silt, medium stiff to stiff, damp to moist, slight odor, some orange mottling		CL	275		UB-9-25
28							
30							

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID
32		orangish brown, 50% clay, 30% silt, 10% cs sand, 10% fine sub rounded gravel, stiff, damp to moist			172		
34		some coarse gravel (3 cm diameter)			24		UB-9-35
36		SANDY GRAVELLY CLAY: orangish brown, 50% clay, 15% fine to coarse sand, 35% fine to coarse sand, stiff to very stiff, damp		CL			
38		SANDY GRAVELLY CLAY: orangish brown, 50% clay, 15% fine to coarse sand, 35% fine to coarse sand, stiff to very stiff, damp					
40		SANDY GRAVELLY CLAY: orangish brown, 50% clay, 15% fine to coarse sand, 35% fine to coarse sand, stiff to very stiff, damp			1.7		UB-9 :groundwater grab with bailer at 42.5 ft. bgs.
42		SANDY GRAVELLY SILT: orangish brown, 50% silt, 15% medium to coarse sand, 35% fine to coarse subangular gravel, medium stiff, moist to wet, geoprobe refusal at 42.5 feet bgs		ML			UB-9-42



1333 Broadway, Suite 800
Oakland, California 94612

LOG OF BORING

Borehole ID: UB-10

Total Depth: 37.5 feet bgs

PROJECT INFORMATION

DRILLING INFORMATION

Project: BP #11132 Soil and Water Investigation

Drilling Company: Gregg Drilling & Testing

Site Location: 3201 35th Avenue, Oakland, CA

Driller: Paul Rodgers

Project Manager: Leonard Niles

Type of Drilling Rig: Geoprobe

RG: Leonard Niles

Drilling Method: Direct Push

Geologist: Joe Gonzales

Sampling Method: Continuous core with acetate sleeve.

Job Number: 38486822.0013001

Date(s) Drilled: 04/20/04

BORING INFORMATION

Groundwater Depth (ft bgs): 36 feet bgs

Boring Location: 12 ft. SW of southern dispenser

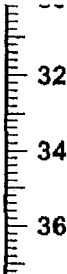



Air Knife or Hand Auger Depth: 5.0 feet bgs

Boring Diameter: 2-inch

Coordinates: Latitude Longitude

Boring Type: Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID/ Comments
0		Air knife to five feet bgs					
2							
4							Borehole grouted to grade with Portland neat cement.
6		SANDY GRAVELLY CLAY: brown to light brown, 50% clay, 20% fine to coarse sand, 30% fine to coarse subangular gravel, very stiff, damp, decreasing gravel with depth		CL	0		UB-10-5
8		increasing gravel					
10		dark brown, very stiff			0		
12							
14		orange-brown, 55% clay, 20% sand, 25% gravel, slight odor, decreasing gravel			9.0		UB-10-15
16		increasing gravel					
18		dark brown, increasing gravel, odor					
20					63		
22		varying amounts of sand and gravel					
24							
26					177		UB-10-25
28		NO RECOVERY		NR			
30							

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID
		SILTY CLAY: reddish brown, 60% clay, 40% silt, trace fine to coarse sand and fine gravel, very stiff, damp		CL	0		
		SANDY GRAVELLY CLAY: reddish brown, 50% clay, 15% fine to coarse sand, 35% fine gravel, stiff, damp		CL	0		UB-10-35 UB-10-37 (soil); UB-10 (groundwater grab with bailer)

Borehole ID: UB-11

Total Depth: 37.5 feet bgs

PROJECT INFORMATION

DRILLING INFORMATION

Project: BP #11132 Soil and Water Investigation

Drilling Company: Gregg Drilling & Testing

Site Location:

Driller: Paul Rodgers

Project Manager: Leonard Niles

Type of Drilling Rig: Geoprobe

RG: Leonard Niles

Drilling Method: Direct Push

Geologist: Joe Gonzales

Sampling Method: Continuous core with acetate sleeve.

Job Number: 38486822.0013001

Date(s) Drilled: 04/20/04

BORING INFORMATION

Groundwater Depth (ft bgs): 36

Boring Location: Near planter on 35th Avenue

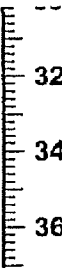


Air Knife or Hand Auger Depth: 5.0 ft. bgs

Boring Diameter: 2-inch

Coordinates: Latitude Longitude

Boring Type: Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID/ Comments
0		Air knife to five feet bgs					
2							Borehole grouted to grade with Portland neat cement.
4							
6		SANDY GRAVELLY CLAY: brown, 50% clay, 20% fine to coarse sand, 30% fine to coarse subrounded gravel, very stiff, moist, slight green color in soil		CL	0		UB-11-5
8							
10		same as above			0		
12		increasing gravel, with some coarse gravel (4 cm diameter). No greenish color.					
14							
16		SANDY GRAVELLY SILT: reddish brown to orangish brown, 50% silt, 15% fine to coarse sand, 35% fine to coarse gravel, gravel size ls up to 3 cm in diameter, stiff, damp, slight odor		ML	15		UB-11-15
18		SANDY GRAVELLY CLAY: brown, 50% clay, 20% fine to coarse sand, 30% fine to coarse subrounded gravel, very stiff, damp, decreasing gravel with depth		CL			
20					0.5		
22		coarse gravel (4cm diameter)					
24							
26		SILTY CLAY: reddish brown, 60% clay, 40% silt, trace sand and fine gravel, very stiff, damp		CL	0		UB-11-25
28							
30		50% clay, 30% silt, 10% fine to coarse sand, 10% fine gravel					

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID
 32 34 36		<p>continued increase of sand and gravel</p> <hr/> <p>SANDY GRAVELLY CLAY: reddish brown, 50% clay, 15% fine to coarse sand, 35% fine to coarse subrounded gravel, moderately stiff, moist to wet, geoprobe refusal at 37.5 feet bgs</p>		<p>CL</p>	<p>1.3</p> <hr/> <p>0</p>		<p>UB-11-35 UB-11 (groundwater grab with bailer); UB-11-37 (soil).</p>

Borehole ID: UB-12

Total Depth: 26 feet bgs

PROJECT INFORMATION

Project: BP #11132 Soil and Water Investigation
Site Location: 3201 35th Avenue, Oakland, CA
Project Manager: Leonard Niles
RG: Leonard Niles
Geologist: Joe Gonzales
Job Number: 38486822.0013001

DRILLING INFORMATION

Drilling Company: Gregg Drilling & Testing
Driller: Paul Rodgers
Type of Drilling Rig: Geoprobe
Drilling Method: Direct Push
Sampling Method: Continuous core with acetate sleeve.
Date(s) Drilled: 04/19/04

BORING INFORMATION

Groundwater Depth (ft bgs): 25
Air Knife or Hand Auger Depth: 5.0
Coordinates: Latitude Longitude
Boring Location: Behind station building near former dispenser island
Boring Diameter: 2-inch
Boring Type: Exploratory

Depth (ft bgs)	Symbol	Lithologic Description	Blow Count	USCS	PID (ppm)	Recovery	Sample ID/ Comments
0		Air knife to five feet bgs					Borehole grouted to grade with Portland neat cement.
2							
4							
6		SANDY GRAVELLY SILT: brown, 50% silt, 20% fine to coarse sand, 30% fine subangular gravel, medium stiff to very stiff, damp		ML	0		UB-12-5
8		increasing gravel with depth					
10		dark brown, 50% silt, 15% fine to coarse sand, 35% fine to coarse subrounded to subangular gravel, trace clay, very stiff, damp			0		UB-12-10
12							
14							
16		SANDY GRAVELLY CLAY: orangish brown, 50% clay, 15% fine to coarse sand, 35% fine to coarse subangular gravel, very stiff, damp		CL	0		UB-12-15
18		decreasing gravel and stiffness with depth					
20		brown			0		
22		increasing gravel					
24		dark brown					
24		increased coarse sands and gravels			0		UB-12 (groundwater grab with bailer); UB-12-25 (soil). ∇
26		SANDY GRAVELLY SILT: light brown, 50% silt, 15% medium to coarse sand, 35% fine to coarse subangular to subrounded gravel, medium stiff, wet, geoprobe refusal at 26 feet bgs		ML			

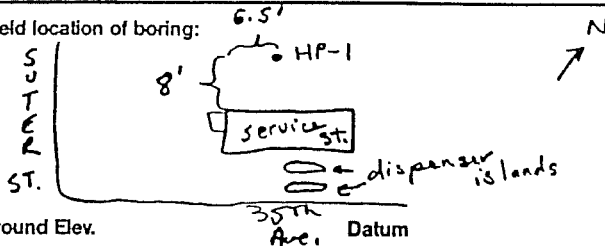


FIELD LOG OF EXPLORATORY BORING

PROJECT No. 0152-044.02 DATE 11/22/94
 CLIENT TOSCO 11132
 LOCATION 3201 35th St., Oakland, CA
 LOGGED BY D. Galasso

BORING No. HP-1
 Sheet 1
 of 2

Field location of boring:



Drilling Co. Precision
 Drill rig model XD 1
 Drilling method CPT
 Hole dia. 2 3/4"

Boring completion data Grouted hole to surface adding asphalt patch to top on boring

Ground Elev. 35th Ave. Datum

Depth	Sampled Interval	Well Detail	Soil/Rock Symbol	Graphic Log	Depth to		DESCRIPTION
					Time	Date	
			As				Asphalt - 4"
1			GF				Gravel (GF) dark gray (2.54, N4/0) 40% coarse (gravel) size sand, 60% fine gravel, damp, no odor (very little to look at)
2							
3							
4			GF				Sandy Gravel (GF) olive brn (2.54, 4/4) 5% low-plasticity fines, 35% fine to coarse sand (1:2:3), 60% fine gravel, damp, no odor (very little to look at)
5							
6							
7							@ light olv. brn (2.54, 5/4) 5% low-plasticity fines, 40% fine to coarse sand (1:2:3), 55% fine to coarse gravel, mineral break-up, damp, no odor
8							
9							
10							
11			sm				Silty / fine Sand light olv. brn (2.54, 5/4) 35% med. fines, 55% fine to coarse sand, 10% fine gravel, mottled gray veining heavy orange mottling, iron + manganese staining, gray mineral weathering, damp, no odor black, red, white minerals
12							@ 20-25% med. fines, 60-65% fine to coarse sand (1:2:3) 15% fine to coarse gravel (1:2) damp, no odor
13							
14							
15							@ 25-30% low-med fines 70-75% fine to coarse sand (1:2:4) damp, no odor
16							
17							
18							
19							@ 15-20% low-med fines, 70-80% fine to coarse sand (1:2:4), 5-10% fine gravel damp, no odor



FIELD LOG OF EXPLORATORY BORING

PROJECT No. 0952-044.02 DATE 11/22/94
 CLIENT TOSCO 11132
 LOCATION 3201 35th St., Oakland, CA
 LOGGED BY D. Galasso

BORING No. MP-1
 Sheet 2
 of 2

Field location of boring:

Drilling Co. Precision
 Drill rig model XD 1
 Drilling method CPT
 Hole dia. 2 3/8

Ground Elev. see pg. 1

Datum

Boring completion data Grouted hole to surface
adding asphalt patch to top of boring

0 ✓ 2	Pocket Penetrometer (TSF)	Blows/6 in. and/or Pressure (PSI)	Type of Sampler	Recovery (ft/ft)	Sample Number and Container Type	Depth	Sampled Interval	Well Detail	Soil/Rock Symbol	Graphic Log	Depth to ▽	Depth to ▼	Time	Time	Date	Date	DESCRIPTION
0.6					20-20.5	20			SM								Silty Sand (SM) continued
						21											
				1/3	22.5-23	22			CL								Clay (CL) olive (54, 5/3) 95% high-plast. frag, 5% fine sand orange mottling, iron-staining, gray veining, damp, no odor
1.3					22.5-23	23											Refusal at 23.0' Boring terminated
						24											
						25											



Appendix D

Historical Soil Data

Table-1
Historical Soil Analytical Results
CA-11132
3201 35th Ave, Oakland, CA

Sample Location	Date	Sample Depth (ft bgs)	Total Hydrocarbon Response (gasoline) (mg/kg)	Total Fuel Hydrocarbons (mg/kg)	GRO (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)
ESLS					83	0.044	2.9	2.9	2.3	0.023
1	4/2/1986	NA	8.0	--	--	--	--	--	--	--
1A	4/2/1986	NA	16	--	--	--	--	--	--	--
2	4/2/1986	NA	3.1	--	--	--	--	--	--	--
3	4/2/1986	NA	210	--	--	--	--	--	--	--
4	4/2/1986	NA	<1	--	--	--	--	--	--	--
5	4/2/1986	NA	<5	--	--	--	--	--	--	--
6	4/2/1986	NA	5.7	--	--	--	--	--	--	--
MW-1	9/10/1986	26.0	--	12.0	--	--	--	--	--	--
MW-2	9/10/1986	16.0/26.0	--	5.7/2.0	--	--	--	--	--	--
MW-3	9/10/1986	16.0	--	<1.0	--	--	--	--	--	--
MW-4	June-July 1990	5	--	--	ND	ND	ND	ND	ND	--
MW-4	June-July 1990	10	--	--	ND	ND	ND	ND	ND	--
MW-4	June-July 1990	15	--	--	ND	ND	ND	ND	ND	--
MW-4	June-July 1990	20	--	--	ND	ND	ND	ND	ND	--
MW-4	June-July 1990	25	--	--	ND	ND	ND	ND	ND	--
RW-1	June-July 1990	5	--	--	ND	ND	ND	ND	ND	--
RW-1	June-July 1990	10	--	--	ND	ND	ND	ND	ND	--
RW-1	June-July 1990	15	--	--	22	0.72	1.6	0.58	2.2	--
RW-1	June-July 1990	20	--	--	41	ND	18	8	40	--
RW-1	June-July 1990	25	--	--	50	1.4	3.3	1	5.4	--
MW-5	June-July 1990	5	--	--	ND	ND	ND	ND	ND	--
MW-5	June-July 1990	10	--	--	9.3	ND	0.019	ND	0.11	--
MW-5	June-July 1990	15	--	--	14	0.16	0.037	0.29	0.42	--
MW-5	June-July 1990	20	--	--	190	1.8	11	2.5	17	--
MW-5	June-July 1990	25	--	--	770	4.8	44	13	94	--
MW-6	June-July 1990	15	--	--	ND	ND	ND	ND	ND	--
MW-6	June-July 1990	20	--	--	ND	ND	ND	ND	ND	--
MW-7	June-July 1990	15	--	--	ND	ND	ND	ND	ND	--

Table-1
Historical Soil Analytical Results
CA-11132
3201 35th Ave, Oakland, CA

Sample Location	Date	Sample Depth (ft bgs)	Total Hydrocarbon Response (gasoline) (mg/kg)	Total Fuel Hydrocarbons (mg/kg)	GRO (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)
D1	8/21 and 8/24/1990	4.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--
D2	8/21 and 8/24/1990	3	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--
D3	8/21 and 8/24/1990	7	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--
PT-1	8/21 and 8/24/1990	3	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--
PT-2	8/21 and 8/24/1990	3	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--
PT-3	8/21 and 8/24/1990	4	--	--	21	0.0099	0.062	0.06	0.038	--
PT-4	8/21 and 8/24/1990	3	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--
Comp-A	8/21 and 8/24/1990	NA	--	--	8	<0.0050	0.019	0.014	0.14	--
Comp-B	8/21 and 8/24/1990	NA	--	--	240	0.06	0.7	0.68	9.5	--
Comp-1	8/21 and 8/24/1990	NA	--	--	6.1	<0.0050	<0.0050	0.006	0.019	--
SB-8/MW-8	March 1991	10.5-11.0	--	--	<1.0	<0.003	0.004	<0.003	<0.003	--
SB-8/MW-8	March 1991	20.5-21.0	--	--	390	1.8	16	6.7	37	--
SB-8/MW-8	March 1991	25.5-26.0	--	--	<1.0	0.013	0.028	0.009	0.05	--
SB-9/MW-9	March 1991	10.5-11.0	--	--	<1.0	<0.003	0.004	<0.003	0.006	--
SB-9/MW-9	March 1991	20.5-21.0	--	--	120	1.7	7.1	1.7	11	--
SB-9/MW-9	March 1991	25.5-26.0	--	--	130	0.47	3.9	1.6	12	--
SB-10/MW-10	March 1991	10.5-11.0	--	--	<1.0	<0.003	0.007	<0.003	0.017	--
SB-10/MW-10	March 1991	20.5-21.0	--	--	73	0.49	3.3	1.3	6.9	--
SB-10/MW-10	March 1991	25.5-26.0	--	--	1	0.41	0.009	0.007	0.019	--
TPH1-S-4-4.5	11/22/1994	4-4.5	--	--	ND	ND	ND	ND	ND	--
UB-1-32	7/22/2004	30	--	--	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
UB-1-32.5	7/22/2004	30.5	--	--	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
UB-3-30	7/22/2004	30	--	--	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
UB-3-30.5	7/22/2004	30.5	--	--	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
UB-4-30	7/21/2004	30	--	--	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	0.0056
UB-4-30.5	7/21/2004	30.5	--	--	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	0.018

Table-1
Historical Soil Analytical Results
CA-11132
3201 35th Ave, Oakland, CA

Sample Location	Date	Sample Depth (ft bgs)	Total Hydrocarbon Response (gasoline) (mg/kg)	Total Fuel Hydrocarbons (mg/kg)	GRO (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)
UB-6-30	7/21/2004	30	--	--	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
UB-6-30.5	7/21/2004	30.5	--	--	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
UB-7-5	4/19/2004	5	--	--	<0.10	<0.0050	<0.0050	<0.0050	0.0055	0.0075
UB-7-15	4/19/2004	15	--	--	6.9	<0.025	<0.025	0.067	0.62	<0.025
UB-7-25	4/19/2004	25	--	--	19	<2.0	<2.0	<2.0	4.2	<2.0
UB-7-35	4/19/2004	35	--	--	<1.0	<0.025	<0.025	<0.025	<0.025	0.036
UB-7-41	4/19/2004	41	--	--	<1.0	0.0093	<0.0050	<0.0050	0.013	0.2
UB-9-5	4/19/2004	5	--	--	<1.0	0<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
UB-9-15	4/19/2004	15	--	--	<1.0	0<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
UB-9-25	4/19/2004	25	--	--	22	0<5.0	<5.0	<5.0	20	<5.0
UB-9-35	4/19/2004	35	--	--	<1.0	0.17	0.014	0.031	0.02	0.061
UB-9-42	4/19/2004	42	--	--	<1.0	0<0.0050	<0.0050	<0.0050	0.011	<0.0050
UB-10-5	4/20/2004	5	--	--	<1.0	0<0.0050	<0.0050	<0.0050	<0.0050	0.0058
UB-10-15	4/20/2004	15	--	--	72	<2.0	<2.0	<2.0	3	<2.0
UB-10-25	4/20/2004	25	--	--	820	<5.0	<5.0	5.7	37	<5.0
UB-10-35	4/20/2004	35	--	--	<1.0	0<0.0050	<0.0050	<0.0050	0.0061	0.016
UB-10-37	4/20/2004	37	--	--	<1.0	0<0.0050	<0.0050	<0.0050	0.0099	0.0062
UB-11-5	4/20/2004	5	--	--	<1.0	0<0.0050	<0.0050	<0.0050	<0.0050	0.0083
UB-11-15	4/20/2004	15	--	--	64	<2.0	<2.0	2.6	13	<2.0
UB-11-25	4/20/2004	25	--	--	<1.0	0<0.0050	<0.0050	<0.0050	<0.0050	0.0093
UB-11-35	4/20/2004	35	--	--	<1.0	0<0.0050	<0.0050	<0.0050	<0.0050	0.054
UB-11-37	4/20/2004	37	--	--	<1.0	0<0.0050	<0.0050	<0.0050	<0.0050	0.034
UB-12-5	4/19/2004	5	--	--	<1.0	0<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
UB-12-10	4/19/2004	10	--	--	<1.0	0<0.0050	<0.0050	<0.0050	0.0072	<0.0050
UB-12-15	4/19/2004	15	--	--	<1.0	0<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
UB-12-24.5	4/19/2004	24.5	--	--	<1.0	0<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
UCPT-1	11/18/2011	9.5	--	--	<210	<0.0043	<0.0043	<0.0043	<0.0086	<0.0043
UCPT-4	11/18/2011	12.5	--	--	<190	<0.0037	<0.0037	<0.0037	<0.0075	<0.0037

Notes:

ft bgs = Feet below ground surface
mg/kg = milligrams per kilogram

Table-1
Historical Soil Analytical Results
CA-11132
3201 35th Ave, Oakland, CA

Sample Location	Date	Sample Depth (ft bgs)	Total Hydrocarbon Response (gasoline) (mg/kg)	Total Fuel Hydrocarbons (mg/kg)	GRO (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)
-----------------	------	-----------------------	---	---------------------------------	-------------	-----------	-----------	-----------	-----------	--------------

B = Benzene

T = Toluene

E = Ethylbenzene

X = Total xylenes

MTBE = Methyl tert-butyl ether

ND = Not detected at method detection limit; detection limit is not available

-- = Not analyzed

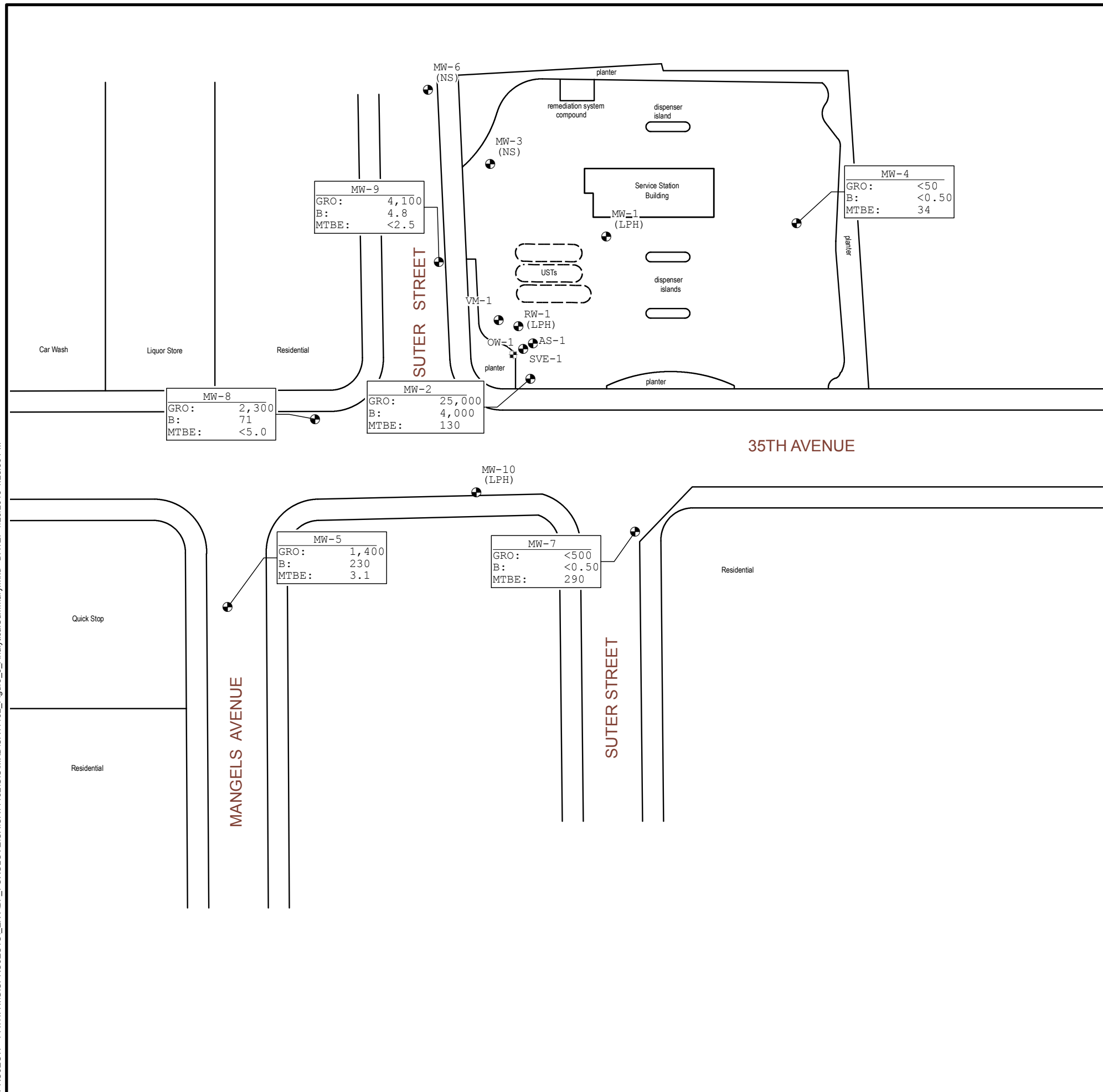
< = Result was not detected above method detection limit; value presented is detection limit

The data within this table collected prior to September 2009 was provided to ARCADIS by BAI and their previous consultants, ARCADIS has not verified the accuracy of this inform
Detections are bolded



Appendix E

Groundwater Data and Figures



LEGEND:

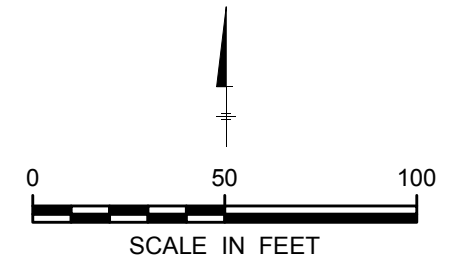
- EXISTING MONITORING WELL
- ⊕ GROUNDWATER RECOVERY WELL

MW-9	SAMPLE LOCATION ID
GRO: 4,100	CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
B: 4.8	
MTBE: <2.5	
	ANALYTE

- GRO GASOLINE RANGE ORGANICS
- B BENZENE
- MTBE METHYL TERT-BUTYL ETHER
- < NOT DETECTED AT OR ABOVE STATED LABORATORY REPORTING LIMIT
- LPH LIQUID PHASE HYDROCARBONS
- NS WELL NOT SAMPLED

NOTES:

1. SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES. SITE DIMENSIONS AND FIGURES FACILITY LOCATIONS NOT VERIFIED.
2. WELL MW-7 AND SUTER STREET LOCATIONS HAVE BEEN CORRECTED FROM PREVIOUS MAPS.



FORMER BP SERVICE STATION #11132
 3201 35TH AVENUE
 OAKLAND, CALIFORNIA

GROUNDWATER ANALYTICAL SUMMARY MAP
 FEBRUARY 4, 2013

ARCADIS

FIGURE 3

Table-2
 Historical Groundwater Monitoring and Analytical Data
 CA-11132
 3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes	
ESLs							100	1	40	30	20	5										
MW-1	3/7/1991		169.75	20.59	--	149.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	4/1/1991		169.75	16.51	0.15	153.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	7/3/1992		169.75	22.30	0.27	147.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	10/5/1992		169.75	23.98	0.24	145.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	1/13/1993		169.75	17.03	0.24	152.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	4/23/1993		169.75	18.10	0.42	151.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	7/12/1993		169.75	22.02	0.49	147.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	10/21/1993		169.75	25.12	1.09	143.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	1/21/1994		169.75	23.02	0.76	145.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	4/20/1994		169.75	24.54	1.8	143.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	8/1/1994		169.75	24.11	0.35	145.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	12/23/1994		169.75	18.19	--	151.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	1/26/1995		169.75	16.25	1.1	152.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	6/8/1995		169.75	22.92	--	146.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	8/22/1995		169.75	24.45	0.85	144.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	10/27/1995		169.75	25.41	--	143.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	1/25/1996		169.75	18.20	--	151.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	4/19/1996		169.75	19.06	1.22	149.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	7/23/1996		169.75	22.98	0.89	145.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	11/11/1996		169.75	23.99	0.89	144.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	1/21/1997		169.75	16.80	0.9	152.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	4/29/1997		169.75	21.90	0.85	147.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	4/30/1997		--	--	--	--	100,000	3,600	8,000	4,000	21,300	7,700	--	--	--	--	--	--	--	--	5.2	
MW-1	4/30/1997	Dup	--	--	--	--	92,000	3,500	8,100	4,400	23,800	6,900	--	--	--	--	--	--	--	--	--	(Dup)
MW-1	8/21/1997		169.75	23.40	--	146.35	140,000	3,000	8,500	3,900	22,100	5,700	--	--	--	--	--	--	--	--	5.3	
MW-1	8/21/1997	Dup	169.75	23.40	--	146.35	120,000	3,200	8,100	3,800	19,600	5,200	--	--	--	--	--	--	--	--	--	(Dup)
MW-1	11/5/1997		169.75	23.70	--	145.51	68,000	6,200	4,400	3,300	14,300	8,000	--	--	--	--	--	--	--	--	4.7	
MW-1	11/5/1997	Dup	169.75	23.70	--	145.51	88,000	7,300	4,800	3,600	16,900	8,200	--	--	--	--	--	--	--	--	--	(Dup)
MW-1	2/3/1998		169.75	13.63	0.32	155.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	2/4/1998		--	--	--	--	190,000	2,200	10,000	5,600	32,000	<10,000	--	--	--	--	--	--	--	--	5.3	
MW-1	2/4/1998	Dup	--	--	--	--	160,000	2,300	8,400	5,000	29,400	<10,000	--	--	--	--	--	--	--	--	--	(Dup)
MW-1	5/28/1998		169.75	18.03	0.17	151.55	87,000	980	3,900	3,600	19,000	2,900	--	--	--	--	--	--	--	--	3.8	
MW-1	12/30/1998		169.75	19.50	0.08	150.17	70,000	530	3,200	2,900	16,000	3,600	--	--	--	--	--	--	--	--	--	
MW-1	2/2/1999		169.75	18.93	0.03	150.79	79,000	480	3,100	3,500	21,000	3,500	--	--	--	--	--	--	--	--	--	
MW-1	5/10/1999		169.75	18.28	0.03	151.44	110,000	160	1,900	3,700	24,000	3,000	--	--	--	--	--	--	--	--	--	
MW-1	8/24/1999		169.75	20.13	0.06	149.56	110,000	850	1,300	1,900	19,000	<50	--	--	--	--	--	--	--	--	--	
MW-1	11/3/1999		169.75	22.27	0.36	147.12	65,000	6,300	1,100	3,300	9,500	8,900	--	--	--	--	--	--	--	--	--	
MW-1	3/1/2000		169.75	14.79	0.23	154.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	4/21/2000		169.75	18.10	0.33	151.32	61,000	330	780	2,700	17,000	1,300	--	--	--	--	--	--	--	--	--	
MW-1	7/31/2000		169.75	21.60	0.53	147.62	1,500,000	340	2,100	24,000	120,000	2,700	--	--	--	--	--	--	--	--	--	
MW-1	11/20/2000		169.75	21.69	0.37	147.69	1,700,000	1,800	2,300	19,000	93,000	3,900	--	--	--	--	--	--	--	--	--	
MW-1	2/18/2001		169.75	16.70	0.13	152.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	2/26/2001		169.75	14.38	0.15	155.22	100,000	658	466	4,210	15,000	1,890	--	--	--	--	--	--	--	--	--	
MW-1	6/7/2001		169.75	20.78	--	148.97	70,000	705	440	3,870	12,200	2,720	--	--	--	--	--	--	--	--	--	
MW-1	9/5/2001		169.75	23.36	0.35	146.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	11/30/2001		169.75	20.85	0.41	148.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	12/6/2001		169.75	18.72	0.27	150.76	39,000	3,500	237	2,150	4,500	5,400	--	--	--	--	--	--	--	--	--	
MW-1	2/20/2002		169.75	17.43	0.15	152.17	52,000	465	271	1,600	11,400	106	--	--	--	--	--	--	--	--	--	
MW-1	6/20/2002		169.75	21.18	0.34	148.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	9/11/2002		169.75	22.86	0.4	146.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	11/12/2002		169.75	22.65	0.37	146.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	1/29/2003		169.75	18.15	0.3	151.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	5/22/2003		169.75	18.49	0.2	151.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	6/24/2003		169.75	21.44	0.35	147.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	7/28/2003		169.75	22.72	0.35	146.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	8/12/2003		169.75	22.64	0.23	146.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	9/12/2003		169.75	20.70	0.24	148.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table-2
Historical Groundwater Monitoring and Analytical Data
CA-11132
3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
MW-1	11/18/2003		169.75	21.70	0.25	148.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	2/23/2004		169.75	16.34	0.09	153.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	5/4/2004		169.75	21.28	0.16	148.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	8/4/2004		169.75	22.54	0.1	147.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	9/22/2004		169.75	22.76	0.2	147.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	11/10/2004		169.75	20.19	0.14	149.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	1/13/2005		169.75	14.58	0.03	155.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	2/15/2005		169.75	16.13	0.04	153.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	3/7/2005		169.75	13.31	0.01	156.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	5/16/2005		169.75	15.74	0.02	154.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	8/17/2005		169.75	21.15	0.08	148.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	11/18/2005		169.75	20.15	--	149.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	2/7/2006		169.75	15.19	0.01	154.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	5/19/2006		169.75	17.42	--	152.33	44,000	73	510	3,300	5,300	86	<400	<10	<10	<10	<10	<6,000	<10	<10	--
MW-1	8/23/2006		169.75	22.01	0.14	147.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	11/15/2006		169.75	21.98	0.18	147.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	2/14/2007		169.75	17.12	0.17	152.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	5/22/2007		169.75	19.49	0.01	150.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	8/15/2007		169.75	22.24	0.01	147.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	11/8/2007		169.75	21.84	0.01	147.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	2/20/2008		169.75	16.52	0.02	153.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	5/7/2008		169.75	20.91	0.02	148.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	8/20/2008		169.75	22.77	0.02	146.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	11/17/2008		169.75	22.05	--	147.70	27,000	780	30	1,800	1,400	590	350	<10	<10	27	<6,000	<10	<10	--	--
MW-1	2/25/2009		169.75	15.28	0.02	154.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	4/8/2009		169.75	18.18	--	151.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	5/28/2009		169.75	19.62	0.01	150.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	6/16/2009		169.75	20.94	0.01	148.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	8/6/2009		169.75	22.31	0.01	147.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	3/4/2010		169.75	14.27	--	155.48	14,000	45	<10	610	390	<10	<80	<10	<10	<10	<2,000	<10	<10	0.54	(P)
MW-1	9/2/2010		169.75	22.32	--	147.43	8,200	10	<5.0	230	140	<5.0	<40	<5.0	<5.0	<5.0	<1,000	<5	<5	--	(NP)
MW-1	3/15/2011		169.75	14.99	--	154.76	4,500	<5.0	<5.0	56	30	16	<40	<5.0	<5.0	<5.0	<2,500	<5	<5	--	(P,t)
MW-1	8/17/2011		169.75	20.41	--	149.34	1,200	<1.0	<1.0	24	15	8.3	<8.0	<1.0	<1.0	<1.0	<500	<1	<1	--	(P)
MW-1	2/6/2012		169.75	18.69	--	151.06	710	<1.0	<1.0	2.9	2.2	10	100	<1.0	<1.0	<1.0	<500	<1*	<1	--	(P)
MW-1	8/21/2012		169.75	21.77	--	147.98	5,000	230	7.3	230	68	77	<20	<2.5	<2.5	4.3	<1,300	<2.5	<2.5	--	--
MW-1	2/4/2013		169.75	18.36	(sheen)	151.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	3/7/1991		168.14	19.18	--	148.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	4/1/1991		168.14	15.21	--	152.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	7/3/1992		168.14	20.93	--	147.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	10/5/1992		168.14	22.74	--	145.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	1/13/1993		168.14	15.55	--	152.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	4/23/1993		168.14	16.54	--	151.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	7/12/1993		168.14	20.46	--	147.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	10/21/1993		168.14	24.91	--	143.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	1/21/1994		168.14	21.20	--	146.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	4/20/1994		168.14	22.44	--	145.70	1,800	140	370	54	290	24	--	--	--	--	--	--	--	--	1.7
MW-2	8/1/1994		168.14	22.24	--	145.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	12/23/1994		168.14	16.25	--	151.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	1/26/1995		168.14	14.55	--	153.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	6/8/1995		168.14	21.18	--	146.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	8/22/1995		168.14	22.76	--	145.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	10/27/1995		168.14	23.61	--	144.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	1/25/1996		168.14	15.95	--	152.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	4/19/1996		168.14	17.33	--	150.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	7/23/1996		168.14	21.25	--	146.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	11/11/1996		168.14	22.27	--	145.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	1/21/1997		168.14	15.19	--	152.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table-2
 Historical Groundwater Monitoring and Analytical Data
 CA-11132
 3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes	
MW-2	4/29/1997		168.14	20.22	--	147.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	4/30/1997		--	--	--	--	130,000	4,600	15,000	6,000	37,000	<5,000	--	--	--	--	--	--	--	5		
MW-2	8/21/1997		168.14	21.74	--	146.40	110,000	6,000	16,000	4,700	28,000	<500	--	--	--	--	--	--	--	4.6		
MW-2	11/5/1997		168.14	21.61	--	146.53	120,000	7,800	18,000	4,900	28,100	<2,500	--	--	--	--	--	--	--	4.6		
MW-2	2/3/1998		168.14	11.51	--	156.63	75,000	590	1,500	1,800	12,800	<2,500	--	--	--	--	--	--	--	4.5		
MW-2	5/28/1998		168.14	16.51	--	151.63	79,000	3,900	3,100	3,100	18,000	900	--	--	--	--	--	--	--	4.3		
MW-2	12/30/1998		168.14	17.70	--	150.44	95,000	4,700	3,500	3,700	21,000	<250	--	--	--	--	--	--	--	--		
MW-2	2/2/1999		168.14	15.46	--	152.68	170,000	3,500	1,500	5,200	34,000	<500	--	--	--	--	--	--	--	--		
MW-2	5/10/1999		168.14	16.52	--	151.62	84,000	3,200	3,200	3,700	20,000	75	--	--	--	--	--	--	--	--		
MW-2	8/24/1999		168.14	20.73	--	147.41	130,000	9,100	9,200	4,700	27,000	<250	--	--	--	--	--	--	--	--		
MW-2	11/3/1999		168.14	20.93	--	147.21	120,000	10,000	21,000	4,700	30,200	2,200	--	--	--	--	--	--	--	--		
MW-2	3/1/2000		168.14	13.37	--	154.77	39,000	1,400	1,500	1,700	8,100	44	--	--	--	--	--	--	--	--		
MW-2	4/21/2000		168.14	16.59	--	151.55	68,000	3,300	2,500	3,100	20,000	260	--	--	--	--	--	--	--	--		
MW-2	7/31/2000		168.14	16.37	--	151.77	99,000	5,600	1,400	4,300	22,000	490	--	--	--	--	--	--	--	--		
MW-2	11/20/2000		168.14	19.71	--	148.43	37,000	5,100	1,500	1,300	4,800	2,800	--	--	--	--	--	--	--	--		
MW-2	2/18/2001		168.14	15.29	--	152.85	54,000	5,020	3,880	2,850	15,400	1,010	--	--	--	--	--	--	--	--		
MW-2	6/7/2001		168.14	19.43	--	148.71	110,000	7,240	4,380	4,160	22,100	567	--	--	--	--	--	--	--	--		
MW-2	9/5/2001		168.14	22.44	--	145.70	69,000	5,750	5,790	2,770	14,200	1,510	--	--	--	--	--	--	--	--		
MW-2	11/30/2001		168.14	19.58	--	148.56	120,000	7,270	6,540	4,590	23,000	794	--	--	--	--	--	--	--	--		
MW-2	2/20/2002		168.14	16.39	--	151.75	56,000	2,410	2,270	2,910	14,300	160	--	--	--	--	--	--	--	--		
MW-2	6/20/2002		168.14	19.77	--	148.37	86,000	7,310	6,490	3,080	14,600	659	--	--	--	--	--	--	--	--		
MW-2	9/11/2002		168.14	21.60	--	146.54	130,000	7,600	13,000	5,400	30,000	<5,000	--	--	--	--	--	--	--	--		
MW-2	11/12/2002		168.14	21.34	--	146.80	46,000	4,100	4,300	1,900	10,000	1,900	--	--	--	--	--	--	--	--		
MW-2	1/29/2003		168.14	16.80	--	151.34	77,000	4,700	2,600	2,800	13,000	820	<2,000	<50	<50	<50	<4,000	<50	<50	--		
MW-2	5/22/2003		168.14	17.15	--	150.99	52,000	6,400	2,600	1,800	7,400	1,000	<2,000	<50	<50	<50	<10,000	--	--	--		
MW-2	7/28/2003		168.14	21.47	--	146.67	31,000	6,900	5,500	2,200	12,000	1,700	<4,000	<100	<100	<100	<20,000	<100	<100	--		
MW-2	11/18/2003		168.14	20.50	--	147.64	23,000	3,300	800	500	2,000	500	<1,000	<25	<25	<25	<5,000	--	--	--		
MW-2	2/23/2004		168.14	14.77	--	153.37	84,000	14,000	6,200	3,100	14,000	790	<5,000	<120	<120	<120	<25,000	<120	<120	--		
MW-2	5/4/2004		168.14	20.09	--	148.05	120,000	15,000	17,000	4,900	24,000	780	<10,000	<250	<250	<250	<50,000	<250	<250	--		
MW-2	8/4/2004		168.14	21.39	--	146.75	38,000	9,100	3,300	1,900	5,800	430	<10,000	<250	<250	<250	<50,000	<250	<250	--		
MW-2	11/10/2004		168.14	18.98	--	149.16	22,000	4,400	2,000	940	3,600	310	<1,000	<25	<25	<25	<5,000	<25	<25	--		
MW-2	2/15/2005		168.14	15.62	--	152.52	67,000	11,000	4,200	3,000	11,000	690	<4,000	<100	<100	<100	<20,000	<100	<100	--		
MW-2	5/16/2005		168.14	14.71	--	153.43	94,000	11,000	7,600	4,100	17,000	560	<10,000	<250	<250	<250	<50,000	<250	<250	--		
MW-2	8/17/2005		168.14	20.00	--	148.14	110,000	13,000	8,000	4,300	18,000	480	<4,000	<100	<100	<100	<20,000	<100	<100	--		
MW-2	11/18/2005		168.14	20.89	--	147.25	37,000	11,000	2,400	1,500	4,600	340	<4,000	<100	<100	<100	<20,000	<100	<100	--		
MW-2	2/7/2006		168.14	13.31	--	154.83	74,000	8,900	5,800	3,600	14,000	440	<4,000	<100	<100	<100	<60,000	<100	160	--		
MW-2	5/19/2006		168.14	16.30	--	151.84	78,000	11,000	3,700	4,500	14,000	430	<4,000	<100	<100	<100	<60,000	<100	<100	--		
MW-2	8/23/2006		168.14	20.83	--	147.31	100,000	12,000	9,100	5,800	25,000	480	<4,000	<100	<100	<100	<60,000	<100	<100	--		
MW-2	11/15/2006		168.14	20.80	--	147.34	46,000	8,800	3,600	2,300	8,500	400	<4,000	<100	<100	<100	<60,000	<100	<100	0.7		
MW-2	2/14/2007		168.14	15.96	(Sheen)	152.18	100,000	13,000	3,600	6,200	26,000	810	<4,000	<100	<100	<100	<60,000	<100	<100	1.43		
MW-2	5/22/2007		168.14	18.20	--	149.94	91,000	15,000	8,700	4,700	20,000	1,000	<10,000	<250	<250	<250	<150,000	<250	<250	0.08		
MW-2	8/15/2007		168.14	21.23	(Sheen)	146.91	14,000	7,300	130	280	600	260	2,400	<50	<50	<50	<30,000	<50	<50	4.24		
MW-2	11/8/2007		168.14	20.32	--	147.82	22,000	7,400	420	640	1,700	240	2,800	<50	<50	<50	<30,000	<50	<50	1.21		
MW-2	2/20/2008		168.14	15.20	0.06	152.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
MW-2	5/7/2008		168.14	19.80	0.04	148.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
MW-2	8/20/2008		168.14	21.70	0.01	146.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
MW-2	11/17/2008		168.14	20.73	--	147.41	45,000	8,400	700	1,500	5,600	320	1,800	<10	<10	<10	<6,000	<10	<10	--		
MW-2	2/25/2009		168.14	14.15	--	153.99	18,000	5,200	<250	380	1,400	<250	<5,000	<250	<250	<250	<150,000	<250	<250	2.11		
MW-2	4/8/2009		168.14	17.00	--	151.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
MW-2	5/28/2009		168.14	18.43	(Sheen)	149.71	37,000	5,300	1,600	1,400	5,600	510	<2,500	<120	<120	<120	<75,000	<120	<120	0.16		
MW-2	6/16/2009		168.14	19.80	0.01	148.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
MW-2	8/6/2009		168.14	21.17	0.01	146.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
MW-2	3/4/2010		168.14	13.03	--	155.11	18,000	9,500	270	510	1,400	350	2,600	<5.0	<5.0	12	<1,000	<5	<5	1.28	(P)	
MW-2	9/2/2010		168.14	20.62	--	147.52	58,000	11,000	3,600	3,900	16,000	470	<80	<10	<10	14	<2,000	<10	<10	--	(NP, y)	
MW-2	3/15/2011		168.14	13.70	--	154.44	63,000	12,000	2,900	4,100	15,000	500	<800	<100	<100	<100	<50,000	<100	<100	--	(P)	
MW-2	8/17/2011		168.14	19.31	--	148.83	23,000	4,900	620	1,500	4,400	150	<800	<100	<100	<100	<50,000	<100	<100	--	(P)	
MW-2	2/6/2012		168.14	17.49	--	150.65	26,000	6,400	200	1,700	3,400	360	<800	<100	<100	<100	<50,000	<100*	<100	--	(P)	
MW-2	8/21/2012		168.14	20.66	--	147.48	20,000	4,900	440	1,400	2,400	220	<800	<100	<100	<100	<50,000	<100	<100	--		

Table-2
Historical Groundwater Monitoring and Analytical Data
CA-11132
3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
MW-2	2/4/2013		168.14	17.24	--	150.90	25,000	4,000	1,700	1,600	5,300	130	<800	<100	<100	<100	<50,000	<100	<100	--	
MW-3	7/9/1990		--	--	--	--	140	5.3	4.6	2	3.8	--	--	--	--	--	--	--	--	--	
MW-3	12/21/1990		--	--	--	--	0.19	100	6	0.9	27	--	--	--	--	--	--	--	--	--	
MW-3	3/7/1991		167.17	17.40	--	149.77	0.4	69	22	6.1	57	--	--	--	--	--	--	--	--	--	
MW-3	4/1/1991		167.17	13.69	--	153.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	6/27/1991		--	--	--	--	380	28	26	13	46	--	--	--	--	--	--	--	--	--	
MW-3	9/27/1991		--	--	--	--	0.07	7.9	--	0.4	1.1	--	--	--	--	--	--	--	--	--	
MW-3	12/18/1991		--	--	--	--	0.26	34	24	0.8	28	--	--	--	--	--	--	--	--	--	
MW-3	7/3/1992		167.17	19.59	--	147.58	71	9.4	0.9	5	13	--	--	--	--	--	--	--	--	--	
MW-3	10/5/1992		167.17	21.22	--	145.95	67	5.1	1.1	6.1	8.1	--	--	--	--	--	--	--	--	--	
MW-3	10/5/1992	Dup	167.17	21.22	--	145.95	<50	2.2	<0.5	1.5	2.8	--	--	--	--	--	--	--	--	--	(Dup)
MW-3	1/13/1993		167.17	13.63	--	153.54	830	50	34	42	89	--	--	--	--	--	--	--	--	--	
MW-3	4/23/1993		167.17	15.02	--	152.15	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	
MW-3	4/23/1993	Dup	167.17	15.02	--	152.15	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	(Dup)
MW-3	7/12/1993		167.17	19.16	--	148.01	250	12	4.2	12	16	<5.0	--	--	--	--	--	--	--	--	
MW-3	10/21/1993		167.17	21.81	--	145.36	52	4.4	1.4	4.7	3.3	<5.0	--	--	--	--	--	--	--	--	
MW-3	10/21/1993	Dup	167.17	21.81	--	145.36	65	7.4	1	6.9	4.2	--	--	--	--	--	--	--	--	--	(Dup)
MW-3	1/21/1994		167.17	19.94	--	147.23	57	3	3.4	3.6	9	<5.0	--	--	--	--	--	--	--	--	
MW-3	4/20/1994		167.17	20.24	--	146.93	600	26	23	33	88	28.7	--	--	--	--	--	--	--	1.8	
MW-3	8/1/1994		167.17	20.74	--	146.43	99	6.2	1.1	4.5	5.2	<5.0	--	--	--	--	--	--	--	1.4	
MW-3	8/1/1994	Dup	167.17	20.74	--	146.43	120	7.7	1.6	5.9	6.7	5.43	--	--	--	--	--	--	--	--	(Dup)
MW-3	12/23/1994		167.17	14.70	--	152.47	<50	<0.5	0.78	<0.5	<0.5	9.8	--	--	--	--	--	--	--	1.7	
MW-3	12/23/1994	Dup	167.17	14.70	--	152.47	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	(Dup)
MW-3	1/26/1995		167.17	12.89	--	154.28	190	16	0.5	35	24	--	--	--	--	--	--	--	--	6.6	
MW-3	6/8/1995		167.17	19.95	--	147.22	330	21	4	34	32	--	--	--	--	--	--	--	--	7	
MW-3	8/22/1995		167.17	21.41	--	145.76	150	14	<0.50	<0.50	1.6	<5.0	--	--	--	--	--	--	--	6.6	
MW-3	10/27/1995		167.17	22.43	--	144.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	10/30/1995		--	--	--	--	51	2.4	<0.50	<0.50	<1.0	<5.0	--	--	--	--	--	--	--	6.9	
MW-3	1/25/1996		167.17	14.03	--	153.14	<50	<0.50	<0.50	<0.50	<1.0	5.1	--	--	--	--	--	--	--	--	
MW-3	4/19/1996		167.17	15.26	--	151.91	460	55	4	33	63	<10	--	--	--	--	--	--	--	9.4	
MW-3	7/23/1996		167.17	19.19	--	147.98	<50	<0.5	<0.5	<0.5	<0.5	<10	--	--	--	--	--	--	--	9.2	
MW-3	11/11/1996		167.17	20.24	--	146.93	<250	<2.5	<5.0	<5.0	<5.0	<50	--	--	--	--	--	--	--	8.4	
MW-3	1/21/1997		167.17	13.09	--	154.08	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	5.4	
MW-3	4/29/1997		167.17	18.14	--	149.03	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	4.3	
MW-3	8/21/1997		167.17	19.64	--	147.53	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	4.9	
MW-3	11/5/1997		167.17	19.95	--	147.22	<250	<2.5	<5.0	<5.0	<5.0	<50	--	--	--	--	--	--	--	4.5	
MW-3	2/3/1998		167.17	10.57	--	156.60	<50	<0.50	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	4.7	
MW-3	5/28/1998		167.17	14.65	--	152.52	330	<2.5	<5.0	<5.0	<5.0	<50	--	--	--	--	--	--	--	4.2	
MW-3	12/30/1998		167.17	16.63	--	150.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	2/2/1999		167.17	13.12	--	154.05	<250	<5.0	<5.0	<5.0	<5.0	<50	--	--	--	--	--	--	--	--	
MW-3	5/10/1999		167.17	14.21	--	152.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	8/24/1999		167.17	14.36	--	152.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	11/3/1999		167.17	19.21	--	147.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	3/1/2000		167.17	15.17	--	152.00	<50	<0.5	0.57	<0.5	0.62	<0.5	--	--	--	--	--	--	--	--	
MW-3	4/21/2000		167.17	14.88	--	152.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	7/31/2000		167.17	15.29	--	151.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	11/20/2000		167.17	17.31	--	149.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	2/18/2001		167.17	12.85	--	154.32	160	1.95	1.31	10.2	9.09	1	--	--	--	--	--	--	--	--	
MW-3	6/7/2001		167.17	18.00	--	149.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	9/5/2001		167.17	20.32	--	146.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	11/30/2001		167.17	16.94	--	150.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	2/20/2002		167.17	14.84	--	152.33	86	<0.5	0.845	6.58	5.75	<0.5	--	--	--	--	--	--	--	--	
MW-3	6/20/2002		167.17	18.40	--	148.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	9/11/2002		167.17	20.06	--	147.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	11/12/2002		167.17	19.84	--	147.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	1/27/2003		167.17	14.83	--	152.34	850	20	9.7	24	45	0.76	--	--	--	--	--	--	--	--	
MW-3	1/29/2003		--	--	--	--	--	--	--	--	--	0.76	<20	<50	<50	<50	<40	<50	<50	--	

Table-2
Historical Groundwater Monitoring and Analytical Data
CA-11132
3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
MW-3	5/22/2003		167.17	15.60	--	151.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	7/28/2003		167.17	20.12	--	147.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	11/18/2003		167.17	19.15	--	148.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	2/23/2004		167.17	13.53	--	153.64	160	<0.50	1.1	9.6	12	<0.50	<20	<0.50	<0.50	<0.50	<100	<0.5	<0.5	--	
MW-3	5/4/2004		167.17	18.61	--	148.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	8/4/2004		167.17	19.21	--	147.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	11/10/2004		167.17	17.48	--	149.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	2/15/2005		167.17	14.31	--	152.86	500	7.8	1.8	9.2	9.6	1.7	<20	<0.50	<0.50	<0.50	<100	<0.5	<0.5	--	
MW-3	5/16/2005		167.17	13.11	--	154.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	8/17/2005		167.17	18.53	--	148.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	11/18/2005		167.17	19.34	--	147.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	2/7/2006		167.17	11.64	--	155.53	65	<0.50	<0.50	1.4	2.3	<0.50	<20	<0.50	<0.50	<0.50	<300	<0.5	<0.5	--	
MW-3	5/19/2006		167.17	14.88	--	152.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	8/23/2006		167.17	19.43	--	147.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	11/15/2006		167.17	19.22	--	147.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	2/14/2007		167.17	13.80	--	153.37	200	1.1	<0.50	5.9	3.2	3.8	<20	<0.50	<0.50	<0.50	<300	<0.5	<0.5	0.68	
MW-3	5/22/2007		167.17	16.80	--	150.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	8/15/2007		167.17	19.87	--	147.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	11/8/2007		167.17	19.27	--	147.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	2/20/2008		167.17	13.58	--	153.59	240	1.1	<0.50	0.99	0.79	2.3	<10	<0.50	<0.50	<0.50	<100	<0.5	<0.5	2.58	
MW-3	5/7/2008		167.17	18.32	--	148.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	8/20/2008		167.17	20.29	--	146.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	11/17/2008		167.17	19.35	--	147.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	2/25/2009		167.17	11.77	--	155.40	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.5	<0.5	3.45	
MW-3	5/28/2009		167.17	17.02	--	150.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	8/6/2009		167.17	19.87	--	147.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/4/2010		167.17	10.79	--	156.38	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<4.0	<0.50	<0.50	<0.50	<100	<0.5	<0.5	3.16	(P)
MW-3	9/2/2010		167.17	19.32	--	147.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/15/2011		167.17	11.77	--	155.40	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<4.0	<0.50	<0.50	<0.50	<250	<0.5	<0.5	--	(P)
MW-3	8/17/2011		167.17	17.98	--	149.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	2/6/2012		167.17	15.92	--	151.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	8/21/2012		167.17	19.42	--	147.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(slight odor)
MW-3	2/4/2013		167.17	15.75	--	151.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	12/21/1990		--	--	--	--	--	--	--	--	0.8	--	--	--	--	--	--	--	--	--	--
MW-4	3/7/1991		170.36	20.72	--	149.64	--	2.2	3.8	1.5	2.8	--	--	--	--	--	--	--	--	--	--
MW-4	4/1/1991		170.36	17.49	--	152.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	6/27/1991		--	--	--	--	--	6.3	1.8	0.4	1	--	--	--	--	--	--	--	--	--	--
MW-4	7/3/1992		170.36	22.16	--	148.20	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--
MW-4	10/5/1992		170.36	23.38	--	146.98	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--
MW-4	1/13/1993		170.36	17.58	--	152.78	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--
MW-4	4/23/1993		170.36	15.72	--	154.64	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--
MW-4	7/12/1993		170.36	21.74	--	148.62	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--
MW-4	10/21/1993		170.36	23.84	--	146.52	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--
MW-4	1/21/1994		170.36	22.42	--	147.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--
MW-4	4/20/1994		170.36	22.66	--	147.70	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	2.2	--
MW-4	8/1/1994		170.36	23.01	--	147.35	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	1.9	--
MW-4	12/23/1994		170.36	17.03	--	153.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	1/26/1995		170.36	17.42	--	152.94	<50	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	--	--	--	7.5	--
MW-4	6/8/1995		170.36	21.55	--	148.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	8/22/1995		170.36	23.47	--	146.89	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	--	--	--	--	--	--	6.4	--
MW-4	10/27/1995		170.36	24.50	--	145.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	1/25/1996		170.36	18.74	--	151.62	<50	<0.50	<0.50	<0.50	<1.0	58	--	--	--	--	--	--	--	--	--
MW-4	4/19/1996		170.36	18.63	--	151.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	7/23/1996		170.36	22.56	--	147.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	11/11/1996		170.36	23.63	--	146.73	<50	<1.0	<1.0	<1.0	<1.0	34	--	--	--	--	--	--	--	8.2	--
MW-4	1/21/1997		170.36	16.59	--	153.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	4/29/1997		170.36	21.43	--	148.93	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	4.7	--

Table-2
Historical Groundwater Monitoring and Analytical Data
CA-11132
3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes	
MW-4	8/21/1997		170.36	22.91	--	147.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	11/5/1997		170.36	22.34	--	148.02	60	<0.5	<1.0	<1.0	<1.0	76	--	--	--	--	--	--	--	--	4.9	
MW-4	2/3/1998		170.36	12.26	--	158.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	5/28/1998		170.36	18.50	--	151.86	70	<0.5	<1.0	<1.0	<1.0	160	--	--	--	--	--	--	--	--	4.2	
MW-4	12/30/1998		170.36	19.69	--	150.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	2/2/1999		170.36	18.26	--	152.10	70	<1.0	<1.0	<1.0	<1.0	130	--	--	--	--	--	--	--	--	--	
MW-4	5/10/1999		170.36	17.86	--	152.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	8/24/1999		170.36	17.93	--	152.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	11/3/1999		170.36	22.78	--	147.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	3/1/2000		170.36	18.04	--	152.32	<50	<0.5	0.67	<0.5	0.7	110	--	--	--	--	--	--	--	--	--	
MW-4	4/21/2000		170.36	17.36	--	153.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	7/31/2000		170.36	17.83	--	152.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	11/20/2000		170.36	18.91	--	151.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	2/18/2001		170.36	17.72	--	152.64	88	<0.5	<0.5	<0.5	<0.5	97.3	--	--	--	--	--	--	--	--	--	
MW-4	6/7/2001		170.36	20.23	--	150.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	9/5/2001		170.36	22.76	--	147.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	11/30/2001		170.36	21.30	--	149.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	2/20/2002		170.36	19.32	--	151.04	76	<0.5	<0.5	<0.5	<1.0	81	--	--	--	--	--	--	--	--	--	
MW-4	6/20/2002		170.36	20.71	--	149.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	9/11/2002		170.36	22.22	--	148.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	11/12/2002		170.36	22.22	--	148.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	1/29/2003		170.36	19.80	--	150.56	100	<0.5	<0.5	<0.5	<0.5	66	<20	<0.50	<0.50	<0.50	<40	<0.5	<0.5	--	--	
MW-4	5/22/2003		170.36	19.35	--	151.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	7/28/2003		170.36	22.18	--	148.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	11/18/2003		170.36	21.65	--	148.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	2/23/2004		170.36	17.53	--	152.83	75	<0.50	<0.50	<0.50	<0.50	65	<20	<0.50	<0.50	<0.50	<100	<0.5	<0.5	--	--	
MW-4	5/4/2004		170.36	20.62	--	149.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	8/4/2004		170.36	21.30	--	149.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	11/10/2004		170.36	20.65	--	149.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	2/15/2005		170.36	18.91	--	151.45	<50	<0.50	<0.50	<0.50	<0.50	62	<20	<0.50	<0.50	<0.50	<100	<0.5	<0.5	--	--	
MW-4	5/16/2005		170.36	17.34	--	153.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	8/17/2005		170.36	21.31	--	149.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	11/18/2005		170.36	21.67	--	148.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	2/7/2006		170.36	16.74	--	153.62	100	<0.50	<0.50	1	3	29	<20	<0.50	<0.50	<0.50	<300	<0.5	<0.5	--	--	
MW-4	5/19/2006		170.36	18.22	--	152.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	8/23/2006		170.36	20.95	--	149.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	11/15/2006		170.36	22.21	--	148.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	2/14/2007		170.36	18.25	--	152.11	<50	<0.50	<0.50	<0.50	<0.50	61	<20	<0.50	<0.50	<0.50	<300	<0.5	<0.5	0.95		
MW-4	5/22/2007		170.36	20.16	--	150.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	8/15/2007		170.36	22.34	--	148.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	11/8/2007		170.36	21.86	--	148.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	2/20/2008		170.36	17.74	--	152.62	<50	<0.50	<0.50	<0.50	<0.50	36	<10	<0.50	<0.50	<0.50	<100	<0.5	<0.5	2.13		
MW-4	5/7/2008		170.36	21.38	--	148.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	8/20/2008		170.36	22.44	--	147.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	11/17/2008		170.36	22.20	--	148.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	2/25/2009		170.36	16.81	--	153.55	<50	<0.50	<0.50	<0.50	<0.50	26	<10	<0.50	<0.50	<0.50	<300	<0.5	<0.5	2.8		
MW-4	5/28/2009		170.36	20.37	--	149.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	8/6/2009		170.36	22.46	--	147.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	3/4/2010		170.36	17.11	--	153.25	<50	<0.50	<0.50	<0.50	<1.0	34	4.4	<0.50	<0.50	<0.50	<100	<0.5	<0.5	0.63	(P)	
MW-4	9/2/2010		170.36	20.63	--	149.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	3/15/2011		170.36	16.47	--	153.89	<50	<0.50	<0.50	<0.50	<1.0	26	4.1	<0.50	<0.50	<0.50	<250	<0.5	<0.5	--	(P)	
MW-4	8/17/2011		170.36	20.94	--	149.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	2/6/2012		170.36	19.65	--	150.71	<50	<0.50	<0.50	<0.50	<1.0	32	<4.0	<0.50	<0.50	<0.50	<250	<0.5*	<0.5	--	(P)	
MW-4	8/21/2012		170.36	22.00	--	148.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	2/4/2013		170.36	19.43	--	150.93	<50	<0.50	<0.50	<0.50	<1.0	34	<4.0	<0.50	<0.50	<0.50	<250	<0.5	<0.5	--	--	
MW-5	7/9/1990		--	--	--	--	280	200	210	46	290	--	--	--	--	--	--	--	--	--	--	
MW-5	12/21/1990		--	--	--	--	0.69	300	34	8.4	39	--	--	--	--	--	--	--	--	--	--	

Table-2
Historical Groundwater Monitoring and Analytical Data
 CA-11132
 3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
MW-5	3/7/1991		165.14	16.60	--	148.54	--	17	0.9	0.7	1.6	--	--	--	--	--	--	--	--	--	--
MW-5	4/1/1991		165.14	11.99	--	153.15	800	250	54	11	60	--	--	--	--	--	--	--	--	--	--
MW-5	6/27/1991		--	--	--	--	330	120	10	12	8	--	--	--	--	--	--	--	--	--	--
MW-5	9/27/1991		--	--	--	--	0.73	230	16	20	22	--	--	--	--	--	--	--	--	--	--
MW-5	7/3/1992		165.14	18.65	--	146.49	150	36	<0.5	<0.5	1.1	--	--	--	--	--	--	--	--	--	--
MW-5	10/5/1992		165.14	20.32	--	144.82	270	79	4	1.7	2.9	--	--	--	--	--	--	--	--	--	--
MW-5	1/13/1993		165.14	13.03	--	152.11	180	59	6	1.8	7.6	--	--	--	--	--	--	--	--	--	--
MW-5	4/23/1993		165.14	13.51	--	151.63	8,700	440	96	35	136	--	--	--	--	--	--	--	--	--	--
MW-5	7/12/1993		165.14	18.06	--	147.08	250	57	2.9	2.1	6	<5.0	--	--	--	--	--	--	--	--	--
MW-5	10/21/1993		165.14	20.41	--	144.73	210	82	1.5	<0.5	1.4	--	--	--	--	--	--	--	--	--	--
MW-5	1/21/1994		165.14	18.86	--	146.28	110	36	1.2	<0.5	0.7	<5.0	--	--	--	--	--	--	--	--	--
MW-5	4/20/1994		165.14	17.30	--	147.84	690	230	4.5	1.6	11	21.2	--	--	--	--	--	--	--	1.3	--
MW-5	8/1/1994		165.14	17.53	--	147.61	170	44	1.6	0.9	2.7	<5.0	--	--	--	--	--	--	--	0.9	--
MW-5	12/23/1994		165.14	11.63	--	153.51	630	180	1.9	0.66	1.9	7.81	--	--	--	--	--	--	--	1.4	--
MW-5	1/26/1995		165.14	11.25	--	153.89	160	68	<0.5	<0.5	22	--	--	--	--	--	--	--	--	5.9	--
MW-5	6/8/1995		165.14	16.80	--	148.34	2,000	630	58	61	180	--	--	--	--	--	--	--	--	6.5	--
MW-5	6/8/1995	Dup	165.14	16.80	--	148.34	1,700	560	51	55	170	--	--	--	--	--	--	--	--	--	(Dup)
MW-5	8/22/1995		165.14	19.02	--	146.12	3,700	1,100	18	27	59	<130	--	--	--	--	--	--	--	7.3	--
MW-5	10/27/1995		165.14	20.94	--	144.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	10/30/1995		--	--	--	--	6,500	2,200	55	180	270	<250	--	--	--	--	--	--	--	7.5	--
MW-5	1/25/1996		165.14	13.30	--	151.84	590	37	0.7	<0.50	<1.0	<5.0	--	--	--	--	--	--	--	--	--
MW-5	1/25/1996	Dup	165.14	13.30	--	151.84	540	37	0.66	<0.50	<1.0	<5.0	--	--	--	--	--	--	--	--	(Dup)
MW-5	4/19/1996		165.14	13.63	--	151.51	1,500	470	38	49	210	<50	--	--	--	--	--	--	--	8.1	--
MW-5	7/23/1996		165.14	17.61	--	147.53	140	4.6	<0.5	<0.5	<0.5	<10	--	--	--	--	--	--	--	8	--
MW-5	11/11/1996		165.14	18.70	--	146.44	140	40	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	7.9	--
MW-5	1/21/1997		165.14	11.63	--	153.51	730	300	<5.0	7.8	26	<50	--	--	--	--	--	--	--	5	--
MW-5	4/29/1997		165.14	16.74	--	148.40	340	530	<5.0	<5.0	<5.0	<50	--	--	--	--	--	--	--	4.8	--
MW-5	8/21/1997		165.14	18.26	--	146.88	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	4.9	--
MW-5	11/5/1997		165.14	18.84	--	146.30	120	13	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	4.4	--
MW-5	2/3/1998		165.14	9.49	--	155.65	<50	<0.50	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	4.3	--
MW-5	5/28/1998		165.14	13.57	--	151.57	4,900	1,500	34	180	311	<10	--	--	--	--	--	--	--	4.1	--
MW-5	12/30/1998		165.14	14.65	--	150.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	2/2/1999		165.14	12.56	--	152.58	100	<1.0	<1.0	<1.0	<1.0	9.1	--	--	--	--	--	--	--	--	--
MW-5	5/10/1999		165.14	13.36	--	151.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	8/24/1999		165.14	13.50	--	151.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	11/3/1999		165.14	18.48	--	146.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/1/2000		165.14	9.59	--	155.55	<50	<0.5	0.58	<0.5	0.54	2.9	--	--	--	--	--	--	--	--	--
MW-5	4/21/2000		165.14	13.52	--	151.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	7/31/2000		165.14	14.04	--	151.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	11/20/2000		165.14	15.89	--	149.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	2/18/2001		165.14	11.88	--	153.26	560	161	2.38	6.11	13	5.67	--	--	--	--	--	--	--	--	--
MW-5	6/7/2001		165.14	15.30	--	149.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	9/5/2001		165.14	19.32	--	145.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	11/30/2001		165.14	17.44	--	147.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	2/20/2002		165.14	13.88	--	151.26	4,200	940	18.7	98.2	176	55.6	--	--	--	--	--	--	--	--	--
MW-5	6/20/2002		165.14	16.20	--	148.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	9/11/2002		165.14	19.15	--	145.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	11/12/2002		165.14	19.01	--	146.13	390	55	0.89	3.4	3.5	210	--	--	--	--	--	--	--	--	--
MW-5	1/29/2003		165.14	16.33	--	148.81	7,900	1,400	34	220	350	82	<200	<5.0	<5.0	<5.0	<400	<5	<5	--	--
MW-5	5/22/2003		165.14	14.35	--	150.79	9,900	2,300	91	400	690	<50	<2,000	<50	<50	<50	<10,000	--	--	--	--
MW-5	7/28/2003		165.14	18.90	--	146.24	3,200	690	14	81	100	120	<400	<10	<10	<10	<2,000	<10	<10	--	--
MW-5	2/23/2004		165.14	12.21	--	152.93	7,500	1,500	100	190	350	100	<1,000	<25	<25	<25	<5,000	<25	38	--	--
MW-5	5/4/2004		165.14	17.12	--	148.02	5,900	1,500	57	200	280	42	<1,000	<25	<25	<25	<5,000	<25	<25	--	--
MW-5	8/4/2004		165.14	19.05	--	146.09	<2,500	<25	<25	<25	<25	390	<1,000	<25	<25	<25	<5,000	<25	<25	--	--
MW-5	11/10/2004		165.14	16.95	--	148.19	870	80	<5.0	<5.0	<5.0	530	<200	<5.0	<5.0	5.5	<1,000	<5	<5	--	--
MW-5	2/15/2005		165.14	12.75	--	152.39	1,600	330	8	37	67	260	<200	<5.0	<5.0	<5.0	<1,000	<5	<5	--	--
MW-5	5/16/2005		165.14	15.46	--	149.68	<500	<5.0	<5.0	<5.0	<5.0	370	<200	<5.0	<5.0	<5.0	<1,000	<5	<5	--	--
MW-5	8/17/2005		165.14	17.00	--	148.14	7,000	1,000	17	110	130	51	<200	<5.0	<5.0	<5.0	<1,000	<5	<5	--	--

Table-2
Historical Groundwater Monitoring and Analytical Data
CA-11132
3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes	
MW-5	11/18/2005		165.14	18.33	--	146.81	1,900	91	<5.0	33	29	340	<200	<5.0	<5.0	<5.0	<1,000	<5	<5	--		
MW-5	2/7/2006		165.14	10.27	--	154.87	2,100	590	9.6	86	110	200	<200	<5.0	<5.0	<5.0	<3,000	<5	<5	--		
MW-5	5/19/2006		165.14	13.08	--	152.06	3,200	720	9.7	150	170	44	<200	<5.0	<5.0	<5.0	<3,000	<5	<5	--		
MW-5	8/23/2006		165.14	17.02	--	148.12	1,400	69	<5.0	20	24	230	<200	<5.0	<5.0	<5.0	<3,000	<5	<5	--		
MW-5	11/15/2006		165.14	18.30	--	146.84	1,100	24	<2.5	10	8.6	490	<100	<2.5	<2.5	4.2	<1,500	<2.5	<2.5	0.85		
MW-5	2/14/2007		165.14	13.16	--	151.98	680	110	<2.5	16	11	420	<100	<2.5	<2.5	3.6	<1,500	<2.5	<2.5	2.54		
MW-5	5/22/2007		165.14	15.42	--	149.72	2,800	660	8.8	74	100	26	<100	<2.5	<2.5	<2.5	<1,500	<2.5	<2.5	1.41		
MW-5	8/15/2007		165.14	18.80	--	146.34	2,800	50	<10	26	29	280	<400	<10	<10	<10	<6,000	<10	<10	3.81		
MW-5	11/8/2007		165.14	18.55	(Sheen)	146.59	3,800	77	<2.5	46	35	270	310	<2.5	<2.5	<2.5	<1,500	<2.5	<2.5	1.08		
MW-5	2/20/2008		165.14	12.21	--	152.93	2,500	530	<5.0	75	62	43	<100	<5.0	<5.0	<5.0	<1,000	<5	<5	2.01		
MW-5	5/7/2008		165.14	16.91	--	148.23	6,700	1,800	29	270	360	30	<200	<10	<10	<10	<6,000	<10	<10	2.45		
MW-5	8/20/2008		165.14	19.45	--	145.69	300	22	<2.0	8.5	5.3	260	270	<2.0	<2.0	3	<1,200	<2	<2	5.57		
MW-5	2/25/2009		165.14	11.12	--	154.02	140	6.4	<0.50	2.4	3.1	68	110	<0.50	<0.50	0.62	<300	<0.5	<0.5	4.38		
MW-5	5/28/2009		165.14	15.70	--	149.44	3,800	790	9.5	140	110	11	<20	<1.0	<1.0	<1.0	<600	<1	<1	0.04		
MW-5	8/6/2009		165.14	18.84	(Sheen)	146.30	78	<5.0	<5.0	<5.0	<5.0	190	340	<5.0	<5.0	<5.0	<3,000	<5	<5	0.06		
MW-5	3/4/2010		165.14	10.02	--	155.12	1,200	420	5.5	69	58	15	38	<0.50	<0.50	<0.50	<100	<0.5	<0.5	0.66	(P)	
MW-5	9/2/2010		165.14	16.24	--	148.90	200	69	1.3	3.2	7.3	13	<4.0	<0.50	<0.50	<0.50	<100	<0.5	<0.5	--	(NP,y)	
MW-5	3/15/2011		165.14	11.36	--	153.78	1,700	410	7.9	88	80	5.9	<4.0	<0.50	<0.50	<0.50	<250	<0.5	<0.5	--	(P)	
MW-5	8/17/2011		165.14	16.62	--	148.52	1,900	460	7.6	44	51	<5.0	<40	<5.0	<5.0	<5.0	<2,500	<5	<5	--	(P)	
MW-5	2/6/2012		165.14	14.36	--	150.78	580	140	<5.0	9.2	<10	9.6	<40	<5.0	<5.0	<5.0	<2,500	<5	<5	--	(P)	
MW-5	8/21/2012		165.14	18.22	--	146.92	290	23	0.75	4.8	4.3	17	200	<0.50	<0.50	<0.50	<250	<0.5	<0.5	--		
MW-5	2/4/2013		165.14	13.99	--	151.15	1,400	230	2.7	55	34	3.1	13	<0.50	<0.50	<0.50	<250	<0.5	<0.5	--		
MW-6	12/21/1990		--	--	--	--	0.17	2.6	7	4.9	26	--	--	--	--	--	--	--	--	--	--	
MW-6	4/1/1991		165.40	11.79	--	153.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	12/18/1991		--	--	--	--	--	1.3	22	--	2.7	--	--	--	--	--	--	--	--	--	--	
MW-6	7/3/1992		165.40	17.77	--	147.63	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
MW-6	10/5/1992		165.40	19.46	--	145.94	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
MW-6	1/13/1993		165.40	11.34	--	154.06	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
MW-6	4/23/1993		165.40	12.92	--	152.48	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
MW-6	7/12/1993		165.40	17.36	--	148.04	<50	<0.5	<0.5	<0.5	0.7	<5.0	--	--	--	--	--	--	--	--	--	
MW-6	10/21/1993		165.40	19.98	--	145.42	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
MW-6	1/21/1994		165.40	18.10	--	147.30	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
MW-6	4/20/1994		165.40	18.68	--	146.72	<50	<0.5	<0.5	<0.5	<0.5	17.4	--	--	--	--	--	--	--	--	2	
MW-6	8/1/1994		165.40	18.90	--	146.50	<50	<0.5	<0.5	<0.5	<0.5	8.66	--	--	--	--	--	--	--	--	1.5	
MW-6	12/23/1994		165.40	12.94	--	152.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	1/26/1995		165.40	10.46	--	154.94	<50	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	--	--	--	--	7.3	
MW-6	6/8/1995		165.40	16.84	--	148.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	8/22/1995		165.40	19.48	--	145.92	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	--	--	--	--	--	--	--	6.7	
MW-6	10/27/1995		165.40	20.39	--	145.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	1/25/1996		165.40	12.24	--	153.16	<50	<0.50	<0.50	<0.50	<1.0	9.9	--	--	--	--	--	--	--	--	--	
MW-6	4/19/1996		165.40	13.90	--	151.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	7/23/1996		165.40	17.83	--	147.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	11/11/1996		165.40	18.90	--	146.50	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	--	7.7	
MW-6	1/21/1997		165.40	11.97	--	153.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	4/29/1997		165.40	17.04	--	148.36	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	--	4.5	
MW-6	8/21/1997		165.40	18.58	--	146.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	11/5/1997		165.40	19.17	--	146.23	70	<0.5	<1.0	<1.0	<1.0	85	--	--	--	--	--	--	--	--	4.3	
MW-6	2/3/1998		165.40	9.87	--	155.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	5/28/1998		165.40	13.38	--	152.02	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	--	3.7	
MW-6	12/30/1998		165.40	14.45	--	150.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	2/2/1999		165.40	18.29	--	147.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	5/10/1999		165.40	17.49	--	147.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	8/24/1999		165.40	17.61	--	147.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	11/3/1999		165.40	16.26	--	149.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	3/1/2000		165.40	17.43	--	147.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	4/21/2000		165.40	13.32	--	152.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	7/31/2000		165.40	13.46	--	151.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table-2
Historical Groundwater Monitoring and Analytical Data
CA-11132
3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes	
MW-6	11/20/2000		165.40	14.78	--	150.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	2/18/2001		165.40	11.33	--	154.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	6/7/2001		165.40	16.36	--	149.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	9/5/2001		165.40	18.61	--	146.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	11/30/2001		165.40	15.20	--	150.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	2/20/2002		165.40	12.74	--	152.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	6/20/2002		165.40	16.68	--	148.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	9/11/2002		165.40	18.38	--	147.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	11/12/2002		165.40	18.78	--	146.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	1/29/2003		165.40	14.45	--	150.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	5/22/2003		165.40	14.36	--	151.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	7/28/2003		165.40	18.43	--	146.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	11/18/2003		165.40	17.48	--	147.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	2/23/2004		165.40	11.54	--	153.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	5/4/2004		165.40	16.58	--	148.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	8/4/2004		165.40	18.12	--	147.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	11/10/2004		165.40	15.75	--	149.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	2/15/2005		165.40	12.50	--	152.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	5/16/2005		165.40	11.51	--	153.89	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<100	<0.5	<0.5	--	--	
MW-6	8/17/2005		165.40	16.85	--	148.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	2/7/2006		165.40	9.93	--	155.47	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<300	<0.5	<0.5	--	--	
MW-6	8/23/2006		165.40	16.35	--	149.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	11/15/2006		165.40	17.42	--	147.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	2/14/2007		165.40	12.03	--	153.37	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<300	<0.5	<0.5	1.07		
MW-6	5/22/2007		165.40	15.11	--	150.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	8/15/2007		165.40	18.08	--	147.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	11/8/2007		165.40	17.79	--	147.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	2/20/2008		165.40	11.81	--	153.59	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<100	<0.5	<0.5	1.29		
MW-6	5/7/2008		165.40	16.75	--	148.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	2/25/2009		165.40	9.99	--	155.41	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<300	<0.5	<0.5	2.39		
MW-6	8/6/2009		165.40	18.33	--	147.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	3/4/2010		165.40	9.11	--	156.29	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<4.0	<0.50	<0.50	<0.50	<100	<0.5	<0.5	0.88	(P)	
MW-6	9/2/2010		165.40	17.80	--	147.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	3/15/2011		165.40	10.08	--	155.32	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<4.0	<0.50	<0.50	<0.50	<250	<0.5	<0.5	--	(P)	
MW-6	8/17/2011		165.40	16.50	--	148.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	2/6/2012		165.40	14.44	--	150.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	8/21/2012		165.40	17.91	--	147.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	2/4/2013		165.40	14.13	--	151.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	3/7/1991		167.61	19.04	--	148.57	--	--	0.4	0.3	2.4	--	--	--	--	--	--	--	--	--	--	
MW-7	4/1/1991		167.61	15.18	--	152.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	6/27/1991		--	--	--	--	70	17	4	0.8	2.2	--	--	--	--	--	--	--	--	--	--	
MW-7	9/27/1991		--	--	--	--	--	0.4	--	0.4	--	--	--	--	--	--	--	--	--	--	--	
MW-7	12/18/1991		--	--	--	--	--	0.7	2.9	0.8	3.3	--	--	--	--	--	--	--	--	--	--	
MW-7	7/3/1992		167.61	20.28	--	147.33	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
MW-7	10/5/1992		167.61	21.56	--	146.05	<50	<0.5	<0.5	<0.5	1.5	--	--	--	--	--	--	--	--	--	--	
MW-7	1/13/1993		167.61	15.41	--	152.20	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
MW-7	4/23/1993		167.61	15.84	--	151.77	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
MW-7	7/12/1993		167.61	19.84	--	147.77	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
MW-7	10/21/1993		167.61	21.61	--	146.00	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	
MW-7	1/21/1994		167.61	20.49	--	147.12	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
MW-7	1/21/1994	Dup	167.61	20.49	--	147.12	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	(Dup)
MW-7	4/20/1994		167.61	20.54	--	147.07	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	1.5	
MW-7	8/1/1994		167.61	20.99	--	146.62	<50	0.7	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	1.9	
MW-7	12/23/1994		167.61	15.00	--	152.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	1/26/1995		167.61	14.69	--	152.92	<50	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	--	--	--	--	7	
MW-7	6/8/1995		167.61	19.87	--	147.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	8/22/1995		167.61	21.49	--	146.12	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	--	--	--	--	--	--	--	6.4	

Table-2
Historical Groundwater Monitoring and Analytical Data
CA-11132
3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes	
MW-7	10/27/1995		167.61	22.53	--	145.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	1/25/1996		167.61	17.21	--	150.40	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	--	--	--	--	--	--	--	--	
MW-7	4/19/1996		167.61	17.09	--	150.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	7/23/1996		167.61	21.02	--	146.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	11/11/1996		167.61	22.03	--	145.58	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	--	7.8	
MW-7	1/21/1997		167.61	15.06	--	152.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	4/29/1997		167.61	20.11	--	147.50	<50	<0.5	<1.0	<1.0	<1.0	<10	--	<5.0	--	--	--	--	--	--	4.4	
MW-7	8/21/1997		167.61	21.59	--	146.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	11/5/1997		167.61	20.05	--	147.56	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	--	4.4	
MW-7	2/3/1998		167.61	9.97	--	157.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	5/28/1998		167.61	13.52	--	154.09	<50	<0.5	<1.0	<1.0	<1.0	<10	--	--	--	--	--	--	--	--	4.3	
MW-7	12/30/1998		167.61	18.33	--	149.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	2/2/1999		167.61	12.33	--	155.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	5/10/1999		167.61	13.52	--	154.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	8/24/1999		167.61	14.01	--	153.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	11/3/1999		167.61	19.91	--	147.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	3/1/2000		167.61	19.89	--	147.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	4/21/2000		167.61	17.94	--	149.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	7/31/2000		167.61	17.33	--	150.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	11/20/2000		167.61	18.41	--	149.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	2/18/2001		167.61	15.13	--	152.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	6/7/2001		167.61	18.75	--	148.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	9/5/2001		167.61	20.48	--	147.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	11/30/2001		167.61	20.11	--	147.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	2/20/2002		167.61	18.40	--	149.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	6/20/2002		167.61	18.62	--	148.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	9/11/2002		167.61	20.05	--	147.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	11/12/2002		167.61	21.13	--	146.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	1/29/2003		167.61	19.10	--	148.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	5/22/2003		167.61	18.83	--	148.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	7/28/2003		167.61	19.88	--	147.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	11/18/2003		167.61	20.50	--	147.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	2/23/2004		168.08	15.92	--	152.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	5/4/2004		168.08	18.86	--	149.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	8/4/2004		168.08	19.10	--	148.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	11/10/2004		168.08	20.25	--	147.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	2/15/2005		168.08	16.37	--	151.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	8/17/2005		168.08	19.74	--	148.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	11/18/2005		168.08	20.82	--	147.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	2/7/2006		168.08	14.26	--	153.82	<500	<5.0	<5.0	<5.0	<5.0	270	<200	<5.0	<5.0	<5.0	<3,000	<5	<5	--	--	
MW-7	5/19/2006		168.08	16.51	--	151.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	8/23/2006		168.08	20.30	--	147.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	11/15/2006		168.08	20.85	--	147.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	2/14/2007		168.08	16.57	--	151.51	520	<5.0	<5.0	<5.0	<5.0	740	<200	<5.0	<5.0	9.6	<3,000	<5	<5	3.08		
MW-7	5/22/2007		168.08	18.40	--	149.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	8/15/2007		168.08	20.85	--	147.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	11/8/2007		168.08	20.41	--	147.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	2/20/2008		168.08	15.90	--	152.18	<50	<0.50	<0.50	<0.50	<0.50	700	13	<0.50	<0.50	12	<100	<0.5	0.6	4.34		
MW-7	5/7/2008		168.08	19.41	--	148.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	8/20/2008		168.08	21.34	--	146.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	11/17/2008		168.08	20.54	--	147.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	2/25/2009		168.08	14.89	--	153.19	130	<20	<20	<20	<20	540	<400	<20	<20	<20	<12,000	<20	<20	4.28		
MW-7	5/28/2009		168.08	18.57	--	149.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	8/6/2009		168.08	20.83	--	147.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	3/4/2010		168.08	14.02	--	154.06	430	<0.50	<0.50	<0.50	<1.0	920	4	<0.50	<0.50	17	<100	<0.5	0.74	3.3	(P)	
MW-7	9/2/2010		168.08	20.43	--	147.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	3/15/2011		168.08	14.86	--	153.22	<1,000	<0.50	<0.50	<0.50	<1.0	990	130	<0.50	<0.50	17	<250	<0.5	0.81	--	(P)	
MW-7	8/17/2011		168.08	19.01	--	149.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table-2
 Historical Groundwater Monitoring and Analytical Data
 CA-11132
 3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
MW-7	2/6/2012		168.08	18.20	--	149.88	<50	<0.50	<0.50	<0.50	<1.0	22	<4.0	<0.50	<0.50	<0.50	<250	<0.5	<0.5	--	(P)
MW-7	8/21/2012		168.08	20.29	--	147.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	2/4/2013		168.08	17.60	--	150.48	<500	<0.50	<0.50	<0.50	<1.0	290	<4.0	<0.50	<0.50	6.4	<250	<0.5	<0.5	--	
MW-8	3/7/1991		165.74	16.72	--	149.02	2.7	780	450	64	310	--	--	--	--	--	--	--	--	--	--
MW-8	4/1/1991		165.74	12.54	--	153.20	15,000	3,600	2,600	410	1,900	--	--	--	--	--	--	--	--	--	--
MW-8	6/27/1991		--	--	--	--	12,000	3,400	1,100	240	750	--	--	--	--	--	--	--	--	--	--
MW-8	9/27/1991		--	--	--	--	41	5,700	5,200	1,100	4,300	--	--	--	--	--	--	--	--	--	--
MW-8	12/18/1991		--	--	--	--	3.2	990	150	120	250	--	--	--	--	--	--	--	--	--	--
MW-8	7/3/1992		165.74	18.78	--	146.96	72,000	19,000	32,000	3,000	15,000	--	--	--	--	--	--	--	--	--	--
MW-8	10/5/1992		165.74	20.48	--	145.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	1/13/1993		165.74	12.87	--	152.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	4/23/1993		165.74	13.90	--	151.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	7/12/1993		165.74	18.30	--	147.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	10/21/1993		165.74	21.91	--	142.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	1/21/1994		165.74	19.12	--	146.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	4/20/1994		165.74	19.28	--	146.46	26,000	1,700	4,100	960	4,000	632	--	--	--	--	--	--	--	1.1	
MW-8	12/23/1994		165.74	13.81	--	151.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	6/8/1995		165.74	17.82	--	147.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	8/22/1995		165.74	19.41	--	146.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	10/27/1995		165.74	20.47	--	145.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	1/25/1996		165.74	13.35	--	152.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	4/19/1996		165.74	14.40	--	151.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	7/23/1996		165.74	18.35	--	147.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	11/11/1996		165.74	19.41	--	146.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	1/21/1997		165.74	12.29	--	153.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	8/21/1997		165.74	19.61	--	146.13	240,000	1,100	9,300	4,100	31,100	<1,000	--	--	--	--	--	--	--	5.2	
MW-8	11/5/1997		165.74	19.45	--	146.29	57,000	790	2,700	2,300	15,200	<1,000	--	--	--	--	--	--	--	5	
MW-8	2/3/1998		165.74	9.33	--	156.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	2/4/1998		--	--	--	--	94,000	570	1,500	2,100	15,200	<2,500	--	--	--	--	--	--	--	5.5	
MW-8	12/30/1998		165.74	15.48	--	150.26	120,000	460	2,300	2,200	15,000	150	--	--	--	--	--	--	--	--	--
MW-8	2/2/1999		165.74	18.29	--	147.45	82,000	450	2,200	3,700	26,000	<500	--	--	--	--	--	--	--	--	--
MW-8	5/10/1999		165.74	15.62	--	150.12	28,000	740	1,800	1,100	5,800	<25	--	--	--	--	--	--	--	--	--
MW-8	8/24/1999		165.74	18.41	--	147.33	75,000	530	1,400	3,300	21,000	150	--	--	--	--	--	--	--	--	--
MW-8	11/3/1999		165.74	18.71	--	147.03	70,000	600	1,300	3,600	20,500	750	--	--	--	--	--	--	--	--	--
MW-8	3/1/2000		165.74	19.37	--	146.37	27,000	1,600	1,200	2,600	6,600	120	--	--	--	--	--	--	--	--	--
MW-8	11/20/2000		165.74	17.42	--	148.32	1,300,000	1,400	1,700	20,000	16,000	5,700	--	--	--	--	--	--	--	--	--
MW-8	9/5/2001		165.74	21.45	0.04	144.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	11/30/2001		165.74	18.31	--	147.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	2/20/2002		165.74	14.02	--	151.72	20,000	163	114	403	3,810	80.4	--	--	--	--	--	--	--	--	--
MW-8	6/20/2002		165.74	17.56	--	148.18	28,000	466	141	962	5,850	2,520	--	--	--	--	--	--	--	--	--
MW-8	9/11/2002		165.74	19.45	--	146.29	190,000	1,500	670	4,500	23,000	1,200	--	--	--	--	--	--	--	--	--
MW-8	11/12/2002		165.74	19.15	--	146.59	420	6.4	2.9	16	110	31	--	--	--	--	--	--	--	--	--
MW-8	1/29/2003		165.74	15.02	--	150.72	200,000	810	<500	2,000	11,000	<500	<2,000	<50	<50	<50	<4,000	<50	<50	--	--
MW-8	5/22/2003		165.74	15.07	--	150.67	--	--	--	--	--	--	<1,000	<25	<25	<25	<5,000	--	--	--	--
MW-8	6/24/2003		165.74	17.95	--	147.79	43,000	860	300	2,100	9,600	46	--	--	--	--	--	--	--	--	--
MW-8	7/28/2003		165.74	19.45	--	146.29	62,000	690	230	1,800	15,000	2,100	<4,000	<100	<100	<100	<20,000	<100	<100	--	--
MW-8	8/12/2003		165.74	19.40	0.01	146.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	9/12/2003		165.74	19.34	--	146.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	11/18/2003		165.74	18.80	0.01	146.94	8,800	500	37	530	930	1,700	<400	<10	<10	20	<2,000	--	--	--	--
MW-8	2/23/2004		165.74	12.82	0.01	152.92	32,000	840	360	1,000	7,100	110	<2,000	<50	<50	<50	<10,000	<50	<50	--	--
MW-8	5/4/2004		165.74	18.87	0.01	146.87	42,000	570	230	1,700	8,400	2,000	<1,000	<25	<25	33	<5,000	<25	<25	--	--
MW-8	8/4/2004		165.74	19.37	0.05	146.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	9/22/2004		165.74	19.60	--	146.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	11/10/2004		165.74	16.58	--	149.16	11,000	790	61	1,000	830	74	<1,000	<25	<25	<25	<5,000	<25	<25	--	--
MW-8	2/15/2005		165.74	12.85	--	152.89	38,000	1,300	390	2,300	7,900	<50	<2,000	<50	<50	<50	<10,000	<50	<50	--	--
MW-8	5/16/2005		165.74	12.22	--	153.52	31,000	1,000	360	2,500	7,500	<50	<2,000	<50	<50	<50	<10,000	<50	<50	--	--
MW-8	8/17/2005		165.74	17.80	--	147.94	60,000	540	240	2,500	8,600	<50	<2,000	<50	<50	<50	<10,000	<50	<50	--	--

Table-2
Historical Groundwater Monitoring and Analytical Data
CA-11132
3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes	
MW-8	11/18/2005		165.74	21.02	--	144.72	33,000	340	120	1,400	4,900	140	<2,000	<50	<50	<50	<10,000	<50	<50	--		
MW-8	2/7/2006		165.74	10.73	--	155.01	5,700	94	27	260	820	7.5	<200	<5.0	<5.0	<5.0	<3,000	<5	<5	--		
MW-8	5/19/2006		165.74	13.89	--	151.85	40,000	1,100	320	2,900	6,000	<25	<1,000	<25	<25	<25	<15,000	<25	<25	--		
MW-8	8/23/2006		165.74	18.85	--	146.89	21,000	520	150	1,800	6,300	82	<1,000	<25	<25	<25	<15,000	<25	<25	--		
MW-8	11/15/2006		165.74	18.75	--	146.99	3,300	81	<25	130	430	110	<1,000	<25	<25	<25	<15,000	<25	<25	0.81		
MW-8	2/14/2007		165.74	13.45	(Sheen)	152.29	9,300	320	<25	360	710	82	<1,000	<25	<25	<25	<15,000	<25	<25	1.89		
MW-8	5/22/2007		165.74	15.92	(Sheen)	149.82	17,000	370	51	760	1,600	11	<400	<10	<10	<10	<6,000	<10	<10	1.05		
MW-8	8/15/2007		165.74	19.11	(Sheen)	146.63	17,000	170	44	1,000	2,700	28	<400	<10	<10	<10	<6,000	<10	<10	3.93		
MW-8	11/8/2007		165.74	18.46	(Sheen)	147.28	24,000	150	43	1,100	3,200	27	<1,000	<25	<25	<25	<15,000	<25	<25	1.29		
MW-8	8/20/2008		165.74	19.66	0.01	146.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-8	2/25/2009		165.74	11.50	(Sheen)	154.24	3,400	160	11	88	65	35	<200	<10	<10	<10	<6,000	<10	<10	2.18		
MW-8	4/8/2009		165.74	14.55	--	151.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-8	5/28/2009		165.74	16.12	(Sheen)	149.62	8,300	410	54	660	800	<2.5	<50	<2.5	<2.5	<2.5	<1,500	<2.5	<2.5	0.06		
MW-8	6/16/2009		165.74	17.63	--	148.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-8	3/4/2010		165.74	10.33	--	155.41	11,000	520	110	830	1,600	<5.0	<40	<5.0	<5.0	<5.0	<1,000	<5	<5	0.82	(P)	
MW-8	9/2/2010		165.74	18.52	--	147.22	6,900	180	24	280	480	<5.0	<40	<5.0	<5.0	<5.0	<1,000	<5	<5	--	(P)	
MW-8	3/15/2011		165.74	11.03	--	154.71	14,000	470	150	1,400	3,000	<2.5	<20	<2.5	<2.5	<2.5	<1,200	<2.5	<2.5	--	(P)	
MW-8	8/17/2011		165.74	17.14	--	148.60	4,100	180	24	280	340	<5.0	<40	<5.0	<5.0	<5.0	<2,500	<5	<5	--	(P)	
MW-8	2/6/2012		165.74	15.07	--	150.67	5,100	140	18	210	220	<5.0	<40	<5.0	<5.0	<5.0	2,900	<5*	<5	--	(P)	
MW-8	8/21/2012		165.74	18.88	--	146.86	3,600	220	25	170	170	<5.0	<40	<5.0	<5.0	<5.0	<2,500	<5	<5	--		
MW-8	2/4/2013		165.74	14.88	--	150.86	2,300	71	13	150	230	<5.0	<40	<5.0	<5.0	<5.0	<2,500	<5	<5	--		
MW-9	3/7/1991		166.20	16.79	--	149.41	7.1	220	4	2.4	2,400	--	--	--	--	--	--	--	--	--	--	
MW-9	4/1/1991		166.20	12.89	--	153.31	14,000	2,000	2,600	360	1,600	<10	<80	<10	<10	<10	<2,000	<10	<10	--		
MW-9	6/27/1991		--	--	--	--	3,600	520	400	85	310	--	--	--	--	--	--	--	--	--	--	
MW-9	9/27/1991		--	--	--	--	3.2	720	150	50	180	--	--	--	--	--	--	--	--	--	--	
MW-9	12/18/1991		--	--	--	--	--	2.5	1.1	0.3	5.8	--	--	--	--	--	--	--	--	--	--	
MW-9	7/3/1992		166.20	18.89	--	147.31	5,700	17,000	840	230	800	--	--	--	--	--	--	--	--	--	--	
MW-9	10/5/1992		166.20	20.52	--	145.68	1,400	440	17	14	100	--	--	--	--	--	--	--	--	--	--	
MW-9	1/13/1993		166.20	12.92	--	153.28	11,000	1,200	1,700	340	1,400	--	--	--	--	--	--	--	--	--	--	
MW-9	1/13/1993	Dup	166.20	12.92	--	153.28	11,000	1,200	1,600	330	1,300	--	--	--	--	--	--	--	--	--	--	(Dup)
MW-9	4/23/1993		166.20	14.08	--	152.12	24,000	2,800	4,500	730	3,400	350	2,600	<5.0	<5.0	12	<1,000	<5	<5	--		
MW-9	7/12/1993		166.20	18.44	--	147.76	13,000	1,400	1,100	360	1,400	20.8	--	--	--	--	--	--	--	--	--	
MW-9	7/12/1993	Dup	166.20	18.44	--	147.76	10,000	1,200	900	310	1,200	--	--	--	--	--	--	--	--	--	--	(Dup)
MW-9	10/21/1993		166.20	21.81	--	143.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	1/21/1994		166.20	19.28	--	146.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	4/20/1994		166.20	19.72	--	146.48	43,000	2,800	6,800	1,300	7,900	768	--	--	--	--	--	<2.5	<2.5	<2.5	1.7	
MW-9	4/20/1994	Dup	166.20	19.72	--	146.48	45,000	2,700	6,800	1,200	8,200	740	160	<2.5	<2.5	<2.5	<500	--	--	--	(Dup)	
MW-9	8/1/1994		166.20	20.18	--	146.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	12/23/1994		166.20	14.22	--	151.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	1/26/1995		166.20	11.85	--	154.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	6/8/1995		166.20	18.33	--	147.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	8/22/1995		166.20	19.95	--	146.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	10/27/1995		166.20	20.88	--	145.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	1/25/1996		166.20	13.84	--	152.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	7/23/1996		166.20	18.84	--	147.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	11/11/1996		166.20	19.91	--	146.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	1/21/1997		166.20	12.93	--	153.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	4/29/1997		166.20	18.03	0.1	148.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	4/30/1997		--	--	--	--	78,000	1,900	3,600	3,100	20,600	<5,000	<4.0	<0.50	<0.50	<0.50	<100	<0.5	<0.5	5.5		
MW-9	8/21/1997		166.20	19.56	--	146.64	110,000	2,100	3,400	2,300	18,800	<500	--	--	--	--	--	--	--	--	5.1	
MW-9	11/5/1997		166.20	20.59	0.01	145.60	59,000	1,400	1,700	2,200	17,000	<500	--	--	--	--	--	--	--	--	4.5	
MW-9	2/3/1998		166.20	10.56	--	155.64	55,000	490	1,200	1,400	10,200	<1,000	--	--	--	--	--	--	--	--	4.9	
MW-9	5/28/1998		166.20	14.21	--	151.99	430	250	1,200	1,500	11,400	<250	4	<0.50	<0.50	17	<100	<0.5	0.74	3.8		
MW-9	5/28/1998	Dup	166.20	14.21	--	151.99	53,000	290	830	1,400	10,500	<500	<40	<5.0	<5.0	<5.0	<1,000	--	--	--	(Dup)	
MW-9	12/30/1998		166.20	15.61	--	150.59	83,000	860	1,300	2,400	21,000	180	--	--	--	--	--	--	--	--	--	
MW-9	2/2/1999		166.20	12.33	--	153.87	75,000	530	960	1,900	17,000	<50	--	--	--	--	--	--	--	--	--	
MW-9	5/10/1999		166.20	15.67	--	150.53	22,000	600	1,500	1,100	4,400	72	--	--	--	--	--	--	--	--	--	

Table-2
Historical Groundwater Monitoring and Analytical Data
 CA-11132
 3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
MW-9	8/24/1999		166.20	19.10	--	147.10	85,000	850	1,300	1,700	20,000	<250	--	--	--	--	--	--	--	--	
MW-9	11/3/1999		166.20	19.58	--	146.62	72,000	700	780	1,900	19,000	<5.0	--	--	--	--	--	--	--	--	
MW-9	3/1/2000		166.20	13.19	--	153.01	34,000	78	490	1,100	8,200	63	--	--	--	--	--	--	--	--	
MW-9	4/21/2000		166.20	14.29	--	151.91	55,000	260	920	1,500	16,000	<5.0	--	--	--	--	--	--	--	--	
MW-9	7/31/2000		166.20	15.01	--	151.19	1,200,000	1,500	6,300	15,000	120,000	1,600	--	--	--	--	--	--	--	--	
MW-9	11/20/2000		166.20	18.23	--	147.97	320,000	3,500	19,000	5,000	40,000	3,900	--	--	--	--	--	--	--	--	
MW-9	2/18/2001		166.20	13.14	--	153.06	32,000	290	417	1,180	10,400	121	--	--	--	--	--	--	--	--	
MW-9	6/7/2001		166.20	17.41	--	148.79	96,000	421	704	2,330	17,300	223	--	--	--	--	--	--	--	--	
MW-9	9/5/2001		166.20	20.56	--	145.64	39,000	445	323	1,240	8,940	310	--	--	--	--	--	--	--	--	
MW-9	11/30/2001		166.20	17.42	--	148.78	60,000	310	586	1,890	14,200	285	--	--	--	--	--	--	--	--	
MW-9	2/20/2002		166.20	13.87	--	152.33	14,000	64	122	897	2,650	293	--	--	--	--	--	--	--	--	
MW-9	6/20/2002		166.20	18.22	--	147.98	29,000	307	168	1,100	5,670	208	--	--	--	--	--	--	--	--	
MW-9	9/11/2002		166.20	20.27	--	145.93	230,000	1,400	680	3,600	23,000	<2,500	--	--	--	--	--	--	--	--	
MW-9	11/12/2002		166.20	19.40	--	146.80	840	5.8	3.6	28	160	21	--	--	--	--	--	--	--	--	
MW-9	1/29/2003		166.20	14.30	0.1	151.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	5/22/2003		166.20	15.16	--	151.04	23,000	420	<50	1,000	2,900	<50	38	<50	<50	<50	<100	<0.5	<0.5	--	
MW-9	7/28/2003		166.20	19.55	0.01	146.65	1,500,000	<500	<500	9,800	79,000	<500	<20,000	<500	<500	<500	<100,000	<500	<500	--	
MW-9	8/12/2003		166.20	19.60	0.01	146.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	9/12/2003		166.20	19.60	0.01	146.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	11/18/2003		166.20	18.98	0.01	147.22	19,000	250	18	690	2,400	45	<400	<10	<10	<10	<2,000	--	--	--	
MW-9	2/23/2004		166.20	13.91	0.01	152.29	91,000	<250	440	2,200	13,000	<250	<10,000	<250	<250	<250	<50,000	<250	<250	--	
MW-9	5/4/2004		166.20	18.11	0.01	148.09	39,000	230	44	1,100	4,200	<25	<1,000	<25	<25	<25	<5,000	<25	<25	--	
MW-9	8/4/2004		166.20	18.90	0.03	147.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	9/22/2004		166.20	19.69	--	146.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	11/10/2004		166.20	16.95	--	149.25	31,000	300	<50	1,100	3,800	<50	<2,000	<50	<50	<50	<10,000	<50	<50	--	
MW-9	2/15/2005		166.20	12.95	--	153.25	19,000	200	<50	720	2,000	<50	<2,000	<50	<50	<50	<10,000	<50	<50	--	
MW-9	5/16/2005		166.20	12.53	--	153.67	17,000	99	15	770	2,500	<10	4.4	<10	<10	<10	<2,000	<0.5	<0.5	--	
MW-9	8/17/2005		166.20	18.03	--	148.17	28,000	160	26	1,000	2,700	<12	<500	<12	<12	<12	<2,500	<12	<12	--	
MW-9	11/18/2005		166.20	19.04	--	147.16	12,000	98	<5.0	410	510	19	<200	<5.0	<5.0	<5.0	<1,000	<5	<5	--	
MW-9	2/7/2006		166.20	10.95	(Sheen)	155.25	18,000	110	8.7	770	1,500	<5.0	<4.0	<5.0	<5.0	5.4	<3,000	<0.5	<0.5	--	
MW-9	8/23/2006		166.20	18.91	--	147.29	28,000	84	<50	1,600	6,200	<50	<2,000	<50	<50	<50	<30,000	<50	<50	--	
MW-9	11/15/2006		166.20	18.60	--	147.60	8,200	44	<25	190	370	26	<1,000	<25	<25	<25	<15,000	<25	<25	0.92	
MW-9	2/14/2007		166.20	13.30	--	152.90	20,000	64	<25	720	2,000	<25	<1,000	<25	<25	<25	<15,000	<25	<25	0.87	
MW-9	5/22/2007		166.20	16.14	(Sheen)	150.06	16,000	80	<25	460	1,200	<25	<1,000	<25	<25	<25	<15,000	<25	<25	0.81	
MW-9	8/15/2007		166.20	19.31	(Sheen)	146.89	5,900	27	<2.5	59	170	27	<100	<2.5	<2.5	<2.5	<1,500	<2.5	<2.5	2.57	
MW-9	11/8/2007		166.20	18.70	--	147.50	6,100	29	<5.0	98	250	52	<200	<5.0	<5.0	<5.0	<3,000	<5	<5	1.24	
MW-9	2/20/2008		166.20	12.79	0.03	153.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	5/7/2008		166.20	17.68	0.03	148.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	8/20/2008		166.20	19.75	0.01	146.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	11/17/2008		166.20	18.73	--	147.47	10,000	24	<2.5	160	140	33	<50	<2.5	<2.5	<2.5	<1,500	<2.5	<2.5	--	
MW-9	2/25/2009		166.20	11.23	(Sheen)	154.97	14,000	60	<10	550	140	<10	<200	<10	<10	<10	<6,000	<10	<10	2.27	
MW-9	4/8/2009		166.20	14.21	--	151.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	5/28/2009		166.20	16.33	(Sheen)	149.87	8,000	49	<2.5	790	140	<2.5	<200	<2.5	<2.5	<2.5	<6,000	<10	<10	0.07	
MW-9	6/16/2009		166.20	17.82	0.01	148.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-9	8/6/2009		166.20	19.25	(Sheen)	146.95	6,800	19	<2.0	120	250	18	<40	<2.0	<2.0	<2.0	<1,200	<2	<2	0	
MW-9	3/4/2010		166.20	10.32	--	155.88	6,000	29	<2.5	<2.5	100	<2.5	<20	<2.5	<2.5	<2.5	<500	<2.5	<2.5	0.62	(P)
MW-9	9/2/2010		166.20	18.72	--	147.48	5,700	31	<2.5	160	120	<2.5	<20	<2.5	<2.5	<2.5	<500	<2.5	<2.5	--	(NP)
MW-9	3/15/2011		166.20	11.08	--	155.12	6,500	17	<2.5	150	73	<2.5	<20	<2.5	<2.5	<2.5	<1,200	<2.5	<2.5	--	(P)
MW-9	8/17/2011		166.20	17.35	--	148.85	5,200	9.5	<2.5	71	54	<2.5	<20	<2.5	<2.5	<2.5	<1,300	<2.5	<2.5	--	
MW-9	2/6/2012		166.20	15.52	--	150.68	4,200	14	<2.5	49	22	<2.5	<20	<2.5	<2.5	<2.5	<1,300	<2.5*	<2.5	--	(P)
MW-9	8/21/2012		166.20	18.79	--	147.41	4,200	22	<2.5	42	21	<2.5	<20	<2.5	<2.5	<2.5	<1,300	<2.5	<2.5	--	
MW-9	2/4/2013		166.20	14.16	--	152.04	4,100	4.8	<2.5	34	13	<2.5	<20	<2.5	<2.5	<2.5	<1,300	<2.5	<2.5	--	
MW-10	3/7/1991		167.01	18.09	--	148.92	1.6	120	190	32	230	--	--	--	--	--	--	--	--	--	
MW-10	4/1/1991		167.01	13.92	--	153.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-10	6/27/1991		--	--	--	--	12,000	7,300	500	150	300	--	--	--	--	--	--	--	--	--	
MW-10	9/27/1991		--	--	--	--	57	12,000	7,200	1,400	4,600	--	--	--	--	--	--	--	--	--	
MW-10	12/18/1991		--	--	--	--	5.3	2,500	120	36	79	--	--	--	--	--	--	--	--	--	

Table-2
 Historical Groundwater Monitoring and Analytical Data
 CA-11132
 3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
MW-10	7/3/1992		167.01	19.92	--	147.09	8,600	5,100	1,300	180	690	--	--	--	--	--	--	--	--	--	--
MW-10	10/5/1992		167.01	21.92	--	145.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	1/13/1993		167.01	14.43	--	152.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	4/23/1993		167.01	15.26	--	151.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	7/12/1993		167.01	19.78	--	147.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	10/21/1993		167.01	22.90	--	144.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	1/21/1994		167.01	20.25	--	146.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	4/20/1994		167.01	20.74	--	146.27	100,000	12,000	24,000	2,400	14,000	1,577	--	--	--	--	--	--	--	1	
MW-10	8/1/1994		167.01	22.00	--	145.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	12/23/1994		167.01	16.08	--	150.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	1/26/1995		167.01	13.68	--	153.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	6/8/1995		167.01	19.08	--	147.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	8/22/1995		167.01	20.73	--	146.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	10/27/1995		167.01	21.69	--	145.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	1/25/1996		167.01	15.05	--	151.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	4/19/1996		167.01	16.26	--	150.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	7/23/1996		167.01	20.18	--	146.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	11/11/1996		167.01	21.20	--	145.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	1/21/1997		167.01	13.66	--	153.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	4/29/1997		167.01	18.71	--	148.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	4/30/1997		--	--	--	--	170,000	9,700	38,000	4,700	30,500	<5,000	--	--	--	--	--	--	--	5.6	
MW-10	8/21/1997		167.01	20.19	--	146.82	170,000	9,500	35,000	4,300	27,100	<5,000	--	--	--	--	--	--	--	5.3	
MW-10	11/5/1997		167.01	20.52	--	146.49	80,000	3,800	12,000	2,700	15,700	<500	--	--	--	--	--	--	--	4.4	
MW-10	2/3/1998		167.01	10.62	--	156.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	2/4/1998		--	--	--	--	72,000	500	1,300	1,700	12,000	<1,000	--	--	--	--	--	--	--	5.1	
MW-10	5/28/1998		167.01	15.46	--	151.55	220,000	3,200	24,000	5,200	43,000	<1,000	--	--	--	--	--	--	--	4.8	
MW-10	12/30/1998		167.01	16.65	--	150.36	110,000	3,500	14,000	5,800	50,000	<50	--	--	--	--	--	--	--	--	--
MW-10	2/2/1999		167.01	14.58	--	152.43	74,000	1,000	2,800	1,000	26,000	860	--	--	--	--	--	--	--	--	--
MW-10	5/10/1999		167.01	15.72	--	151.29	81,000	2,800	2,800	3,000	17,000	220	--	--	--	--	--	--	--	--	--
MW-10	8/24/1999		167.01	19.85	--	147.16	54,000	3,500	3,800	1,500	9,100	<250	--	--	--	--	--	--	--	--	--
MW-10	11/3/1999		167.01	20.00	--	147.01	30,000	3,000	3,500	1,200	5,000	31	--	--	--	--	--	--	--	--	--
MW-10	3/1/2000		167.01	14.62	--	152.39	62,000	320	1,200	1,100	26,000	4,400	--	--	--	--	--	--	--	--	--
MW-10	4/21/2000		167.01	15.46	--	151.55	88,000	2,700	7,400	3,700	35,000	2,400	--	--	--	--	--	--	--	--	--
MW-10	11/20/2000		167.01	18.74	--	148.27	78,000	3,800	5,500	2,800	13,000	450	--	--	--	--	--	--	--	--	--
MW-10	2/18/2001		167.01	14.10	--	152.91	39,000	1,050	1,160	1,550	14,700	4,180	--	--	--	--	--	--	--	--	--
MW-10	6/7/2001		167.01	18.78	--	148.23	76,000	2,460	2,840	3,330	20,700	635	--	--	--	--	--	--	--	--	--
MW-10	9/5/2001		167.01	21.40	0.01	145.60	25,000	2,510	2,070	1,090	4,540	189	--	--	--	--	--	--	--	--	--
MW-10	11/30/2001		167.01	18.50	--	148.51	100,000	2,480	5,720	3,890	22,800	325	--	--	--	--	--	--	--	--	--
MW-10	2/20/2002		167.01	14.39	--	152.62	49,000	2,170	3,070	1,960	12,300	1,090	--	--	--	--	--	--	--	--	--
MW-10	6/20/2002		167.01	18.80	--	148.21	44,000	2,040	3,050	1,690	8,430	224	--	--	--	--	--	--	--	--	--
MW-10	9/11/2002		167.01	20.52	--	146.49	28,000	1,200	2,700	1,400	6,800	<250	--	--	--	--	--	--	--	--	--
MW-10	11/12/2002		167.01	20.37	0.07	146.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	1/29/2003		167.01	16.33	0.03	150.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	5/22/2003		167.01	16.32	--	150.69	13,000	2,100	850	630	1,600	300	<2,000	<50	<50	<50	<10,000	--	--	--	--
MW-10	6/24/2003		167.01	18.73	0.04	148.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	7/28/2003		167.01	20.39	0.04	146.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	8/12/2003		167.01	20.43	0.01	146.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	9/12/2003		167.01	20.41	--	146.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	11/18/2003		167.01	19.55	0.01	147.46	9,900	2,200	530	320	860	<50	<2,000	<50	<50	<50	<10,000	--	--	--	--
MW-10	2/23/2004		167.01	15.45	0.01	151.56	46,000	1,900	2,000	1,800	9,000	180	<4,000	<100	<100	<100	<20,000	<100	<100	--	--
MW-10	5/4/2004		167.01	18.81	0.01	148.20	35,000	3,100	3,600	1,400	5,600	<25	<1,000	<25	<25	<25	<5,000	<25	<25	--	--
MW-10	8/4/2004		167.01	18.90	--	148.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	9/22/2004		167.01	20.60	--	146.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	11/10/2004		167.01	17.95	--	149.06	9,800	470	91	450	1,700	230	<1,000	<25	<25	<25	<5,000	<25	<25	--	--
MW-10	1/13/2005		167.01	12.21	--	154.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	2/15/2005		167.01	14.19	--	152.82	30,000	510	330	1,800	7,200	77	<2,000	<50	<50	<50	<10,000	<50	<50	--	--
MW-10	5/16/2005		167.01	13.85	--	153.16	37,000	540	730	2,100	9,200	<50	<2,000	<50	<50	<50	<10,000	<50	<50	--	--
MW-10	8/17/2005		167.01	19.01	--	148.00	15,000	1,100	420	1,200	4,100	<50	<2,000	<50	<50	<50	<10,000	<50	<50	--	--

Table-2
Historical Groundwater Monitoring and Analytical Data
CA-11132
3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes	
MW-10	11/18/2005		167.01	19.95	--	147.06	12,000	1,200	240	550	1,300	16	<500	<12	<12	<12	<2,500	<12	<12	--		
MW-10	2/7/2006		167.01	12.28	(Sheen)	154.73	22,000	340	580	1,300	4,500	73	<1,000	<25	<25	<25	<15,000	<25	<25	--		
MW-10	5/19/2006		167.01	15.12	--	151.89	40,000	690	430	2,600	4,900	<25	<1,000	<25	<25	<25	<15,000	<25	<25	--		
MW-10	8/23/2006		167.01	20.00	--	147.01	13,000	1,500	540	1,200	3,000	<10	<400	<10	<10	<10	<6,000	<10	<10	--		
MW-10	11/15/2006		167.01	19.84	--	147.17	3,800	700	22	67	160	54	<400	<10	<10	<10	<6,000	<10	<10	0.65		
MW-10	2/14/2007		167.01	14.94	(Sheen)	152.07	37,000	350	120	2,400	8,100	120	<400	<10	<10	<10	<6,000	<25	<10	2.12		
MW-10	5/22/2007		167.01	17.17	(Sheen)	149.84	13,000	810	130	750	2,200	15	<400	<10	<10	<10	<6,000	<10	<10	0.06		
MW-10	8/15/2007		167.01	20.30	(Sheen)	146.71	4,400	550	38	160	310	<10	<400	<10	<10	<10	<6,000	<10	<10	3.09		
MW-10	11/8/2007		167.01	19.58	(Sheen)	147.43	13,000	970	130	480	1,600	6	<200	<5.0	<5.0	<5.0	<3,000	<5	<5	1.47		
MW-10	2/20/2008		167.01	14.27	0.05	152.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-10	5/7/2008		167.01	18.61	--	148.40	16,000	970	150	770	2,000	<20	<400	<20	<20	<20	<12,000	<20	<20	2.18		
MW-10	8/20/2008		167.01	20.71	0.01	146.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-10	11/17/2008		167.01	19.71	--	147.30	10,000	960	57	270	720	23	<400	<20	<20	<20	<12,000	<20	<20	--		
MW-10	2/25/2009		167.01	13.10	--	153.91	2,900	53	14	69	160	170	280	<10	<10	<10	<6,000	<10	<10	4.06		
MW-10	4/8/2009		167.01	15.91	--	151.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-10	5/28/2009		167.01	17.37	(Sheen)	149.64	15,000	640	280	790	2,500	65	110	<2.5	<2.5	<2.5	<1,500	<2.5	<2.5	0.03		
MW-10	6/16/2009		167.01	18.79	0.01	148.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-10	8/6/2009		167.01	20.19	(Sheen)	146.82	23,000	850	490	1,200	4,100	<25	<500	<25	<25	<25	<15,000	<25	<25	0.06		
MW-10	3/4/2010		167.01	12.32	--	154.69	12,000	71	72	740	1,800	<2.5	160	<2.5	<2.5	<2.5	<500	<2.5	<2.5	0.56	(P)	
MW-10	9/2/2010		167.01	19.63	--	147.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(b,j)	
MW-10	3/15/2011		167.01	13.20	--	153.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(b,j)	
MW-10	8/17/2011		167.01	18.27	--	148.74	4,000	780	39	250	290	<5.0	<40	<5.0	<5.0	<5.0	<2,500	<5	<5	--	(P)	
MW-10	2/6/2012		167.01	16.32	--	150.69	6,300	1,100	39	340	470	<5.0	<40	<5.0	<5.0	<5.0	<2,500	<5*	<5	--	(P)	
MW-10	8/21/2012		167.01	19.66	0.02	147.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(LPH)
MW-10	2/4/2013		167.01	15.75	(sheen)	151.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	3/7/1991		168.01	17.62	--	150.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	4/1/1991		168.01	14.40	--	153.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	7/3/1992		168.01	20.66	--	147.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	10/5/1992		168.01	23.34	--	144.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	1/13/1993		168.01	16.59	--	151.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	4/23/1993		168.01	16.17	--	151.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	7/12/1993		168.01	20.18	--	147.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	10/21/1993		168.01	25.70	--	142.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	1/21/1994		168.01	21.24	--	146.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	4/20/1994		168.01	32.20	--	135.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	8/1/1994		168.01	21.70	--	146.31	29,000	580	950	300	7,800	1,200	--	--	--	--	--	--	--	--	1.1	
RW-1	12/23/1994		168.01	16.02	--	151.99	1,300	25	8.6	1.4	69	616	--	--	--	--	--	--	--	--	1.8	
RW-1	1/26/1995		168.01	13.78	--	154.23	<50	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	--	--	--	--	--	
RW-1	1/26/1995	Dup	168.01	13.78	--	154.23	<50	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	--	--	--	--	--	(Dup)
RW-1	6/8/1995		168.01	20.05	--	147.96	1,300	130	<1.0	<1.0	36	--	--	--	--	--	--	--	--	--	--	
RW-1	8/22/1995		168.01	21.74	--	146.27	2,800	210	9.3	4.3	250	<25	--	--	--	--	--	--	--	--	6.6	
RW-1	8/22/1995	Dup	168.01	21.74	--	146.27	3,300	230	13	4.9	280	<25	--	--	--	--	--	--	--	--	--	(Dup)
RW-1	10/27/1995		168.01	32.00	--	136.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	10/30/1995		--	--	--	--	230	1.4	<1.0	<1.0	<2.0	650	--	--	--	--	--	--	--	--	6.9	
RW-1	10/30/1995	Dup	--	--	--	--	240	1.6	<1.0	<1.0	<2.0	630	--	--	--	--	--	--	--	--	--	(Dup)
RW-1	1/25/1996		168.01	15.41	--	152.60	15,000	3,400	930	330	2,500	5,300	--	--	--	--	--	--	--	--	--	
RW-1	4/19/1996		168.01	16.83	--	151.18	35,000	5,500	3,300	1,700	9,400	14,000	--	--	--	--	--	--	--	--	7.6	
RW-1	4/19/1996	Dup	168.01	16.83	--	151.18	33,000	5,600	3,200	1,700	8,800	15,000	--	--	--	--	--	--	--	--	--	(Dup)
RW-1	7/23/1996		168.01	20.76	--	147.25	46,000	3,600	2,300	900	5,100	36,000	--	--	--	--	--	--	--	--	7.4	
RW-1	7/23/1996	Dup	168.01	20.76	--	147.25	47,000	3,700	2,500	930	5,300	35,000	--	--	--	--	--	--	--	--	--	(Dup)
RW-1	11/11/1996		168.01	21.73	--	146.28	34,000	3,000	1,200	880	4,600	22,000	--	--	--	--	--	--	--	--	8.3	
RW-1	11/11/1996	Dup	168.01	21.73	--	146.28	31,000	2,900	1,000	860	4,600	22,000	--	--	--	--	--	--	--	--	--	(Dup)
RW-1	1/21/1997		168.01	14.20	--	153.81	260	40	16	2.7	34	1,500	--	--	--	--	--	--	--	--	6.1	
RW-1	1/21/1997	Dup	168.01	14.20	--	153.81	270	42	17	2.7	36	1,500	--	--	--	--	--	--	--	--	--	(Dup)
RW-1	4/29/1997		168.01	19.15	--	148.86	32,000	3,100	590	1,300	6,000	46,000	--	--	--	--	--	--	--	--	5.3	
RW-1	8/21/1997		168.01	20.67	--	147.34	7,600	730	58	370	1,780	9,500	--	--	--	--	--	--	--	--	4.7	
RW-1	11/5/1997		168.01	21.01	--	147.00	39,000	2,300	86	1,300	3,840	56,000	--	--	--	--	--	--	--	--	4.5	

Table-2
 Historical Groundwater Monitoring and Analytical Data
 CA-11132
 3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
RW-1	2/3/1998		168.01	10.68	--	157.33	3,400	31	11	29	161	3,200	--	--	--	--	--	--	--	5.1	
RW-1	5/28/1998		168.01	15.55	--	152.46	2,000	90	15	60	305	2,700	--	--	--	--	--	--	--	4.3	
RW-1	12/30/1998		168.01	17.35	--	150.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	2/2/1999		168.01	14.58	--	153.43	82,000	2,300	120	2,000	3,200	78,000	--	--	--	--	--	--	--	--	
RW-1	5/10/1999		168.01	16.00	--	152.01	15,000	620	88	340	660	61,000	--	--	--	--	--	--	--	--	
RW-1	8/24/1999		168.01	20.00	--	148.01	52,000	1,400	170	2,200	2,900	37,000	--	--	--	--	--	--	--	--	
RW-1	11/3/1999		168.01	20.39	--	147.62	17,000	2,500	86	1,500	970	54,000	--	--	--	--	--	--	--	--	
RW-1	3/1/2000		168.01	12.97	--	155.04	17,000	580	78	790	1,100	13,000	--	--	--	--	--	--	--	--	
RW-1	4/21/2000		168.01	16.02	--	151.99	31,000	2,100	100	1,400	1,100	39,000	--	--	--	--	--	--	--	--	
RW-1	7/31/2000		168.01	21.89	--	146.12	47,000	1,300	170	2,700	2,300	30,000	--	--	--	--	--	--	--	--	
RW-1	11/20/2000		168.01	19.15	--	148.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	2/18/2001		168.01	15.35	--	152.66	14,000	589	89	600	712	13,000	--	--	--	--	--	--	--	--	
RW-1	6/7/2001		168.01	19.09	--	148.92	28,000	1,140	68.2	504	530	19,100	--	--	--	--	--	--	--	--	
RW-1	9/5/2001		168.01	22.06	0.02	145.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	11/30/2001		168.01	19.53	--	148.48	20,000	405	39.4	545	740	8,260	--	--	--	--	--	--	--	--	
RW-1	2/20/2002		168.01	15.99	--	152.02	13,000	469	29	434	655	7,240	--	--	--	--	--	--	--	--	
RW-1	6/20/2002		168.01	19.31	--	148.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	9/11/2002		168.01	21.07	0.03	146.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	11/12/2002		168.01	20.92	0.02	147.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	1/29/2003		168.01	16.31	0.04	151.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	5/22/2003		168.01	16.68	--	151.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	6/24/2003		168.01	19.76	0.07	148.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	7/28/2003		168.01	21.04	0.04	146.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	8/12/2003		168.01	21.41	0.01	146.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	9/12/2003		168.01	21.10	0.07	146.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	11/18/2003		168.01	20.10	0.01	147.91	12,000	770	<50	320	250	6,100	11,000	<50	<50	160	<10,000	--	--		
RW-1	2/23/2004		168.01	14.35	0.01	153.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	5/4/2004		168.01	19.58	0.02	148.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	8/4/2004		168.01	22.05	0.05	146.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	9/22/2004		168.01	21.28	0.06	146.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	11/10/2004		168.01	18.56	0.02	149.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	1/13/2005		168.01	12.51	0.01	155.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	2/15/2005		168.01	15.24	0.03	152.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	3/7/2005		168.01	11.90	0.02	156.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	5/16/2005		168.01	14.39	0.02	153.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	8/17/2005		168.01	19.91	0.03	148.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	11/18/2005		168.01	20.36	0.07	147.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	2/7/2006		168.01	12.87	0.01	155.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	5/19/2006		168.01	15.87	0.04	152.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	8/23/2006		168.01	20.50	0.07	147.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	11/15/2006		168.01	20.52	0.07	147.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	2/14/2007		168.01	15.44	0.04	152.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	5/22/2007		168.01	17.78	(Sheen)	150.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	8/15/2007		168.01	20.80	0.02	147.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	11/8/2007		168.01	20.32	0.01	147.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	2/20/2008		168.01	14.55	0.02	153.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	8/20/2008		168.01	21.34	0.02	146.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	11/17/2008		168.01	20.41	--	147.60	13,000	120	<20	590	320	120	<400	<20	<20	<20	<12,000	<20	<20	--	
RW-1	2/25/2009		168.01	13.40	0.02	154.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	4/8/2009		168.01	16.45	--	151.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	5/28/2009		168.01	17.88	0.01	150.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	6/16/2009		168.01	19.30	0.01	148.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	8/6/2009		168.01	20.72	0.01	147.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
RW-1	3/4/2010		168.01	12.33	--	155.68	8,000	20	<2.5	230	140	110	45	<2.5	<2.5	5.7	<500	<2.5	<2.5	1.24	(P)
RW-1	9/2/2010		168.01	20.14	--	147.87	4,700	18	<2.5	78	46	<2.5	<20	<2.5	<2.5	<2.5	<500	<2.5	<2.5	--	(NP)
RW-1	3/15/2011		168.01	13.03	--	154.98	7,000	3.7	<2.5	44	31	6.7	<20	<2.5	<2.5	<2.5	<1,200	<2.5	<2.5	--	(P)
RW-1	8/17/2011		168.01	18.60	--	149.41	2,800	7.5	<2.5	12	10	8.8	<20	<2.5	<2.5	<2.5	<1,300	<2.5	<2.5	--	(P)
RW-1	2/6/2012		168.01	16.81	--	151.20	1,300	3.1	<2.5	5.2	5.1	2.9	<20	<2.5	<2.5	<2.5	<1,300	<2.5*	<2.5	--	(P)

Table-2
Historical Groundwater Monitoring and Analytical Data
CA-11132
3201 35th Ave, Oakland, CA 94619

Well ID	Date	Type	TOC (ft msl)	DTW (ft)	Measured LNAPL Thickness (ft)	GW Elev (ft msl)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DO (mg/L)	Notes
RW-1	8/21/2012		168.01	20.06	--	147.95	1,200	10	0.58	10	5.2	15	<4.0	<0.50	<0.50	1	<250	<0.5	<0.5	--	(P)
RW-1	2/4/2013		168.01	16.36	(sheen)	151.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

TOC = Top of casing measured

DTW = Depth to water

LNAPL = Light non-aqueous phase liquid (LPH)

GW Elev = Groundwater elevation

GRO = Gasoline range organics

B = Benzene

T = Toluene

E = Ethylbenzene

X = Total xylenes

MTBE = Methyl tert-butyl ether

TBA = tert-butyl alcohol

DIPE = Di-isopropyl ether

ETBE = Ethyl tert-butyl ether

TAME = tert-Amyl methyl ether

DO = Dissolved oxygen

1,2-DCA = 1,2-dichloroethane

EDB = 1,2-dibromoethane

Ft msl = Feet above mean sea level

DUP = Duplicate sample

-- = Not analyzed/applicable/measured/available

< = Not detected at or above specified laboratory reporting limit

mg/L = Milligrams per liter

µg/L = Micrograms per liter

NP = Well not purged prior to sampling

P = Well purged prior to sampling

b = GWE adjusted assuming a specific gravity of 0.75 for free product

j = Well not sampled due to presence of LPH and nature of the product

t = Sheen in well

y = Sample dilution was done with headspace in the sample vial; the samples were originally analyzed from VOAs without headspace

* = LCS or LCS D exceeds the control limits

Beginning in the Fourth Quarter 2003, the laboratory modified the reported analyte list; TPHg was changed to GRO; the resulting data may be impacted by the potential of non-TPHg analytes within the requested fuel range resulting in a higher concentration being reported

Beginning in the Second Quarter 2004, the carbon range for GRO was changed from C6-C10 to C4-C12

Values for DO and pH were obtained through field measurements

GRO analysis was completed by EPA method 8260B (C4-C12) for samples collected from the time period April 2006 through February 4, 2008; the analysis for GRO was changed to EPA method 8015B (C6-C12) for samples collected from the time period February 5, 2008 through the present

The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants; Broadbent & Associates, Inc. has not verified the accuracy of this information

Detections are bolded

Results about respective ESLs are highlighted



Appendix F

Historical Soil Vapor Data

Soil Gas Samples - Laboratory Analytical Results

Sample Identification	Benzene (mg/m ³)	Toluene (mg/m ³)	Ethyl-benzene (mg/m ³)	Total Xylenes (mg/m ³)	Oxygen (%)	Carbon Dioxide (%)
SG-1	0.0090	0.22	0.150	0.82	15.4	7.80
SG-2	0.0073	0.08	0.059	0.37	14.1	9.39
ESLs	0.084	63	0.98	21	NA	NA

mg/m³ = milligrams per cubic meter

NA = not applicable

Concentrations of GRO, MTBE, TBA, DIPE, ETBE, TAME, and Isopropanol are not included in the above table as the results for these constituents were below their respective laboratory reporting limits. No significant irregularities were reported during laboratory analysis of the soil gas samples. The laboratory results for soil gas sample analyses were uploaded to the GeoTracker AB2886 database. Copies of the GeoTracker upload confirmation receipts (EDF) are provided within Appendix C.

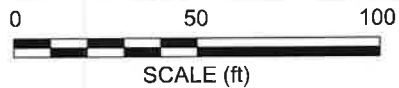
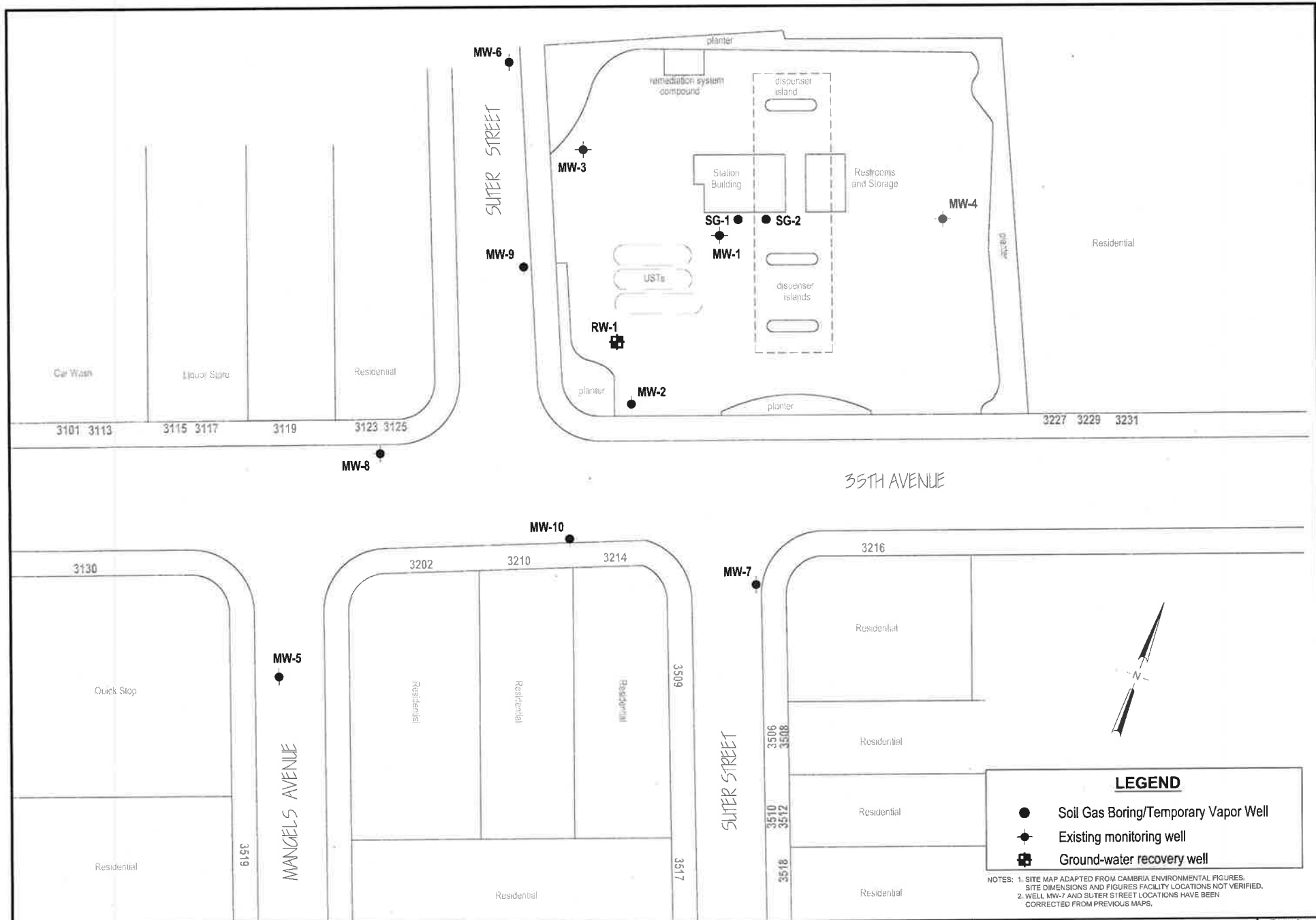
3.6 Discussion of Vapor Intrusion Results

The results obtained during the vapor intrusion assessment activities conducted on-site at Station #11132 indicate that minor concentrations of BTEX are present within shallow subsurface soils adjacent to the station building. However, the soil gas concentrations observed are significantly below the residential land use ESLs for shallow soil gas established by the SFRWQCB. The residential land use ESLs were used for comparison in an effort to utilize the most conservative approach. The leak test compound, Isopropanol, was not detected above laboratory reporting limits, which suggests that the sampling train and fittings was securely sealed. The analytical results also indicated the presence of oxygen and carbon dioxide within the shallow subsurface soils at the Site. The presence of oxygen and carbon dioxide in the soil suggests that biodegradation of petroleum hydrocarbons is potentially occurring within the soil pore space. Based on the minor concentrations of BTEX and the presence of oxygen and carbon dioxide within the shallow subsurface soil, the vapor intrusion to indoor air migration pathway into the station building does not appear to be a valid and complete pathway.

4.0 DUAL-PHASE EXTRACTION PILOT TEST

Stratus performed the field activities associated with the DPE pilot test conducted during the period between 11 May and 19 May 2009 as approved by ACEH in their letter dated 16 April 2009. Prior to initiation of DPE pilot testing activities, Stratus submitted a notification letter to the Bay Area Air Quality Management District outlining the proposed scope of work. A copy of this letter is provided in Appendix A.

Existing wells MW-1, MW-2, MW-8, MW-9, MW-10, and RW-1 were used as individual and combined extraction wells for this DPE pilot test. Selection of these extraction wells was based



BROADBENT & ASSOCIATES, INC.
 ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
 1324 Mangrove Ave. Suite 212, Chico, California 95926
 Project No.: 06-08-655 Date: 7/13/09

Former BP Service Station #11132
 3201 35th Avenue
 Oakland, California

Site Layout Plan

Drawing

2



ACEH Checklists

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA A

General Criteria a:	<input type="checkbox"/> Y	<input type="checkbox"/> N		
Is the Unauthorized Release Located within the Service Area of a Public Water System?	<input type="checkbox"/> Y	<input type="checkbox"/> N		
<p>LTCP Statement: “This policy is protective of <u>existing water supply wells</u>. <u>New water supply wells</u> are unlikely to be installed in the shallow groundwater near former UST release sites. However, it is difficult to predict, on a statewide basis, where new wells will be installed, particularly in rural areas that are undergoing new development. This policy is limited to areas with available public water systems to reduce the likelihood that new wells in developing areas will be inadvertently impacted by residual petroleum in groundwater. Case closure outside of areas with a public water system should be evaluated based upon the fundamental principles in this policy and a site specific evaluation of developing water supplies in the area. For purposes of this policy, a <u>public water system</u> is a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.”</p>				
If the unauthorized release is <u>located within</u> the service area of a public water supply system, then				
Name of public water system agency?				
East Bay Municipal Utility District	<input type="checkbox"/> Y			
Zone 7 Water Agency	<input type="checkbox"/> Y			
City of Hayward Water	<input type="checkbox"/> Y			
Alameda County Water District	<input type="checkbox"/> Y			
Other:	<input type="checkbox"/> Y			
Are there existing water supply wells or other sources of water in the vicinity of the site? Use General Criteria e – CSM Well Survey sheet to support answer	<input type="checkbox"/> Y	<input type="checkbox"/> N		
<i>Note: If yes, the site must still satisfy the groundwater media specific criteria for distance from the contaminant plume boundary to existing wells</i>		<input type="checkbox"/> NE		
If the unauthorized release is <u>located outside</u> the service area of a public water supply system, then				
Are there additional characteristics to consider that might result in a low-threat designation?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has a site-specific evaluation of developing water supplies in the area been conducted?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is impacted groundwater shallower than the sanitary seal requirement for supply wells in the applicable county?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Applicable County Sanitary Seal Requirements:				
Are impacted perched water zones not a viable potential water supply?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Does high salinity or low yield negate the impacted groundwater from drinking water beneficial use per State Water Board Resolution 1988-0063, or de-designated areas of the applicable Basin Plans?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Will Water Quality Objectives (WQOs) in the groundwater plume be attained through natural attenuation within a reasonable time, prior to the expected need for use of any affected groundwater?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA A

General Criteria a: Case Notes

Case File Reference Documents:

Attachments:

Case Notes:

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA B

General Criteria b:	<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> NE	
Does the Unauthorized Release Consist only of Petroleum?				
<p>LTCP Statement: “For purposes of this policy, petroleum is defined as crude oil, or any fraction thereof, which is liquid at standard conditions and temperature and pressure, which means 60 degrees Fahrenheit and 14.7 pounds per square inch absolute including the following substances: motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents and used oils, including any additives and blending agents such as oxygenates contained in the formulation of the substances.”</p>				
Have adequate site investigation activities been conducted to evaluate unauthorized releases of potential chemicals of concern (PCOCs) and chemicals of concern (COCs) from on-site sources due to historical site activities and chemical usage?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have areas of concern been identified based on historical site activities and chemical usage?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have unauthorized releases from underground storage tanks been identified?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have unauthorized releases from above ground storage tanks been identified?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have unauthorized releases from site infrastructure (i.e., sumps, drains, sanitary sewer, etc) been identified?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have unauthorized releases from surface spills at dispenser islands, tank fill ports, etc. been identified?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have unauthorized releases from other on-site sources been identified?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has the site been impacted by off-site sources?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Are detected COCs <u>consistent</u> with reported site use?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
If detected COCs <u>are not consistent</u> with reported site use, then are there other regulatory cases in the vicinity of the site? Identify regulatory case number(s): <div style="border: 1px solid black; height: 20px; width: 50%; margin-top: 5px;"></div>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
If there <u>are not other regulatory cases</u> in the vicinity of the site, then has an investigation of other potential sources and contaminant migration pathways been conducted? <i>Use General Criteria e – Conceptual Site Model (Off-site sources) sheets to support answer</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has site contamination in all affected media been fully characterized? <i>Use page b-2 and General Criteria e – Conceptual Site Model COCs and PCOCs sheets to identify site contaminants</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Soil?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Soil Gas?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Groundwater?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Surface Water?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has a data quality review verified the validity of historic analytical data? <i>Use General Criteria e – Conceptual Site Model Analytical Data Quality Review sheets to support answers</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have appropriate protocols been followed for obtaining representative samples?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Are the analytical methods currently being used consistent with the recommended “best practices” in the CA LUFT Manual?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have appropriate method detection limits been used (i.e., less than the LTCP media specific criteria for groundwater, vapor intrusion to indoor air, and direct contact and outdoor air exposure, and/or current environmental screening levels as appropriate?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

LOW THREAT CLOSURE POLICY – GENERAL CRITERIA B

General Criteria b: Case Notes

Case File Reference Documents:

Attachments:

Case Notes:

LOW THREAT CLOSURE POLICY – GENERAL CRITERIA B

Chemicals of Concern (COCs - detected) and Potential Chemicals of Concern (PCOCs – i.e., not detected but used in site operations) in Soil, Groundwater, Soil Gas, and/or Surface Water¹

PETROLEUM HYDROCARBON SOURCE TYPE(S)																
COC/PCOC	Soil				Groundwater				Soil Gas <input checked="" type="checkbox"/>, Crawl Space <input type="checkbox"/>, Indoor Air <input type="checkbox"/>				Surface Water			
Gasoline²	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Fuel Oils³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Diesel	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Stoddard Solvent	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Jet Fuels	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Kerosene	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Home Heating Fuel	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Bunker Fuel	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Others	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Oils	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Waste Oil ⁴	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Hydraulic Oil	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Lubricating Oil	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Oil and Grease	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Motor Oil	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Others	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA

- Key:
- Y = Detected at site
 - N = Tested for but never detected (method reporting limit less than current screening levels – validated by case review)
 - NE = Identified Data Gap - Needs Further Evaluation (Tested for but never detected (method reporting limit greater than current screening levels)
 - NA = Not Applicable (never present at site – validated by case review)

LOW THREAT CLOSURE POLICY – GENERAL CRITERIA B

Chemicals of Concern (COCs) and Potential Chemicals of Concern (PCOCs) in Soil, Groundwater, Soil Gas, and/or Surface Water¹

TOTAL PETROLEUM HYDROCARBON – GASOLINE RELATED CONSTITUENTS²																
COC/PCOC	Soil				Groundwater				Soil Gas, Crawl Space or Indoor Air				Surface Water			
TPH																
TPH-g	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
GRO	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Others	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Aromatics																
Benzene	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Toluene	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Ethylbenzene	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Xylenes	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Napthalene	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Fuel Oxys⁵																
MTBE ⁶	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
ETBE	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
TAME	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
TBA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
DIPE	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Ethanol	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Methanol	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> NE	<input type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Others	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Leaded Gas																
TML ⁷	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
EDC ⁸	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
EDB ⁸	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA

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LOW THREAT CLOSURE POLICY – GENERAL CRITERIA B

Chemicals of Concern (COCs) and Potential Chemicals of Concern (PCOCs) in Soil, Groundwater, Soil Gas, and/or Surface Water¹

TOTAL PETROLEUM HYDROCARBONS – DIESEL, JET FUEL, AND OTHER FUEL OIL RELATED CONSTITUENTS³																
COC/PCOC	Soil				Groundwater				Soil Gas <input checked="" type="checkbox"/>, Crawl Space <input type="checkbox"/>, Indoor Air <input type="checkbox"/>				Surface Water			
TPH																
TPH-d	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
DRO	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
TEPH	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Aromatics																
Benzene	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Toluene	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Ethylbenzene	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Xylenes	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Napthalene	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Others																
PAHs ⁹	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA

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LOW THREAT CLOSURE POLICY – GENERAL CRITERIA B

Chemicals of Concern (COCs) and Potential Chemicals of Concern (PCOCs) in Soil, Groundwater, Soil Gas, and/or Surface Water¹

WASTE (USED) OILS⁴																
COC/PCOC	Soil				Groundwater				Soil Gas <input checked="" type="checkbox"/>, Crawl Space <input type="checkbox"/>, Indoor Air <input type="checkbox"/>				Surface Water			
TPH																
TPH-g	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
GRO	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
TPH-d	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
DRO	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
TPH-mo	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
TEPH	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
MORO	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Others	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Aromatics																
Benzene	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Toluene	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Ethylbenzene	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Xylenes	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Napthalene	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Fuel Oxys																
MTBE	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
TBA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Others	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Wear Metals¹⁰																
Total Lead	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Cadmium	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Chromium	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Zinc	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Nickel	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Others																
CVOCs ¹¹	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
PCBs	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
PCPs	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Dioxins & Furans ¹²	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA

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LOW THREAT CLOSURE POLICY – GENERAL CRITERIA B

Chemicals of Concern (COCs) and Potential Chemicals of Concern (PCOCs) in Soil, Groundwater, Soil Gas, and/or Surface Water¹

NON PETROLEUM HYDROCARBON SOURCE - RELATED CONTAMINANTS

COC/PCOC	Soil				Groundwater				Soil Gas <input checked="" type="checkbox"/> , Crawl Space <input type="checkbox"/> , Indoor Air <input type="checkbox"/>				Surface Water			
	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
VOCs ¹¹	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
SVOCs ¹³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
OCPs ¹⁴	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Herbicides ¹⁵	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Metals ¹⁶	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Others	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA

REMEDIALTION - RELATED BYPRODUCTS

COC/PCOC	Soil				Groundwater				Soil Gas <input checked="" type="checkbox"/> , Crawl Space <input type="checkbox"/> , Indoor Air <input type="checkbox"/>				Surface Water			
	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Remediation Byproducts	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Chromium VI	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Other Metals ¹⁶	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA
Others	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input checked="" type="checkbox"/> NA

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LOW THREAT CLOSURE POLICY – CONCEPTUAL SITE MODEL

Chemicals of Concern (COCs) and Potential Chemicals of Concern (PCOCs) in Soil, Groundwater, Soil Gas, and/or Surface Water

VOLATILE ORGANIC COMPOUNDS									
Compound	S	SG	GW	SW					
Benzene	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bromobenzene	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bromochloromethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bromodichloromethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bromoform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bromomethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n-Butylbenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sec-Butylbenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
tert-Butylbenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carbon tetrachloride	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chlorobenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chlorodibromomethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chloroethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chloroform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chloromethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2-Chlorotoluene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4-Chlorotoluene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,2-Dibromo-3-chloropropane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,2-Dibromoethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dibromomethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,2-Dichlorobenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,3-Dichlorobenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,4-Dichlorobenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dichlorodifluoromethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,1-Dichloroethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,2-Dichloroethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,1-Dichloroethene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
cis-1,2-Dichloroethene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
trans-1,2-Dichloroethene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,2-Dichloropropane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2,2-Dichloropropane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,3-Dichloropropane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,1-Dichloropropene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ethylbenzene	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hexachlorobutadiene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Isopropylbenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p-Isopropyltoluene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methylene chloride	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Naphthalene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n-Propylbenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Styrene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,1,1,2-Tetrachloroethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,1,2,2-Tetrachloroethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tetrachloroethene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toluene	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,2,4-Trichlorobenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,2,3-Trichlorobenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,1,1-Trichloroethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,1,2-Trichloroethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trichloroethene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trichlorofluoromethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,2,3-Trichloropropane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,2,4-Trimethylbenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,3,5-Trimethylbenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vinyl chloride	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o-Xylene	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m-Xylene	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p-Xylene	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methyl-t-butyl ether	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dichlorofluoromethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Chemicals of Concern (COCs) and Potential Chemicals of Concern (PCOCs) in Soil, Groundwater, Soil Gas, and/or Surface Water

SEMI-VOLATILE ORGANIC COMPOUNDS

~~S/GW NE SO/SW NA~~

Compound	S	SG	GW	SW					Compound	S	SG	SW	GW				
1,2-Dichlorobenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
1,2,4-Trichlorobenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
1,3-Dichlorobenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
1,4-Dichlorobenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2-Chloronaphthalene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2-Chlorophenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2-Methylnaphthalene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2-Methylphenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2-Nitroaniline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2-Nitrophenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2,2'-oxybis (1-Chloropropane)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2,4-Dichlorophenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2,4-Dimethylphenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2,4-Dinitrophenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2,4-Dinitrotoluene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2,4,5-Trichlorophenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2,4,6-Trichlorophenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
2,6-Dinitrotoluene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
3-Nitroaniline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
3,3'-Dichlorobenzidine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
4-Bromophenyl-phenylether	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
4-Chloro-3-methylphenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
4-Chloroaniline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
4-Chlorophenyl-phenyl ether	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
4-Methylphenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
4-Nitroaniline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
4-Nitrophenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
4,6-Dinitro-2-methylphenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Acenaphthene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Acenaphthylene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Anthracene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Benzo(a)anthracene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Benzo(a)pyrene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Benzo(b)fluoranthene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Benzo(g,h,i)perylene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Benzo(k)fluoranthene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
bis(2-Chloroethoxy)-methane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
bis(2-Chloroethyl) ether	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
bis(2-Ethylhexyl)phthalate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Butylbenzylphthalate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Carbazole	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Chrysene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Di-n-butylphthalate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Di-n-octylphthalate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Dibenz(a,h)anthracene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Dibenzofuran	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Diethylphthalate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Dimethylphthalate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Fluoranthene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Fluorene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Hexachlorobenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Hexachlorobutadiene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Hexachlorocyclopentadiene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Hexachloroethane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Indeno(1,2,3-cd)pyrene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Isophorone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
N-Nitroso-di-n-propylamine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
N-nitrosodiphenylamine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Naphthalene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Nitrobenzene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Pentachlorophenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Phenanthrene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Phenol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		
Pyrene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	NE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NA		

- Key:
- Y = Detected at site
 - N = Tested but never detected (method reporting limit less than current screening levels – validated by case review)
 - NE = Identified Data Gap - Needs Further Evaluation (Tested for but never detected (method reporting limit greater than current screening levels)
 - NA = Not Applicable (never present at site – validated by case review)

LOW THREAT CLOSURE POLICY – GENERAL CRITERIA B

Chemicals of Concern (COCs) and Potential Chemicals of Concern (PCOCs) in Soil, Groundwater, Soil Gas, and/or Surface Water¹

Notes:

CVOCS = Chlorinated Volatile Organic Compounds

DIPE = di-isopropyl ether

EDC (ethylene dichloride) or 1,2-DCA (1,2-dichloroethane or ethylene dibromide)

EDB = 1,2-dibromomethane

ETBE = ethyl tert butyl ether

MTBE = methyl tert butyl ether (banned in CA since 2004)

OCPs = Organochlorine Pesticides

PAH = Polycyclic Aromatic Hydrocarbons or Polynuclear Aromatic Hydrocarbons

PCPs = Pentachlorophenol (wood preservative)

TAME = tert amyl methyl ether

TBA = t-Butyl Alcohol

TEL = tetra ethyl lead

TML = tetra methyl lead

SVOCs = Semi-volatile Organic Compounds

VOCs = Volatile Organic Compounds

1 = The analytes listed below are recommended in the CA LUFT Manual to ensure that site characterization is complete. Note that more analytes are recommended than are used as “criteria” chemicals in the LTCP for the various media.

2 = **CA LUFT Manual recommended analyses for gasoline releases** include BTEX, naphthalene, and fuel oxygenates (MTBE and TBA) and/or lead scavengers if gasoline release was pre-1992.

3 = **CA LUFT Manual recommended analyses for fuel oil releases** include BTEX, and naphthalene. Additionally, for heavy fuel oil such as bunker fuel the priority pollutant PAHs should be added to the list of analytes.

4 = **CA LUFT Manual recommended analyses for waste (used) motor oils** include BTEX, the 16 priority pollutant PAHs, chlorinated solvents (which will include EDB and EDC), and fuel oxygenates (MTBE and TBA). For soil only analysis for the five “wear metals” is also recommended.

5 = ACEH recommended analysis of all fuel oxygenates

6 = MTBE to be analyzed at all LUFT sites unless the tank contained only diesel or jet fuel per California Health and Safety Code 25296.15(a). MTBE was added to gasoline in California starting in approximately the late 1980’s/early 1990’s and was banned in 2004.

7 = Samples to be analyzed for tetra methyl lead

8 = Samples to be initially analyzed for lead scavengers EDC and EDB for all release sites and fuel oxygenates

9 = Use page b-8 to identify priority PAHs

10 = Wear metals need only be analyzed for soil

11 = Use page b-7 to identify specific VOCs

12 = Analyzed for dioxins and furans if PCBs and/or PCPs are detected

13 = Use page b-8 to identify specific SVOCs

14 = Use page b- to identify OCPs

15 = Use page b- to identify herbicides

16 = Use page b- to identify metals (in addition to the 5 wear metals)

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA C

General Criteria c: Has the Unauthorized (“Primary”) Release from the UST System been Stopped?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
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LTCP Statement: “The tank, pipe, or other appurtenant structure that released petroleum into the environment (i.e. the primary source) has been removed, repaired or replaced. It is not the intent of this policy to allow sites with ongoing leaks from the UST system to qualify for low-threat closure.”

Fuel Dispensing Facility History (list in chronological order, starting with operational in-place tanks)

	Contents (gas - (leaded, unleaded), diesel, waste oil, etc.)	Type (steel, fiberglass single- walled, double- walled)	Evidence of Release? (Y/N)	Closed in Place, Removed, or Upgraded?	Responsible Party (Organization Name, Type)	Date Installed	Date Removed
Tank (capacity in gallons)							
Piping							
Dispensers							
Other Structures							

Is the site currently an operating fuel dispensing facility?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have there been multiple tank system locations at the site?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have there been multiple releases at the site?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Was there a previous/different regulatory case at this site? Identify previous case number: <div style="border: 1px solid black; height: 20px; width: 50%; margin-top: 5px;"></div>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is there evidence of releases from other on-site sources besides the UST system(s)?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is there indication of impacts from offsite sources?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use General Criteria e – Conceptual Site Model (Sources) sheets to support answers

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA C

General Criteria c:

Has the Unauthorized (“Primary”) Release from the UST System been Stopped?

Case File Reference Documents:

Attachments:

Case Notes:

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA D

General Criteria d:				<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has Free Product been Removed to the Maximum Extent Practicable?							
<p>LTCP Statement: "At petroleum unauthorized release sites where investigations indicate the presence of free product, free product shall be removed to the maximum extent practicable. In meeting the requirements of this section:</p> <p>(a) Free product shall be removed in a manner that minimizes the spread of the unauthorized release into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery byproducts in compliance with applicable laws;</p> <p>(b) Abatement of free product migration shall be used as a minimum objective for the design of any free product removal system; and</p> <p>(c) Flammable products shall be stored for disposal in a safe and competent manner to prevent fires or explosions."</p>							
Has free product (migrating of mobile LNAPL) been detected in site monitoring wells?				<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
MW ID	Date FP First Observed	Max FP Apparent Thickness (feet), sheen, or globules	Most Recently Observed FP Apparent Thickness (feet)	Date of Most Recent FP Observation			
Has a description of the standard operating procedures used to measure free product in wells been provided?				<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has an adequate LNAPL Conceptual Site Model been developed?				<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Was free product observed during tank removal activities or station upgrades?				<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has an evaluation of the adequacy of the monitoring well network and appropriateness of screen interval to detect free product been conducted?				<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have there been other indications of the presence of free product (i.e., observations during tank removal, observations during exploratory drilling, bore logs, dissolved phase concentrations of COCs greater than their effective solubility's in groundwater, etc.)				<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has a preferential pathway study been conducted to determine the probability of free product encountering geologic and anthropogenic preferential pathways and conduits that can act as contaminant migration pathways to or from the site?				<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has the LNAPL body spatial distribution (horizontal and vertical) been defined?				<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Are there risk and exposure issues attributed to the presence of the LNAPL?				<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has an evaluation of whether free product removal is practicable, or if not practicable, a description of the conditions that prevent free product removal been conducted?				<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Use General Criteria e - Conceptual Site Model (Free Product) sheets to support answer							
Has free product removal been implemented?				<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Location/ MW ID	Method (Absorbent Materials, Bailing, Skimmer, DPE, Excavation, etc.)	Cumulative Gallons/Volume/Mass Removed		Dates Implemented			
Does data indicate rebound of free product subsequent to product removal?				<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

RW-1

unknown

71.01 gal

2001 - 2009

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA D

General Criteria d:

Has Free Product been Removed to the Maximum Extent Practicable?

Case File Reference Documents:

Attachments:

Case Notes:

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA E

General Criteria e:	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE
Has a Conceptual Site Model that Assesses the Nature, Extent, and Mobility of the Release been Developed?			
<p>LTCP Statement: “The Conceptual Site Model (CSM) is a fundamental element of a comprehensive site investigation. The CSM establishes the source and attributes of the unauthorized release, describes all affected media (including soil, groundwater, and soil vapor as appropriate), describes local geology, hydrogeology and other physical site characteristics that affect contaminant environmental transport and fate, and identifies all confirmed and potential contaminant receptors (including water supply wells, surface water bodies, structures and their inhabitants). The CSM is relied upon by practitioners as a guide for investigative design and data collection. Petroleum release sites in California occur in a wide variety of hydrogeologic settings. As a result, contaminant fate and transport and mechanisms by which receptors may be impacted by contaminants vary greatly from location to location. Therefore, the CSM is unique to each individual release site. All relevant site characteristics identified by the CSM shall be assessed and supported by data so that the nature, extent and mobility of the release have been established to determine conformance with applicable criteria in this policy. The supporting data and analysis used to develop the CSM are not required to be contained in a single report and may be contained in multiple reports submitted to the regulatory agency over a period of time.”</p>			
Has a CSM been prepared that is representative of current site conditions?			<input type="checkbox"/> Y <input type="checkbox"/> N
Document Title	Author	Date	
<i>If the CSM is provided in multiple documents, provide additional document titles, authors and dates in the Case File Reference document section on page e-2</i>			
Is the CSM <u>comprehensive</u> enough to show compliance with all the LTCP criteria and that final closure review is appropriate?			<input type="checkbox"/> Y <input type="checkbox"/> N
General Criteria			
a	The unauthorized release is located within the service area of a public water system	<input type="checkbox"/> Y	<input type="checkbox"/> N
b	The unauthorized release consists only of petroleum	<input type="checkbox"/> Y	<input type="checkbox"/> N
c	The unauthorized (“primary”) release from the UST system has been stopped	<input type="checkbox"/> Y	<input type="checkbox"/> N
d	Free product has been removed to the maximum extent practicable	<input type="checkbox"/> Y	<input type="checkbox"/> N
e	A CSM that assesses the nature, extent, and mobility of the release has been developed	<input type="checkbox"/> Y	<input type="checkbox"/> N
f	Secondary source has been removed to the extent practicable	<input type="checkbox"/> Y	<input type="checkbox"/> N
g	Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code section 25296.15	<input type="checkbox"/> Y	<input type="checkbox"/> N
h	Nuisance as defined by Water Code section 13050 does not exist at the site	<input type="checkbox"/> Y	<input type="checkbox"/> N
Media-Specific Criteria			
Groundwater		<input type="checkbox"/> Y	<input type="checkbox"/> N
Vapor Intrusion to Indoor Air		<input type="checkbox"/> Y	<input type="checkbox"/> N
Direct Contact and Outdoor Air Exposure		<input type="checkbox"/> Y	<input type="checkbox"/> N
If the CSM is <u>not comprehensive</u> enough to show compliance with all the LTCP criteria, then			
Has a data gap investigation work plan been prepared that is guided by the CSM?		<input type="checkbox"/> Y	<input type="checkbox"/> N
Has a path to closure plan been prepared that is guided by the CSM?		<input type="checkbox"/> Y	<input type="checkbox"/> N

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA E

General Criteria e: Case Notes

Case File Reference Documents:

Attachments:

Case Notes:

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA F

General Criteria f:	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE
Has Secondary Source been Removed to the Extent Practicable?			

LTCP Statement: "Secondary source" is defined as petroleum-impacted soil or groundwater located at or immediately beneath the point of release from the primary source. Unless site attributes prevent secondary source removal (e.g. physical or infrastructural constraints exist whose removal or relocation would be technically or economically infeasible), petroleum-release sites are required to undergo secondary source removal to the extent practicable as described herein. "To the extent practicable" means implementing a cost-effective corrective action which removes or destroys-in-place the most readily recoverable fraction of source-area mass. It is expected that most secondary mass removal efforts will be completed in one year or less. Following removal or destruction of the secondary source, additional removal or active remedial actions shall not be required by regulatory agencies unless (1) necessary to abate a demonstrated threat to human health or (2) the groundwater plume does not meet the definition of low threat as described in this policy."

Has corrective action been implemented at the site to remove or destroy-in-place the most readily recoverable fraction of source-area mass?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
---	----------------------------	----------------------------	-----------------------------	-----------------------------

Soil remediation	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
------------------	----------------------------	----------------------------	-----------------------------	-----------------------------

Method	Mass/Volume Removed	Dates of Implementation

If soil remediation is currently being conducted, then is it progressing adequately?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
--	----------------------------	----------------------------	-----------------------------	-----------------------------

If soil remediation is no longer being conducted then, has confirmation sampling results confirmed that additional corrective actions are not necessary?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
--	----------------------------	----------------------------	-----------------------------	-----------------------------

Are additional soil remedial actions necessary to meet the media-specific criteria of the Policy or to abate a demonstrated threat to human health?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
---	----------------------------	----------------------------	-----------------------------	-----------------------------

Groundwater Remediation	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
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Method	Mass/Volume Removed	Dates of Implementation

If groundwater remediation is currently being conducted, then is it progressing adequately?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
---	----------------------------	----------------------------	-----------------------------	-----------------------------

If groundwater remediation is no longer being conducted then, has verification monitoring confirmed that additional corrective actions are not necessary?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
---	----------------------------	----------------------------	-----------------------------	-----------------------------

Are additional groundwater remedial actions necessary to meet the media-specific criteria of the Policy or to abate a demonstrated threat to human health?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
--	----------------------------	----------------------------	-----------------------------	-----------------------------

Use sheet f-2 - Maximum Detected Contaminant Concentrations Before and After Corrective Action to support your answers

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA F

General Criteria f: Case Notes

Case File Reference Documents:

Attachments:

Case Notes:

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA G

General Criteria g:				
Has Soil or Groundwater been Tested for MTBE and Results Reported in Accordance with Health and Safety Code Section 25296.15?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

LTCP Statement: "Health and Safety Code section 25296.15 prohibits closing a UST case unless the soil, groundwater, or both, as applicable have been tested for MTBE and the results of that testing are known to the Regional Water Board. The exception to this requirement is where a regulatory agency determines that the UST that leaked has only contained diesel or jet fuel. Before closing a UST case pursuant to this policy, the requirements of section 25296.15, if applicable, shall be satisfied."

Exemption - Has sufficient data been presented to determine that the UST that leaked has only contained diesel or jet fuel?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
--	----------------------------	----------------------------	-----------------------------	-----------------------------

If the site does not qualify for the exemption then

Has sufficient data been presented to assess whether MTBE is or was present in soil at or in the vicinity of the site?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has sufficient data been presented to assess whether MTBE is or was present in groundwater at or in the vicinity of the site?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have all results been verified by the appropriate analytical laboratory method?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use General Criteria b pages b-3 and General Criteria e – Conceptual Site Model sheets to support answer

Case File Reference Documents:

Attachments:

Case Notes:

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA H

General Criteria h:	<input type="checkbox"/> Y	<input type="checkbox"/> N		<input type="checkbox"/> NE
Does a Nuisance as Defined by Water Code Section 13050 Exist at the Site?				
<p>LTCP Statement: "Water Code section 13050 defines "nuisance" as anything which meets <u>all</u> of the following requirements:</p> <p>(1) Is injurious to health, <u>or</u> is indecent or offensive to the senses, <u>or</u> an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.</p> <p>(2) Affects at the same time an entire community or neighborhood, <u>or</u> any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.</p> <p>(3) Occurs during, <u>or</u> as a result of, the treatment <u>or</u> disposal of wastes.</p> <p>For the purpose of this policy, waste means a petroleum release."</p>				
Does a nuisance condition currently exist (or potentially could exist) that meets all of the following criteria?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is injurious to health? <i>-OR-</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is indecent or offensive to the senses? <i>-OR-</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is an obstruction to the free use of property so as to interfere with the comfortable enjoyment of life or property?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Affects at the same time an <u>entire community</u> , although the extent of the annoyance or damage inflicted upon individuals may be unequal? <i>-OR-</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Affects at the same time an <u>entire neighborhood</u> , although the extent of the annoyance or damage inflicted upon individuals may be unequal? <i>-OR-</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Affects at the same time <u>any considerable number of persons</u> , although the extent of the annoyance or damage inflicted upon individuals may be unequal?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Occurs during the treatment of waste? <i>-OR-</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Occurs during the disposal of waste? <i>-OR-</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Occurs as a result of the treatment of waste? <i>-OR-</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Occurs as a result of the disposal of waste?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has an evaluation of whether site contamination is present in locations that have the potential to pose nuisance conditions during common or reasonably expected site activities been conducted?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Surface soils?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Utility corridors?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Groundwater?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Surface water?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Soil gas?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Basements or other subsurface structures?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
<p><i>Use the following to support your answer:</i></p> <ul style="list-style-type: none"> • <i>General Criteria a (site located within a service area of a public water supply system)</i> • <i>General Criteria b (identified chemicals of concern and potential chemicals of concern)</i> • <i>General Criteria d (free product evaluation)</i> • <i>General Criteria e (results of preferential pathway and sensitive receptor survey)</i> • <i>Media Specific Criteria for Groundwater</i> • <i>Media Specific Criteria for Vapor Intrusion to Indoor Air</i> • <i>Media Specific Criteria for Direct Contact and Outdoor Air Exposure</i> 				

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

LOW THREAT CLOSURE POLICY - GENERAL CRITERIA H

General Criteria h: Case Notes

Case File Reference Documents:

Attachments:

Case Notes:

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LNAPL Thickness/Water-Level
Measurement and Manual
LNAPL Removal (Bailing or
Installation of Absorbent
Socks)**

Rev. #: 1

Rev Date: December 29, 2005

Approval Signatures

Prepared by: _____ Date: _____

Reviewed by: _____ Date: _____
(Technical Expert)

Reviewed by: _____ Date: _____
(Project Manager)

I. Scope and Application

Manual light non-aqueous phase liquid (LNAPL) removal and absorbent sock installation is appropriate for recovery of residual LNAPL or LNAPL recovery rate testing.

Monitoring well water levels and LNAPL thickness will be used, as appropriate, to develop piezometric maps and evaluate LNAPL extent migration or extent reduction. The water levels and LNAPL thickness will be obtained using an oil/water interface probe. The Operation and Maintenance (O&M) Manual for the probe should be reviewed prior to commencement of work for safe and accurate operation. LNAPL will be removed using either a bailer or absorbent sock. LNAPL and associated disposable personal protection equipment (PPE)/ materials will be stored in separate drums, labeled, and properly disposed at a licensed facility. Procedures for determining water levels and LNAPL thicknesses in monitoring wells and LNAPL removal are presented in this Standard Operating Procedure (SOP).

II. Personnel Qualifications

LNAPL removal, monitoring well water level, and LNAPL level measurements will be performed by persons trained in the proper usage of water-level measurement equipment and LNAPL handling under the guidance of an experienced field geologist, engineer, or technician.

III. Equipment List

- oil/water interface probe and O&M Manual;
- photoionization detector (PID) to measure headspace vapors;
- bailer;
- bucket;
- 15-foot length section of 1½ " outside diameter (OD) Schedule 40 PVC pipe;
- 15-foot length section of ¾" OD Schedule 40 PVC pipe;
- well opening tools (large screwdriver, small brass lock, socket set, hammer);
- well construction information for monitoring wells;

- health and safety equipment, as required by the site Health and Safety Plan (HASP), task Job Safety Analysis (JSA), and Journey Management Plan (JMP);
- cleaning brushes;
- plastic sheeting;
- measuring tape;
- non-phosphate soap;
- distilled/deionized water;
- solvent cleaner (e.g., CitraSolv™);
- watch (to record time and day);
- field notebook;
- absorbent pads;
- absorbent socks;
- appropriate LNAPL and/or absorbent material disposable containers;
- LNAPL thickness/water-level measurement and manual LNAPL removal log (LNAPL removal log; Attachment A);
- monitoring well keys; and
- tape (to loosely seal end of PVC pipe) (Note: do not use electrical tape).

IV. Cautions

Handle and store LNAPL with care to avoid spills. Use the absorbent material when handling equipment that contains or has been coated with LNAPL. Monitoring wells with viscous LNAPL (tar-like LNAPL) are extremely difficult to remove and measure depth to water. Do not use electrical tape, as this tape may contaminate water samples.

V. Health and Safety Considerations

Field activities will be performed in accordance with the site-specific HASP, JSA, and JMP, copies of which will be present on-site during such activities.

VI. Procedures

Groundwater and LNAPL Elevation Measurements

1. Identify site and well number on the LNAPL removal log (Attachment A), along with other appropriate information collected during water-level measurement.
2. Don PPE as required by the HASP.
3. Clean the oil/water interface probe and cable in accordance with the appropriate cleaning procedures.
4. Place a piece of plastic sheeting and absorbent pads adjacent to the well to use as a clean work area. Cut a hole in the center of sheeting and place the sheet around the well.
5. If LNAPL or absorbent sock is present in the well (based on a review historical data, if available), place enough absorbent pads on the plastic sheet beside the well to absorb oil that may be present when the absorbent sock and oil/water interface probe is removed from the well.
6. Unlock and open the well cover while standing upwind of the well. Remove well cap. Insert PID probe approximately 4 to 6 inches into the casing of the well headspace and cover with gloved hand. Record the PID reading on the field log. If the well headspace reading is less than 5 PID units, proceed; if the well headspace reading is greater than 5 PID units, screen the air within the breathing zone. If the PID reading in the breathing zone is below 5 PID units, proceed. If the PID reading is above 5 PID units, move upwind from the well for 5 minutes to allow the volatiles to dissipate. Repeat the breathing zone test. If the reading is still above 5 PID units, don appropriate respiratory protection in accordance with the requirements of the HASP. Record all PID readings.
7. Locate a measuring reference point on the well casing. If one is not found, initiate a reference point by notching the inner and outer casings with a hacksaw or by using a waterproof marker. All down-hole measurements will be taken from the reference points. The acronym "TIC" will designate the top of inner casing and the acronym "TOC" will designate the top of the outer casing. If a well has both

inner and outer casings, use the TIC as the reference point.

Note: The following steps describe the procedures for water-level measurement and detection of immiscible layers. For wells subject to routine monitoring (e.g., monthly monitoring locations), determining the depth of the well will be performed initially and at a maximum interval of annually thereafter.

8. If an absorbent sock is already in the well, note the presence of the sock on the log, remove the absorbent sock, and make a qualitative estimate of the volume of LNAPL present in the absorbent sock. Proceed to Step 9 after the well has equilibrated (wait up to 1 hour before measuring LNAPL thickness and water level).
9. Measure to the nearest 0.01 foot and record the height of the inner and outer casings from reference point to ground level.
10. Record the inside diameter of the well casing on the field log.
11. At all locations, **except those monitoring wells containing viscous LNAPL (see note below)**, lower the oil/water interface probe into the well to determine the existence of any light immiscible layer. Carefully record the depths of the air/light-phase and light-phase/water interfaces (to the nearest 0.01 foot) to determine the thickness of the light-phase immiscible layer (if present). If no light-phase immiscible layer is present, record the depth of the air/water interface.

Note: Use extreme caution when gauging monitoring wells with viscous LNAPL. The viscous nature of LNAPL is difficult to remove. Instead, mark a 10-foot section of PVC pipe at 1-foot intervals to estimate location of the pipe within the well and slowly lower pipe into the well until reaching the fluid/air interface. Mark the PVC pipe at the TIC and slowly remove. Measure difference between the uppermost limit of LNAPL on the pipe (if present) and the mark made at the TIC. The difference is the top of LNAPL. To get depth to water, use two sections of PVC pipe that when put one inside the other will also fit down the 2-inch diameter well (i.e., $\frac{3}{4}$ " diameter inside a $1\frac{1}{2}$ " diameter pipe with the $\frac{3}{4}$ " pipe). Make sure that the $\frac{3}{4}$ " pipe is at least 6 inches longer than the $1\frac{1}{2}$ " pipe). Tape the bottom of the two pipes such that the tape can be easily removed, but can be lowered through the LNAPL/water interface. Slowly lower the two pipes into the well until reaching the bottom (~15' below ground surface [bgs]). Push the $\frac{3}{4}$ " pipe through the $1\frac{1}{2}$ " pipe to remove the tape and allow groundwater to enter pipes. Remove the $\frac{3}{4}$ " diameter pipe and allow the water level to equilibrate inside the $1\frac{1}{2}$ " pipe (wait up to 1 hour before measuring).

Measure and record the depth of the air/water interface inside the 1½" pipe using the oil/water interface probe (to the nearest 0.01 foot) relative to the TIC.

12. If greater than ½ inch of LNAPL is measured, remove LNAPL with bailer and reinstall absorbent material (see procedures below).
13. If less than ½ inch, remove LNAPL with bailer and measure thickness during subsequent gauging event (see procedure below).

LNAPL Removal with Bailer

- a. Remove the bailer from the plastic covering and attach a string or rope to the top of the bailer.
- b. Gently lower the bailer into the LNAPL. To avoid removing groundwater, do not lower the bailer deeper than the expected LNAPL/groundwater interface. Use care not to stir up the LNAPL and groundwater.
- c. Pour the LNAPL into a bucket or container for measurement and repeat until the LNAPL thickness has been reduced to less than approximately 0.1 foot.
- d. Record the volume of LNAPL removed in the field notebook and transfer LNAPL to a labeled drum or container for disposal (see Section VII).

Installation of Absorbent Socks for LNAPL Removal

- a. Tie one end of the sock to a rope and lower into the monitoring well.
- b. Lower the sock such that the bottom of the sock is at the LNAPL/groundwater interface. In monitoring wells that are affected by tidal fluxes, allow extra length in the rope for groundwater elevation fluxes.
- c. Tie the end of the rope to the top of the well casing.
- d. Replace the absorbent sock when the sock becomes saturated, dispose of the socks in a labeled drum or container, stage drum at an approved location, and arrange for proper off-site disposal.

14. Between wells, when obtaining water-level/oil thickness measurements at more than one location, clean the instrument with a non-phosphate soap and water wash followed by a distilled/deionized water rinse. Use an appropriate solvent rinse, if necessary, to remove oil deposits.
15. Close and secure the monitoring wells and LNAPL disposal containers when all activities are completed.
16. Collect all PPE and other wastes generated for disposal. Separately containerize all PPE and disposable supplies from LNAPL (see Section VII).

VII. Waste Management

Materials generated during water-level/oil thickness measurement and LNAPL removal procedures, including disposable equipment (including absorbent pads and socks) and LNAPL, will be containerized in appropriate labeled containers or drums. Solids, such as absorbents, are to be stored separately from liquids. LNAPL from all wells may be containerized in one drum. Containerized waste labeling, storage locating procedures are detailed in a separate SOP.

VIII. Data Recording and Management

The supervising geologist/technician will be responsible for documenting site conditions and field activities using a daily field log or bound field notebook to record all relevant information in a clear and concise format which will include the following (at a minimum):

- start and finish times of water and LNAPL measurement events;
- name and location of project;
- project number, client, and site location;
- depth to water and LNAPL;
- volume and description of LNAPL removed;
- number and volume of on-site drums; and
- weather conditions.

Water-level and LNAPL measurements should be recorded on the LNAPL removal log (Attachment A). All records are to be sent to the Project Manager for review and original records are to be stored in the project files.

IX. Quality Assurance

Groundwater elevation data will be compared to historical data and if groundwater elevations are not within historical ranges, the groundwater elevation data will be confirmed by additional field measurements.

X. References

[Click here and enter Text]

ATTACHMENT A

**NAME OF SITE
 CITY, STATE**

LNAPL THICKNESS/WATER-LEVEL MEASUREMENT AND MANUAL LNAPL REMOVAL LOG

Well ID	MW-	MW-	MW-	MW-	MW-
Date					
Inside Diameter of Well (inches)					
Depth to LNAPL (feet)					
Depth to Water (feet)					
LNAPL Recovered from Absorbent Pad (gallons)					
LNAPL Bailed (gallons)					
Total LNAPL Recovered					
Absorbent Replaced? (yes/no)					
Notes					

Note:

1 gallon = 3,785 milliliters

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: GROUNDWATER**

Does the site qualify for the Soil Only Case exemption? -OR-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE
Does the site satisfy the Media-Specific Criteria for Groundwater?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE

LTCP Statement: “This policy describes criteria on which to base a determination that threats to existing and anticipated beneficial uses of groundwater have been mitigated or are de minimis, including cases that have not affected groundwater.

State Water Board Resolution 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304* is a state policy for water quality control and applies to petroleum UST cases. Resolution 92-49 directs that water affected by an unauthorized release attain either background water quality or the best water quality that is reasonable if background water quality cannot be restored. Any alternative level of water quality less stringent than background must be consistent with the maximum benefit to the people of the state, not unreasonably affect current and anticipated beneficial use of affected water, and not result in water quality less than that prescribed in the water quality control plan for the basin within which the site is located. Resolution No. 92-49 does not require that the requisite level of water quality be met at the time of case closure; it specifies compliance with cleanup goals and objectives within a reasonable time frame.

Water quality control plans (Basin Plans) generally establish “background” water quality as a restorative endpoint. This policy recognizes the regulatory authority of the Basin Plans but underscores the flexibility contained in Resolution 92-49.

It is a fundamental tenet of this low-threat closure policy that if the closure criteria described in this policy are satisfied at a petroleum unauthorized release site, attaining background water quality is not feasible, establishing an alternate level of water quality not to exceed that prescribed in the applicable Basin Plan is appropriate, and that water quality objectives will be attained through natural attenuation within a reasonable time, prior to the expected need for use of any affected groundwater.

If groundwater with a designated beneficial use is affected by an unauthorized release, to satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites listed below. A plume that is “stable or decreasing” is a contaminant mass that has expanded to its maximum extent: the distance from the release where attenuation exceeds migration.”

“Sites with Releases that Have Not Affected Groundwater - Sites with soil that does not contain sufficient mobile constituents [leachate, vapors, or light non-aqueous-phase liquids (LNAPL)] to cause groundwater to exceed the groundwater criteria in this policy shall be considered low-threat sites for the groundwater medium. Provided the general criteria and criteria for other media are also met, those sites are eligible for case closure. For older releases, the absence of current groundwater impact is often a good indication that residual concentrations present in the soil are not a source for groundwater pollution.”

Has adequate data been collected to demonstrate that soil does not contain sufficient mobile constituents to cause groundwater to exceed the groundwater criteria in this policy?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE															
<table border="1"> <tr> <td>Leachate?</td> <td><input type="checkbox"/> Y</td> <td><input type="checkbox"/> N</td> <td><input type="checkbox"/> NE</td> <td><input type="checkbox"/> NA</td> </tr> <tr> <td>Soil gas?</td> <td><input type="checkbox"/> Y</td> <td><input type="checkbox"/> N</td> <td><input type="checkbox"/> NE</td> <td><input type="checkbox"/> NA</td> </tr> <tr> <td>LNAPL?</td> <td><input type="checkbox"/> Y</td> <td><input type="checkbox"/> N</td> <td><input type="checkbox"/> NE</td> <td><input type="checkbox"/> NA</td> </tr> </table>	Leachate?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	Soil gas?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA	LNAPL?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA			
Leachate?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA														
Soil gas?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA														
LNAPL?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA														
If the site does not qualify for the soil only exemption, then Does groundwater in the vicinity of the site have beneficial use designations?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE															

Use General Criteria e – Conceptual Site Model sheets to support answer

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: GROUNDWATER**

GROUNDWATER PLUME STABILITY				
If the site <u>does not</u> qualify for the soil only exemption, and groundwater has designated beneficial uses, then,				
Is the contaminant plume stable or decreasing in areal extent?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Technical Justification for Groundwater Media-Specific Criteria: "A plume is considered stable or decreasing if a contaminant mass has expanded to its maximum extent: the distance from the release where attenuation exceeds migration. There are two common ways to demonstrate plume stability. The first common way is to routinely observe non-detect values for groundwater parameters in down-gradient wells. The second common way is to show stable or decreasing concentration levels in down-gradient wells at the distal end of the plume. It should be noted that concentration levels may exhibit fluctuation due to seasonal variations. These variations may be also attributed to man-made factors, including but not limited to: varying sampling techniques, false positive results, or laboratory inconsistencies."

"Requiring that a plume must be stable or decreasing reduces uncertainty as to how long the plume might become in the future."

Has the maximum stabilized plume length been defined?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have non-detect values for groundwater parameters in down-gradient wells at the distal end of the plume been routinely observed?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

MW ID's	Dates of GW Monitoring Events Demonstrating Non-Detect Values?

Have stable or decreasing concentration levels in down-gradient wells at the distal end of the plume been routinely observed?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
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MW ID's	Dates of GW Monitoring Events Demonstrating Stability?

Do concentration levels exhibit fluctuations due to seasonal variations?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Do concentration levels exhibit fluctuations due to man- made factors?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Varying Sampling Techniques?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
False Positive Results?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Laboratory Inconsistencies?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use Criteria e – Conceptual Site Model sheets to support answers

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: GROUNDWATER**

GROUNDWATER CONTAMINANT PLUME CLASSIFICATION CHARACTERISTICS

If the Contaminant Plume is Stable or Decreasing, then

Does the contaminant plume that exceeds water quality objectives meet all of the additional characteristics of at least one of the five (5) LTCP classes listed below?

Y

N

NE

NA

	Plume Length ¹ (feet)	Free Product Remaining ² (Yes/No)	Distance of Nearest Water Supply Well from Plume Boundary ³ (feet)	Distance of Nearest Surface Water Body from Plume Boundary ⁴ (feet)	Stable or Decreasing Plume ⁵	Maximum Dissolved Benzene Concentration ⁶ (µg/L)	Maximum Dissolved MTBE Concentration ⁶ (µg/L)	Property Owner Willing to Accept Land Use Restriction ⁷			
Site											
Does the contaminant plume that exceeds water quality objectives meet <u>all of the characteristics</u> of at least <u>one of the five LTCP classes</u> listed below?									<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE
1 ^a	< 100	No	>250	>250	Yes	NA	NA	NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE
2 ^b	<250	No	>1,000	>1,000	Yes	<3,000	<1,000	NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE
3 ^c	<250	Yes	>1,000	>1,000	> 5 Years	NA	NA	Yes	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE
4 ^d	<1,000	No	>1,000	>1,000	Yes	<1,000	<1,000	NA	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE
5 ^e	A site-specific analysis determines that under current and reasonable anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable period time frame.								<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE

Notes:

1 = The length of the plume is the maximum extent from the point of release of any petroleum related constituent in groundwater that exceeds the WQOs. The plume boundary is where the constituent(s) furthest from the point of release concentration level equals the WQOs (Technical Justification for Groundwater Specific Criteria). **General Criteria – Conceptual Site Model pages e-___ through e-___ to support plume length determination.**

2 = A “Yes” designation signifies free product remains at the site, has been removed to the maximum extent practicable, but does not extend off-site. A “No” designation means free product does not exist onsite or off-site. **See General Criteria – Conceptual Site Model pages e-___ through e-___ to support free product status.**

(See page gw-4 for a continuation of notes)

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: GROUNDWATER**

LTCP Groundwater Contaminant Plume Classification Characteristics

Notes (continued):

- 3 = **See General Criteria – Conceptual Site Model sheets** to support distance to nearest water supply well.
- 4 = **See General Criteria – Conceptual Site Model sheets** to support distance to nearest surface water body.
- 5 = The specified concentrations are maximums, and typically occur in source area monitoring wells. **See General Criteria – Conceptual Site Model sheets** to support length of time plume has been stable or decreasing.
- 6 = The specified concentrations are maximums, and typically occur in source area monitoring wells. **See General Criteria – Conceptual Site Model sheets** to support dissolved benzene and MTBE concentrations.
- 7 = **See General Criteria – Conceptual Site Model sheets** to support Property Owner's willingness to accept Land Use Restrictions.
- a = Class 1: Represents a short, stabilized plume that is indicative of a small or depleted source and/or very high natural attenuation rate. (CA LUFT Manual)
- b = Class 2: Represents a moderate, stabilized plume length (plume boundary is <250 feet from point of release) that approximates the average benzene plume length from cited studies. The maximum concentration of benzene (3,000 µg/L) and MTBE (1,000 µg/L) in groundwater are conservative indicators that free product is not present. These concentrations are approximately 10% and 0.02%, respectively, of the typical effective solubility of benzene and MTBE in unweathered gasoline. (CA LUFT Manual)
- c = Class 3: Represents a moderate, stabilized plume length (plume boundary is <250 feet from point of release) that approximates the average benzene plume length from cited studies. The on-site free product and/or high dissolved concentrations in the plume remaining after secondary source removal to the maximum extent practicable as per the General Criteria in the Policy require that the plume has been stable or decreasing for a minimum of five years of monitoring to validate plume stability/natural attenuation (i.e., to confirm that the rate of natural attenuation exceeds the rate of LNAPL dissolution and dissolved-phase migration). (CA LUFT Manual)
- d = Class 4: Represents a long, stabilized plume length (plume boundary is <1,000 feet from point of release) that approximates the maximum MTBE plume length cited. (CA LUFT Manual)
- e = Class 5: For other low-threat site-specific scenarios not captured in Class 1 through 4, use a fate-and-transport model to evaluate the potential migration and attenuation of the chemicals using site-specific calibration data when available. It is important to use models that consider mass balance whenever possible. (CA LUFT Manual)
- NA = Not applicable

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: GROUNDWATER**

Groundwater: Case Notes

Case File References (Document File Names):

Technical References:

Case Notes:

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: PETROLEUM VAPOR INTRUSION TO INDOOR AIR**

Does the site qualify for the active commercial fueling facility exemption? -OR-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE
Does the site meet <u>one of the three</u> petroleum vapor intrusion to indoor air specific criteria (a, b, or c)?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE

LTCP Statement: “Exposure to petroleum vapors migrating from soil or groundwater to indoor air may pose unacceptable human health risks. This policy describes conditions, including bioattenuation zones, which if met will assure that exposure to petroleum vapors in indoor air will not pose unacceptable health risks. In many petroleum release cases, potential human exposures to vapors are mitigated by bioattenuation processes as vapors migrate toward the ground surface. For the purposes of this section, the term “bioattenuation zone” means an area of soil with conditions that support biodegradation of petroleum hydrocarbon vapors.

The low-threat vapor-intrusion criteria described below apply to sites where the release originated and impacted or potentially impacted adjacent parcels when:

- (1) existing buildings are occupied or may be reasonably expected to be occupied in the future, or
- (2) buildings for human occupancy are reasonably expected to be constructed in the future.

Appendices 1 through 4 (attached) illustrate four potential exposure scenarios and describe characteristics and criteria associated with each scenario. Petroleum release sites shall satisfy the media-specific criteria for petroleum vapor intrusion to indoor air and be considered low-threat for the vapor-intrusion-to-indoor-air pathway if:

- a. Site-specific conditions at the release site satisfy all of the characteristics and criteria of scenarios 1 through 3 as applicable, or all of the characteristics and criteria of scenario 4 as applicable; or
- b. A site-specific risk assessment for the vapor intrusion pathway is conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency; or
- c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health.

Exception: Exposures to petroleum vapors associated with historical fuel system releases are comparatively insignificant relative to exposures from small surface spills and fugitive vapor releases that typically occur at active fueling facilities. Therefore, satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.”

Does the site qualify for an <u>exemption</u> from the Petroleum Vapor Intrusion to Indoor Air criteria?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is the site is an active commercial petroleum fueling facility?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Are release characteristics reasonably believed to pose an unacceptable health risk to facility users or nearby facilities?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
If the site <u>does not</u> qualify for an exemption, then				
a. Do site-specific conditions at the release site satisfy all of the characteristics and criteria of scenarios 1 through 3 as applicable, <u>or</u> all of the characteristics and criteria of scenario 4? -OR- <i>(Use page vi-2 through vi-10 to support answer)</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
b. Has a site-specific risk assessment for the vapor intrusion pathway been conducted that demonstrates that human health is protected? -OR-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
c. As a result of controlling exposure through the use of mitigation measures <u>or</u> through the use of institutional or engineering controls, has the regulatory agency determined that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use General Criteria e - Conceptual Site Model pages to support answer

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: PETROLEUM VAPOR INTRUSION TO INDOOR AIR**

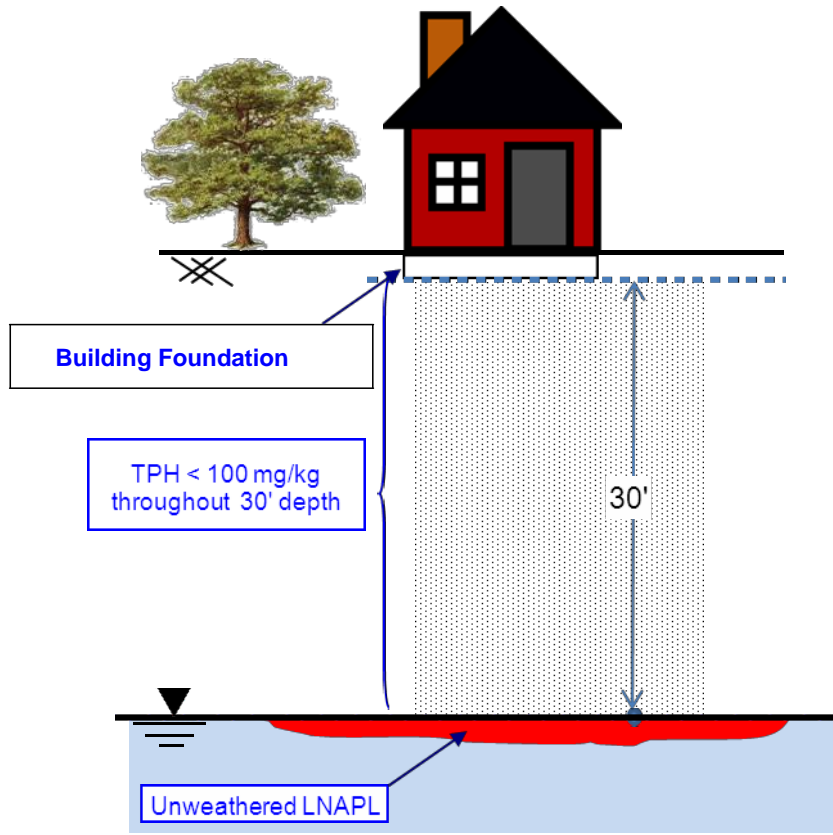
SCENARIO 1 - UNWEATHERED LNAPL IN GROUNDWATER

Do site specific conditions at the site satisfy all the characteristics of Scenario 1?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
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**Scenario 1
Existing Building or Potential Future Construction**

LNAPL Characteristics:
Unweathered – petroleum product that has not been subjected to significant volatilization or solubilization, and therefore has not lost a significant portion of its volatile or soluble constituents (e.g., comparable to recently dispensed fuel)

Bioattenuation Zone Required Characteristics:
Minimum 30 foot vertical separation distance between the bottom of building foundations and LNAPL in groundwater,
Total TPH concentrations in soil < 100 mg/kg



Is the LNAPL unweathered?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Does the site have a continuous bioattenuation zone that provides a separation of <u>at least 30 feet vertically</u> between the LNAPL in groundwater and the foundation of existing buildings?; -and-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Does the site have a continuous bioattenuation zone that provides a separation of <u>at least 30 feet vertically</u> between the LNAPL in groundwater and the foundation of potential buildings?; -and-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Are total TPH concentrations in soil less than 100 mg/kg throughout the entire vertical extent of the 30 foot bioattenuation zone?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use Criteria e – Conceptual Site Model sheets to support answers

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: PETROLEUM VAPOR INTRUSION TO INDOOR AIR**

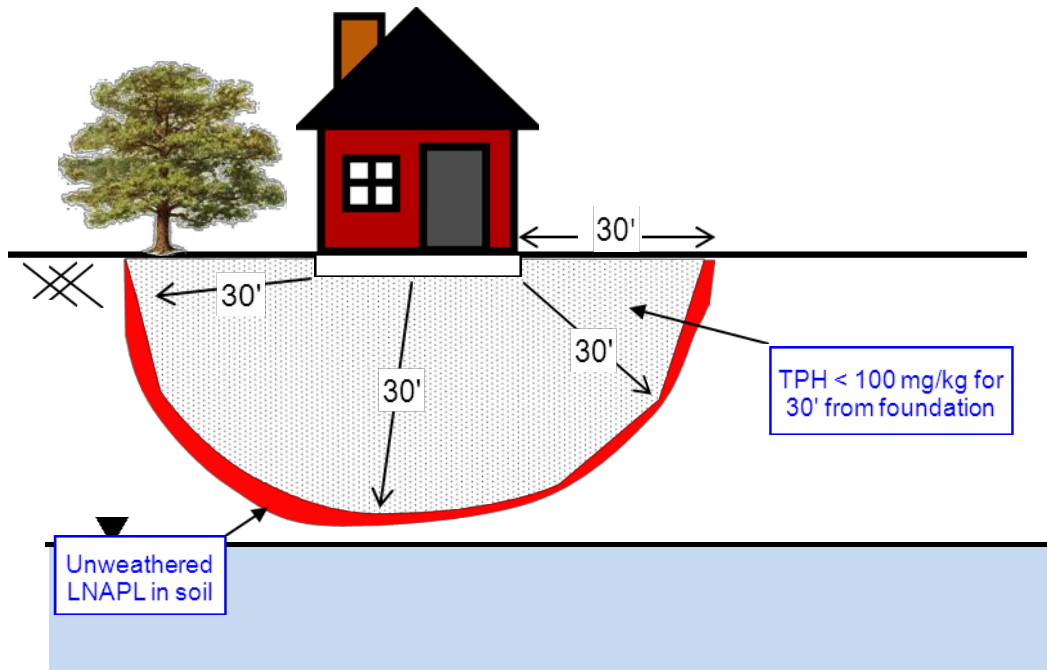
SCENARIO 2 - UNWEATHERED LNAPL IN SOIL

Do site specific conditions at the site satisfy all the characteristics of Scenario 2?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
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**Scenario 2
Existing Building or Potential Future Construction**

LNAPL Characteristics:
Unweathered – petroleum product that has not been subjected to significant volatilization or solubilization, and therefore has not lost a significant portion of its volatile or soluble constituents (e.g., comparable to recently dispensed fuel)

Bioattenuation Zone Required Characteristics:
Minimum 30 foot vertical separation distance between the bottom of building foundations and LNAPL in soil,
Total TPH concentrations in Soil < 100 mg/kg



Is the LNAPL unweathered?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Does the site have a continuous bioattenuation zone that provides a separation of <u>at least 30 feet both laterally and vertically</u> between the LNAPL in soil and the foundation of existing buildings?; -and-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Does the site have a continuous bioattenuation zone that provides a separation of <u>at least 30 feet both laterally and vertically</u> between the LNAPL in soil and the foundation of <u>potential buildings</u> ?; -and-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Are total TPH concentrations in soil less than 100 mg/kg throughout the entire lateral and vertical extent of the 30 foot bioattenuation zone?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use Criteria e – Conceptual Site Model sheets to support answers

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: PETROLEUM VAPOR INTRUSION TO INDOOR AIR**

SCENARIO 3 – LOW CONCENTRATION GROUNDWATER SCENARIO (FIGURE A)

Does the Site Satisfy all of the Characteristics and Requirements of Scenario 3 Figure A?

Y

N

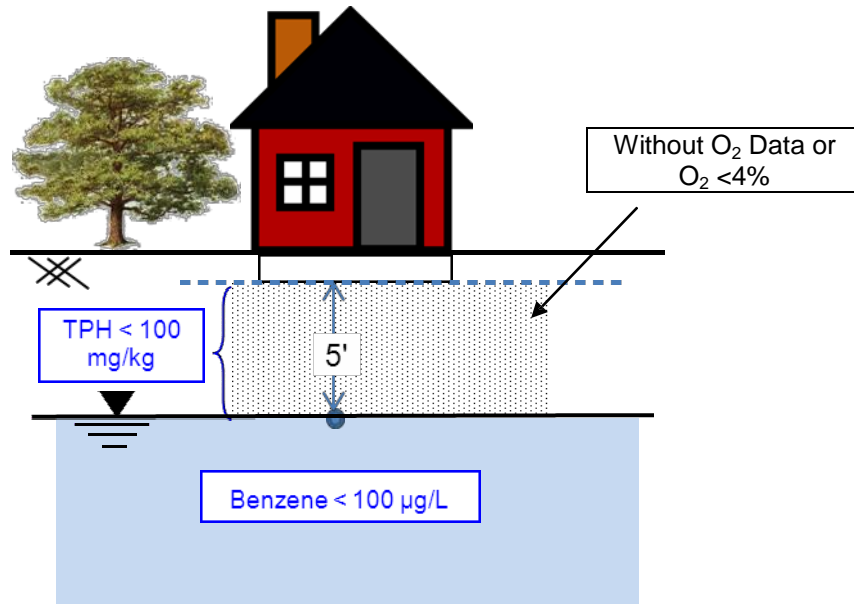
NE

NA

**Figure A
Existing Building or Future Construction**

Dissolved Phase Benzene Concentrations in Groundwater Requirements:
 $< 100 \mu\text{g/L}$

Bioattenuation Zone Required Characteristics:
 Minimum 5 Foot Vertical Separation Distance between Bottom of Building Foundations and Water Table,
 No Soil Gas Oxygen Data or Measured Soil Gas Oxygen Concentrations $< 4\%$,
 Total TPH Concentrations in Soil $< 100 \text{ mg/kg}$



Are maximum dissolved benzene concentrations in groundwater $< 100 \mu\text{g/L}$? -and-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is the bioattenuation zone a continuous zone that provides a separation of <u>at least 5 feet vertically</u> between the dissolved phase benzene and the foundation of <u>existing buildings</u> ? -and-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is the bioattenuation zone a continuous zone that provides a separation of <u>at least 5 feet vertically</u> between the dissolved phase benzene and the foundation of <u>potential buildings</u> ? -and-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has sufficient data been collected to determine that Total TPH (TPH-g and TPH-d combined) concentrations in soil are $< 100 \text{ mg/kg}$ <u>throughout the entire depth</u> of the 5 foot bioattenuation zone?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use Criteria e – Conceptual Site Model sheets to support answers

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: PETROLEUM VAPOR INTRUSION TO INDOOR AIR**

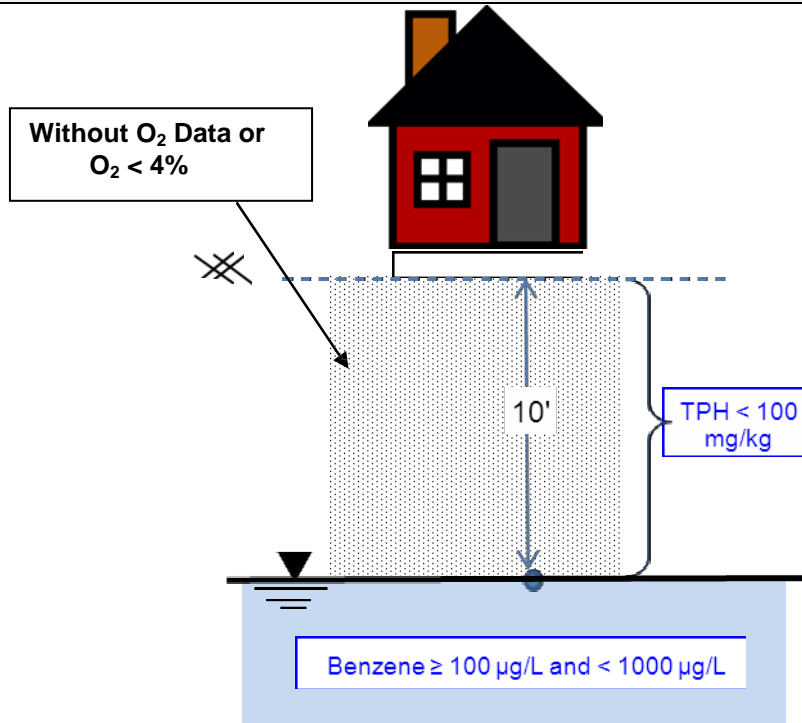
SCENARIO 3 – LOW CONCENTRATION GROUNDWATER SCENARIO (FIGURE B)

Does the Site Satisfy all of the Characteristics and Requirements of Scenario 3 - Figure B? Y N NE NA

**Figure B
Existing Building or Future Construction**

Dissolved Phase Benzene Concentrations in Groundwater Requirements:
≥ 100 µg/L but < 1,000 µg/L

Bioattenuation Zone Required Characteristics:
Minimum 5 Foot Vertical Separation Distance between Bottom of Building Foundations and Water Table,
Measured Soil Gas Oxygen Concentrations < 4%,
Total TPH Concentrations in Soil < 100 mg/kg



Are maximum dissolved benzene concentrations in groundwater ≥ 100 µg/L but < 1,000 µg/L?; -and-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is the bioattenuation zone a continuous zone that provides a separation of <u>at least 10 feet vertically</u> between the dissolved phase benzene and the foundation of existing buildings ?; -and-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is the bioattenuation zone a continuous zone that provides a separation of <u>at least 10 feet vertically</u> between the dissolved phase benzene and the foundation of potential buildings ?; -and-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has sufficient data been collected to determine that Total TPH (TPH-g and TPH-d combined) concentrations in soil are < 100 mg/kg <u>throughout the entire depth</u> of the 10 foot bioattenuation zone?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use Criteria e – Conceptual Site Model sheets to support answers

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: PETROLEUM VAPOR INTRUSION TO INDOOR AIR**

SCENARIO 3 – LOW CONCENTRATION GROUNDWATER SCENARIO (FIGURE C)

Does the Site Satisfy all of the Characteristics and Requirements of Scenario 3 - Figure C?

Y

N

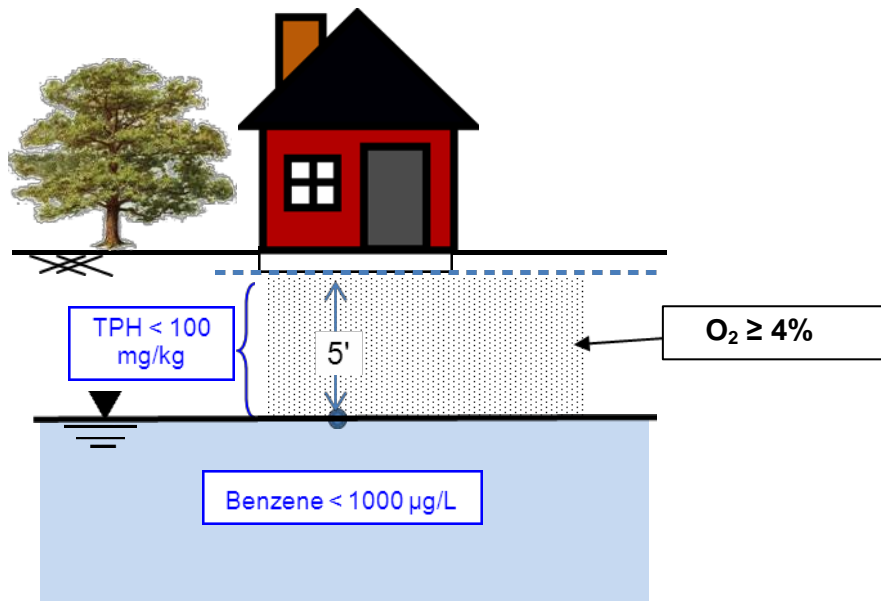
NE

NA

**Figure C
Existing Building or Future Construction**

Dissolved Phase Benzene Concentrations in Groundwater Requirements:
< 1,000 µg/L

Bioattenuation Zone Required Characteristics:
Minimum 5 Foot Vertical Separation Distance between Bottom of Building Foundations and Water Table,
Measured Soil Gas Oxygen Concentrations ≥ 4%,
Total TPH Concentrations in Soil < 100 mg/kg



Are maximum dissolved benzene concentrations in groundwater ≥ 100 µg/L but < 1,000 µg/L?; -and-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is the bioattenuation zone a continuous zone that provides a separation of <u>at least 10 feet vertically</u> between the dissolved phase benzene and the foundation of <u>existing buildings</u> ?; -and-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is the bioattenuation zone a continuous zone that provides a separation of <u>at least 10 feet vertically</u> between the dissolved phase benzene and the foundation of <u>potential buildings</u> ?; -and-	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has sufficient data been collected to determine that Total TPH (TPH-g and TPH-d combined) concentrations in soil are < 100 mg/kg <u>throughout the entire depth</u> of the 10 foot bioattenuation zone?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use Criteria e – Conceptual Site Model sheets to support answers

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: PETROLEUM VAPOR INTRUSION TO INDOOR AIR**

**SCENARIO 4 – DIRECT MEASUREMENT OF SOIL GAS CONCENTRATIONS
(WITH A BIOATTENUATION ZONE)**

Does the Site Satisfy all of the Characteristics and Requirements of Scenario 4 – With Bioattenuation Zone?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
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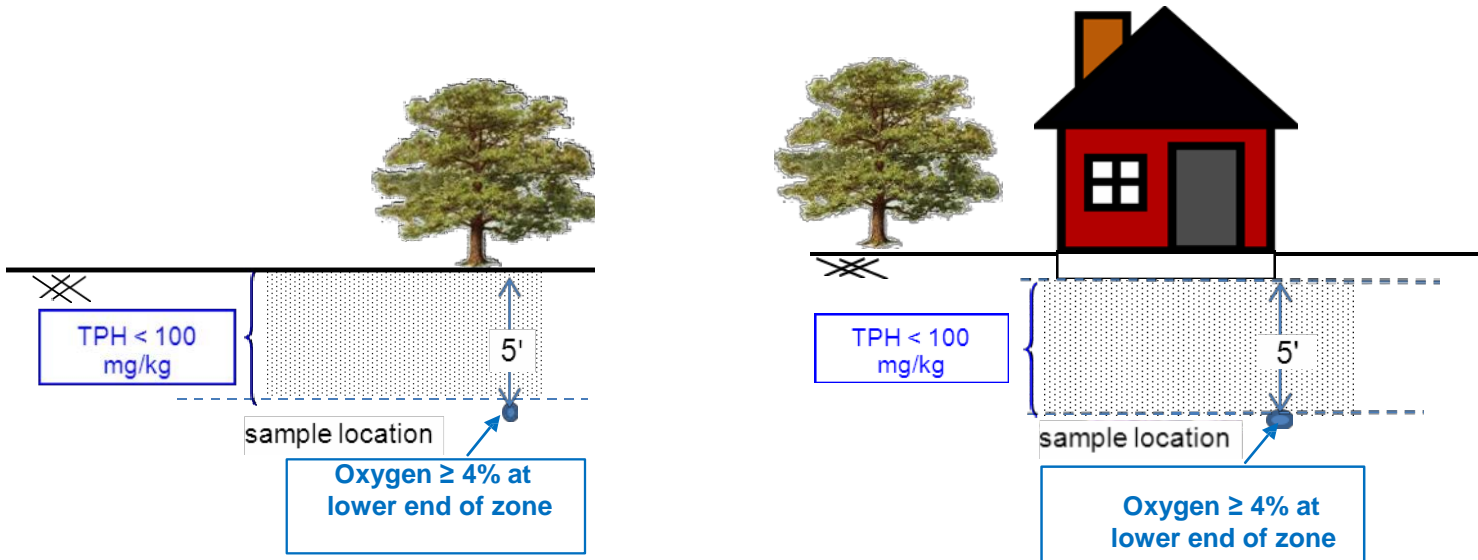
**Soil Gas Sampling – With Bioattenuation Zone
Existing Building or Future Construction**

Bioattenuation Zone Required Characteristics:
 Minimum 5 foot vertical feet of soil between the soil vapor measurement and the foundation of an existing building or ground surface of future construction;
 Total TPH concentrations in soil < 100 mg/kg (measured in at least two depths within the five-foot zone);
 Soil gas oxygen concentrations ≥ 4% at the bottom of the five-foot bioattenuation zone

Soil Gas Sample Location Requirements:
 Existing Buildings - At least five feet below the bottom of the building foundation
 Future Construction - The soil gas sample shall be collected from at least five feet below ground surface

Existing Building

Future Construction



Are the required bioattenuation zone characteristics satisfied?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is there a minimum 5 foot vertical feet of soil between the soil vapor measurement and the foundation of <u>existing buildings</u> ?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is there a minimum 5 foot vertical feet of soil between the soil vapor measurement and the <u>ground surface of future construction</u> ?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has sufficient data been collected to determine that total TPH concentrations in soil are < 100 mg/kg (measured in at least two depths within the five-foot zone)?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has sufficient data been collected to determine that soil gas oxygen concentrations are ≥ 4% at the bottom of the five-foot bioattenuation zone?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use Criteria e – Conceptual Site Model sheets to support answers

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: PETROLEUM VAPOR INTRUSION TO INDOOR AIR**

SCENARIO 4 – DIRECT MEASUREMENT OF SOIL GAS CONCENTRATIONS (WITH A BIOATTENUATION ZONE)

If the required bioattenuation zone characteristics have been met then,

Have soil gas samples been collected in accordance with required protocols?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
For existing buildings, were soil gas samples collected from at least five feet below the bottom of building foundations?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
For sites where future construction is planned, were soil gas samples collected from at least five feet below ground surface within the footprints of future buildings?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Were samples collected in accordance with the guidance provided in the CA LUFT Manual?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has sufficient data been collected to determine that soil gas concentrations for benzene, ethylbenzene, and naphthalene are below the specified <u>residential screening levels</u>?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Benzene < 85,000 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Ethylbenzene < 1,100,000 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Napthalene < 93,000 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has sufficient data been collected to determine that soil gas concentrations for benzene, ethylbenzene, and naphthalene are below the specified <u>commercial screening levels</u>?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Benzene < 280,000 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Ethylbenzene < 3,600,000 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Napthalene < 310,000 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use Criteria e – Conceptual Site Model sheets to support answers

If the required bioattenuation zone characteristics have not been satisfied then use Scenario 4 – No Bioattenuation Zone (pages vi-9 and vi-10)

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: PETROLEUM VAPOR INTRUSION TO INDOOR AIR**

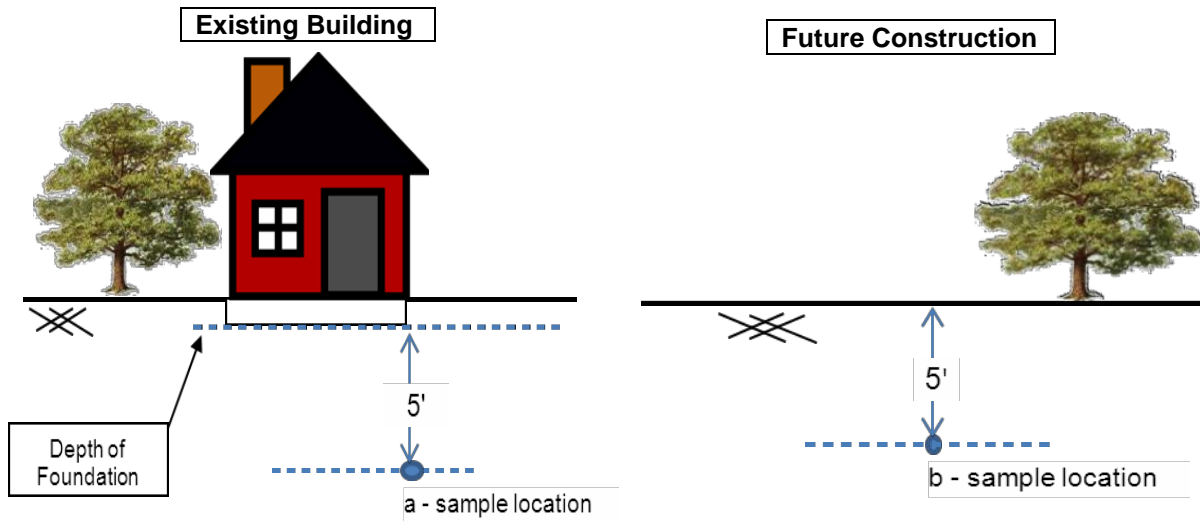
**SCENARIO 4 – DIRECT MEASUREMENT OF SOIL GAS CONCENTRATIONS
(NO BIOATTENUATION ZONE)**

Does the Site Satisfy all of the Characteristics and Requirements of Scenario 4 – No Bioattenuation Zone? Y N NE NA

**Soil Gas Sampling – No Bioattenuation Zone
Existing Building or Future Construction**

Soil Gas Sample Location Requirements:

Existing Buildings – At least five feet below the bottom of the building foundation
Future Construction - The soil gas sample shall be collected from at least five feet below ground surface



Were appropriate protocols followed for collecting soil gas samples?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
For existing buildings, were soil gas samples collected from at least five feet below the bottom of building foundations?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
For sites where future construction is planned, were soil gas samples collected from at least five feet below ground surface within the footprints of future buildings?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Were samples collected in accordance with the guidance provided in the CA LUFT Manual?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has sufficient data been collected to determine that soil gas concentrations for benzene, ethylbenzene, and naphthalene are below the specified residential screening levels?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Benzene < 85 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Ethylbenzene < 1,100 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Napthalene < 93 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has sufficient data been collected to determine that soil gas concentrations for benzene, ethylbenzene, and naphthalene are below the specified commercial screening levels?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Benzene < 280 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Ethylbenzene < 3,600 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Napthalene < 310 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use Criteria e – Conceptual Site Model sheets to support answers

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: PETROLEUM VAPOR INTRUSION TO INDOOR AIR**

**SCENARIO 4 – DIRECT MEASUREMENT OF SOIL GAS CONCENTRATIONS
(NO BIOATTENUATION ZONE)**

For the no bioattenuation zone scenario, the screening criteria provided in the table on the preceding page are the same as the California Human Health Screening Levels (CHSSLs) with engineered fill below sub-slab.

If building crawl space air samples were collected instead of soil gas samples to evaluate vapor intrusion into buildings, then

Were appropriate protocols followed for collecting the crawl space air samples?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Were samples collected in accordance with the guidance provided in <i>the CA LUFT Manual</i> and referenced documents including the DTSC's <i>Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air</i> ?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has sufficient data been collected to determine that crawl space air concentrations for benzene, ethylbenzene, and naphthalene are below the appropriate residential screening levels (i.e., CHSSLs for Indoor Air)?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Benzene < 0.084 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Ethylbenzene – No screening number currently available	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Napthalene < 0.072 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has sufficient data been collected to determine that crawl space air concentrations for benzene, ethylbenzene, and naphthalene are below the appropriate commercial screening levels (i.e., CHSSLs for Indoor Air)?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Benzene < 0.141 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Ethylbenzene – No screening number currently available	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Napthalene < 0.120 µg/m ³	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use Criteria e – Conceptual Site Model sheets to support answers

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**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: PETROLEUM VAPOR INTRUSION TO INDOOR AIR**

Case Notes

Case File Document References:

Technical References:

Case Notes:

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: PETROLEUM VAPOR INTRUSION TO INDOOR AIR**

Case Notes

Case Notes (continued):

Empty space for case notes.

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: DIRECT CONTACT AND OUTDOOR AIR EXPOSURE**

Does the site qualify for an <u>exemption</u> from the media-specific criteria for Direct Contact and Outdoor Air Exposure? -OR-	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NE
Does the site meet the media-specific criteria for Direct Contact and Outdoor Air Exposure?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NE

LTCP Statement: “This policy describes conditions where direct contact with contaminated soil or inhalation of contaminants volatilized to outdoor air poses a low threat to human health. Release sites where human exposure may occur satisfy the media-specific criteria for direct contact and outdoor air exposure and shall be considered low-threat if they meet any of the following:

- a. Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs). The concentration limits for 0 to 5 feet bgs protect from ingestion of soil, dermal contact with soil, and inhalation of volatile soil emissions and inhalation of particulate emissions. The 5 to 10 feet bgs concentration limits protect from inhalation of volatile soil emissions. Both the 0 to 5 feet bgs concentration limits and the 5 to 10 feet bgs concentration limits for the appropriate site classification (Residential or Commercial/Industrial) shall be satisfied. In addition, if exposure to construction workers or utility trench workers is reasonably anticipated, the concentration limits for Utility Worker shall also be satisfied; or
- b. Maximum concentration of petroleum constituents in soil are less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health; or
- c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.”

Has adequate data been collected to demonstrate that the upper 10 feet of soil is free of petroleum contamination and therefore qualifies for the exemption?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
If the site does not qualify for the exemption, then does the site satisfy the media-specific criteria (a, b, <u>or</u> c) for direct contact and outdoor air exposure?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

a. Are maximum concentrations of petroleum constituents in soil less than or equal to those listed in Table 1 for the specified depth bgs? <i>Use page dc-2 to support answer</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
b. Are the maximum concentrations of petroleum constituents in soil less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Use General Criteria e – Conceptual Site Model sheets to support your answers

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: DIRECT CONTACT AND OUTDOOR AIR EXPOSURE**

Maximum Concentrations of Petroleum Constituents in Soil (Scenario a)

**Table 1 – Concentrations of Petroleum Constituents in Soil
That will Have No Significant Risk of Adversely Affecting Human Health**

Chemical	Residential		Commercial/Industrial		Utility Worker
	0 to 5 ft bgs (mg/kg)	5 to 10 ft bgs (mg/kg)	0 to 5 ft bgs (mg/kg)	5 to 10 ft bgs (mg/kg)	0 to 10 ft bgs (mg/kg)
Benzene	1.9	2.8	8.2	12	14
<i>Max Soil Conc¹</i>					
Ethylbenzene	21	32	89	134	314
<i>Max Soil Conc¹</i>					
Napthalene	9.7	9.7	45	45	219
<i>Max Soil Conc¹</i>					
PAH²	0.063	NA	0.68	NA	4.5
<i>Max Soil Conc¹</i>					

Notes:

1. The maximum concentrations of petroleum constituents in soil should be compared to those listed in Table 1 (Technical Justification for Soil Screening Levels for Direct Contact and Outdoor Air Exposure Pathways, SWRCB)
2. Based on the seven carcinogenic poly-aromatic hydrocarbons (PAHs) as benzo(a)pyrene toxicity equivalent [BaPe]. Sampling and analysis for PAHs is only necessary where soil is affected by either waste oil or Bunker C oil.

Are all the concentration limits for <u>all</u> the appropriate site classification satisfied?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Residential: 0 to 5 feet bgs	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Residential: 5 to 10 feet bgs	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Commercial/Industrial: 0 to 5 feet bgs	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Commercial/Industrial: 5 to 10 feet bgs	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Utility Worker: 0 to 10 feet bgs?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have the requirements for using the screening levels in Table 1 been satisfied (i.e., have the model assumptions presented in the SWRCB document entitled “Technical Justification for Soil Screening Levels for Direct Contact and Outdoor Air Exposure Pathways” been met?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is the area of impacted soil where a particular exposure occurs ≤ 82 feet by 82 feet?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is the receptor located at the downgradient edge for inhalation exposure?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Is the wind speed < 2.25 meters per second (7.38 feet per second) on average?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Are there different exposure scenarios than residential, commercial/industrial, utility worker) at the site?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

Key: ■ NE = Identified Data Gap - Needs Further Evaluation ■ NA = Not Applicable

**LOW THREAT CLOSURE POLICY
MEDIA SPECIFIC CRITERIA: DIRECT CONTACT AND OUTDOOR AIR EXPOSURE**

Direct Contact and Outdoor Air Exposure: Case Notes

Case File Reference Documents:

Technical References:

Case Notes:

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ACEH Supplementary Forms

**CONCEPTUAL SITE MODEL
AND DATA GAP IDENTIFICATION CHECKLIST**

Well Survey

Are there existing water supply wells or other sources of water in the vicinity of the site?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has a recent well survey been conducted to identify all wells within 2,000 feet of the site? Name, author, and date of survey document: <div style="border: 1px solid black; height: 40px; width: 100%;"></div>	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have Department of Water Resources records been reviewed?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have Zone 7 Water Agency records been reviewed?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have Alameda County Public Works records been reviewed?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has a background study of the historical land uses of the site and properties in the vicinity of the site been conducted to determine the existence of unrecorded/unknown (abandoned) wells?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has sufficient data been provided on all wells located within 2,000 feet of the site to identify sensitive receptors and determine potential contaminant migration pathways to and from the site?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has a figure (with rose diagram) identifying each well location been presented?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have DWR well logs (marked as confidential) been provided?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has a table with details of the well search been provided?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Identification number (ID) corresponding to the well location on a figure?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
State Well ID, Well Owner ID?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Well location address?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Distance of well from the site?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Direction of well from the site (downgradient, upgradient, crossgradient)?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Type of well (monitoring, remediation, irrigation, water supply, industrial, livestock, dewatering, cathodic protection)?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Well status (active, inactive, decommissioned, unrecorded, and/or abandoned)?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Well installation date?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Well decommissioned date?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Total Well depth (feet bgs)?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Well screen interval (feet bgs)?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Well seal interval (feet bgs)?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Well diameter (inches)?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Are these supply wells or other sources of water used by property owners/tenants in the vicinity of the site?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Has a neighborhood backyard domestic water/irrigation well assessment been conducted?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have wells been impacted by the release site?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have the wells been sampled for chemicals of concern associated with the release site and analytical results been provided?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA
Have impacted wells been decommissioned and well destruction records provided?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NA

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