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February 18, 2009

Mr. Jerry Wickham, P.G.
Alameda County Health Care Services
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject:

Fuel Leak Case No. RO0000018 and Geotracker Global ID T0600100262, Carnation Dairy, 1310 14th Street, Oakland, CA 94607

Alameda County Health Care Service's letter dated November 26, 2008 regarding ECM's November 4 2008 *Revised Site Conceptual Model Report*.

This response letter is submitted by Environmental Cost Management, Inc. (ECM) on behalf of Nestlé USA, Inc. (Nestlé) in response to the above-referenced letter from the Alameda County Health Care Services (ACHS). This letter from the ACHS to Nestlé USA and Encinal 14th Street, LLC acknowledges ACHS' receipt and review of the November 4, 2008 *Revised Site Conceptual Model (SCM) Report*. ACHS provides a series of technical comments and requests additional information regarding several items presented in the *Revised SCM Report*.

As per the suggestion by ACHS, Nestlé, ECM, and Hall Equities (current property owner) held a meeting on January 7, 2009 to discuss the comments in ACHS' November 26, 2008 letter and other issues related to plans for the environmental investigation at the site. The information provided below is the response to ACHS' comments on the *Revised SCM Report and* reflects the discussions and information exchanged during this January 7th meeting with ACHS.

Response to ACHS Technical Comments on Revised Site Conceptual Model

1. Subsurface Utilities

ACHS notes that "*the subsurface utility survey presented in the SCM indicates that utilities are located north and east of the former UST area but do not extend into the area associated with the former USTs. Given the distribution of known utilities, we agree with the conclusion that abandoned utilities do not appear to be conduits from the former*

UST area. In the Revised SCM Report or Response to Comments requested below, please clarify the discussion regarding the potential for utilities to provide conduits for migration from the area beneath the building off-site to the area beneath 16th Street. In particular, please comment upon the depth of the utilities and whether the soil boring and monitoring well sampling data beneath 16th Street provide reliable indications that off-site migration is not occurring along utility corridors."

Response:

The utility corridor is not believed to represent a likely pathway for preferential off-site migration of COCs due to several factors. As shown in Figure 3 of the *Revised SCM Report*, utilities that might provide preferential migration of COCs in the subsurface from areas of impact within the L-shaped building toward 16th Street are limited to the abandoned sanitary sewer line that runs primarily east-west within the building. A short north-south run exists near monitoring well MW-30, which extends to an abandoned sanitary sewer clean-out located off-site approximately 25 ft. north of monitoring well MW-30.

This sanitary sewer line exists at an approximate depth of between 2 and 5 ft. below ground surface (bgs), based on visual observations and inspection of several connection points within the building during the November 2007 utility survey. Depth to groundwater in this area of (based on observations at monitoring well MW-30) averages 8.7 ft, and has ranged from 6.9 to 10.3 ft. This groundwater depth makes it unlikely that dissolved COCs in groundwater, and any LPH layer floating on the groundwater (historically less than 0.1 thick in this area), would have been transported off-site toward 16th Street via utility corridors. Figure 1 illustrates the approximate locations of these subsurface features relative to typical groundwater elevations in this area of the site.

In addition, as noted in Section 6 of the *Revised SCM Report*, concentrations in downgradient and off-site wells beneath 16th Street remained non-detect for hydrocarbons through the entire post-remediation monitoring period from November 2002 to November 2004. This groundwater monitoring data suggests that no off-site migration has occurred from the area of hydrocarbon impacts documented beneath the building on the northwestern portion of the site.

2. Soil Vapor Sampling Results

ACHS notes concerns regarding specific soil gas and soil concentrations, specifically with respect to future human health exposure risks related to potential exposure of residual COC soil concentrations currently submerged by groundwater. ACHS states that "*a revised Risk Assessment, if prepared, would need to calculate indoor air concentrations using both soil vapor and groundwater concentrations and use the higher concentration to estimate risk."*

Response:

The USEPA user guide for the Johnson and Ettinger model, the current DTSC-recommended methodology for calculating indoor air risks, recommends using direct soil vapor data when considering human health risks associated with indoor exposure pathways (Johnson and Ettinger, 1991; USEPA, 2004). Furthermore, the DTSC/LA-RWQCB January 2003 *Active Soil Gas Investigations* advisory, states that "for evaluating the risk associated with vapor intrusion to indoor air, soil gas data are the

preferred contaminant data set, where practicable" (DTSC/LA-RWQCB, 2003). In addition to adhering to the DTSC/LA-RWQCB's 2003 *Active Soil Gas Investigations* guidance when conducting the May 2008 soil vapor sampling activities, Nestlé retained the services of a California-certified on-site soil vapor laboratory in order to minimize any concerns regarding dilution or compromising of the integrity of soil gas samples collected at the site.

Moreover, the highest concentrations observed on-site in soil vapor will be considered when calculating indoor air exposure risks, resulting in a conservative risk assessment. Low and non-detect soil vapor concentrations (such as at SB-17, as noted by ACHS) would not be used in calculating risk, but rather the highest detected COC soil vapor concentrations would be used as input when performing the conservative exposure risk calculations. In the case of benzene, the two rounds of soil vapor sampling (in 1999 and 2008) have reported concentrations up to 40 ug/L in shallow soil vapor samples. This concentration, as well as the groundwater concentrations of up to 99,000 µg/L (reported at well PR-53) will be used in any risk-based calculations associated with residual hydrocarbons across the site. This methodology provides a very conservative and protective assessment of potential exposure risks related to COCs present in soil vapor.

3. Mass Removal

ACHS notes that "*the SCM indicates that remediation efforts have removed in excess of 44,000 pounds of hydrocarbons from the subsurface and have significantly reduced the mass of hydrocarbons present. The removal of 44,000 pounds of hydrocarbons is a significant effort; however, the percent reduction in mass is not clear since the total mass of hydrocarbons is not known. A review of the site data indicates that elevated concentrations of petroleum hydrocarbons remain in soil and groundwater over a large area of the site. Although mass removal efforts have taken place, the mass of hydrocarbons remaining at the site is significant and constitutes an ongoing source of dissolved phase hydrocarbons."*

Response:

As noted in the *Revised SCM Report* mass removal efforts at the site, through excavation, soil vapor extraction, groundwater and LPH extraction, and high vacuum dual-phase extraction, have resulted in the removal of an estimated 44,000 pounds of hydrocarbons. As summarized in the *Revised SCM Report* (see Figure 34), remedial efforts concluded in June 2000 with asymptotic levels of LPH having been reached in monitoring wells observed throughout the operation of the high vacuum extraction system. Because the USTs leaked for an unknown period of time and at unknown rates prior to their removal in 1989, a direct calculation of the total mass of the initial release to the subsurface is not feasible. However, site LPH levels can be used as an overall indicator of the relative progress of remediation.

Figure 34 in the *Revised SCM* Report presents LPH thicknesses recorded before, during, and after active remediation efforts for the set of six wells in the area of the most elevated hydrocarbon impacts. This historic data illustrates an over 85% reduction in LPH thicknesses. Furthermore, compliance groundwater sampling from the remaining 11 monitoring wells conducted in December 2002 through 2004 did not indicate the presence of LPH in any of these wells, indicating an ongoing LPH source is not present.

Attached Figure 2 presents a historical summary of the number of wells containing over 0.1 ft of LPH during monitoring events from January 1993 through November 2004. This data supports the conclusion that removal of significant quantities of LPH has occurred, and that the most recent monitoring events do not show observable LPH within the remaining monitoring wells at the site. Recent (May 2008) soil and groundwater sampling across the site indicate that residual hydrocarbons are located primarily downgradient of the former UST area and beneath the building on the northwestern portion of the site (see Figures 16 through 27 in the *Revised SCM Report*).

As documented in Table 4 of the *Revised SCM Report*, post-remediation monitoring of 11 designated monitoring wells indicated stable or decreasing trends for dissolved hydrocarbon constituents during conditions of seasonal high and low groundwater elevations. This data does suggest the presence of any ongoing hydrocarbon sources at the site. The history of soil and groundwater monitoring data collected from 1991 through 2008, and presented and interpolated in the *Revised SCM Report*, indicates that all sources of hydrocarbon impacts have been removed and that the remaining hydrocarbon plume is stable and not migrating. These data are inconsistent with the characterization of a "significant" source of free phase hydrocarbon mass remaining beneath the site.

4. Abandoned Sewer Lines, Dairy Fats, and Detergents

ACHS notes that they "*concur that dairy fats and detergents do not represent COCs requiring further attention for the site. ACEH's previous comments regarding abandoned sewer lines, dairy fats, and detergents have not been directed towards direct investigation of dairy fats and detergents but instead have been directed toward other effects including the following:*

> *• Observations of dairy fats and detergents in the subsurface indicate that subsurface releases were occurring from the sewer lines or other sources. Could other groundwater contaminants have been released from the sanitary sewers with the dairy fats and detergents?*
>
> *• Could the discharges to the subsurface have affected subsurface movement of the hydrocarbon plume by creating groundwater mounding beneath the sanitary sewer lines?*
>
> *• We concur that the dairy fats would have a high potential to degrade in the subsurface. Would the release of large volumes of degradable liquids into the subsurface use the available oxygen in groundwater and create an anoxic zone that would significantly diminish future potential degradation of petroleum hydrocarbons?"*

Response:

Diary fats and detergents were observed once, as documented in the April 3, 1989, report by Anania Geologic Engineering, which documented observations made during UST removal activities at the site. The AGE report notes that the planned use of microorganisms, to be injected through product recoveries wells, had been shown to successfully degrade animal fats and detergent. This report further notes a reduction in the previous levels of observed dairy fats to non-observable levels in recovery wells where these constituents had been initially observed . Since this initial 1989 observation

of diary fats in the subsurface, none of the extensive and more recent investigation has revealed the presence of dairy fats or detergents.

Groundwater monitoring and sampling has been performed at over 150 monitoring and extraction wells for over 15 years. The analysis included regular sampling for hydrocarbons VOCs. The release of other constituents from any compromised sewer lines would have been detected in the regular and historical sampling. ECM is not aware of any other source of contaminants other than from the four fuel and one waste oil USTs previously present at the site. Therefore, it is unlikely that other groundwater contaminants have been released from the sanitary sewers or any other source.

Similarly, groundwater elevation data and the associated contouring of groundwater elevations over the last 15 years of monitoring data is inconsistent with a conclusion that there is hydraulic mounding due to a on-site sewer leak. The characterization of groundwater elevations and gradients presented in Figure 7 of the *Revised SCM* report is typical of conditions at the site and documents the generally consistent north to northwest groundwater gradient at a magnitude ranging from approximately 0.001 to 0.005 ft./ft.

ACHS notes that the presence of diary fats in the subsurface could theoretically result in anoxic conditions in the subsurface that would impede the potential degradation of hydrocarbons. The soil and groundwater investigations conducted at the site (see data from 1991, 1999, and 2008 investigations in the *Revised SCM* report) do not indicate any significant changes in the rate of degradation of hydrocarbons over that time period. Thus, there is no evidence that a sewer related release occurred or that conditions at the site created an anoxic zone that would have significantly diminished potential degradation of petroleum hydrocarbons.

5. Groundwater Isoconcentration Figures

ACHS notes *"the figures presenting groundwater concentrations in April 2000 and May 2008 are useful for comparison purposes and are appreciated additions to the SCM. In general, we concur with the conclusion stated in the SCM that based on data presented in the report; the dissolved hydrocarbon plume does not appear to be migrating. However, please see technical comment 1 regarding possible migration along utility corridors.*"

Response:

Concurred.

The depth and position of utility corridors identified in the November 2007 utility survey indicate that utility corridors are unlikely conduits for off-site migration of COCs in the direction of 16th Street, as noted above in response to ACHS Comment #1.

6. PCBs

The ACHS states "*PCBs were not detected in any soil or groundwater samples collected during the May 2008 investigation. Based on these results, no further investigation for PCBs is requested at this time*."

Response:

Concurred.

7. Geotracker EDF Submittals

ACHS notes that "*pursuant to CCR Sections 2729 and 2729.1, beginning September 1, 2001, all analytical data, including monitoring well samples, submitted in a report to a regulatory agency as part of the LUFT program, must be transmitted electronically to the SWRCB Geotracker website via the internet. Additionally, beginning January 1, 2002, all permanent monitoring points utilized to collected groundwater samples (Le. monitoring wells) and submitted in a report to a regulatory agency, must be surveyed (top of casing) to mean sea level and latitude and longitude accurate to within 1-meter accuracy, using NAD 83, and transmitted electronically to the SWRCB Geotracker website. Beginning July 1, 2005, electronic submittal of a complete copy of all reports (LUFT or SLIC) is required in Geotracker (in PDF format). In order to remain in regulatory compliance, please upload all SLiC analytical data and copies of reports post July 1, 2005, to the SWRCB's Geotracker database website in accordance with the above-cited regulation*."

Response:

ECM and Nestlé have established the necessary Geotracker access and are uploading the required data and reports, per the CCR Section 2729 and 2729.1 requirements.

Thank you for your review of this response letter to the November 26, 2008 ACHS letter regarding the *Revised SCM Report* for Fuel Leak Case No. RO0000018 at 1310 14th Street, in Oakland, California. Please feel free to contact me at 510-433-0669 with any further questions regarding this matter.

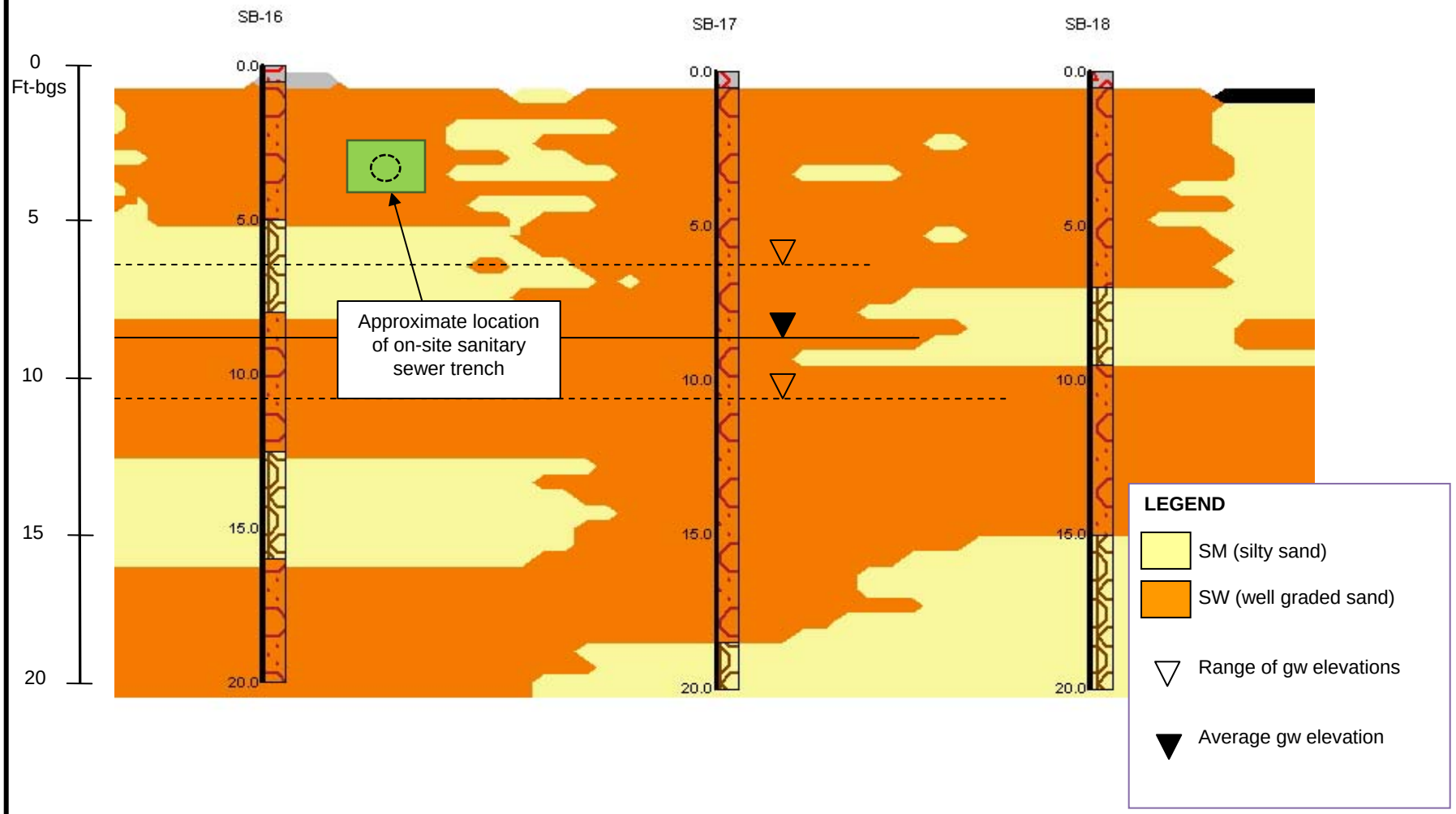
Sincerely,

Brent Searcy, P.E.

Environmental Cost Management, Inc.

Cc: Mike Desso - NUSA
Noelia Marti-Colon – NUSA
Ken Cheitlin – Encinal

Attachments:
Figure 1: Cross sectional View of Typical On-Site Utility Trench
Figure 2: Historical LPH Monitoring



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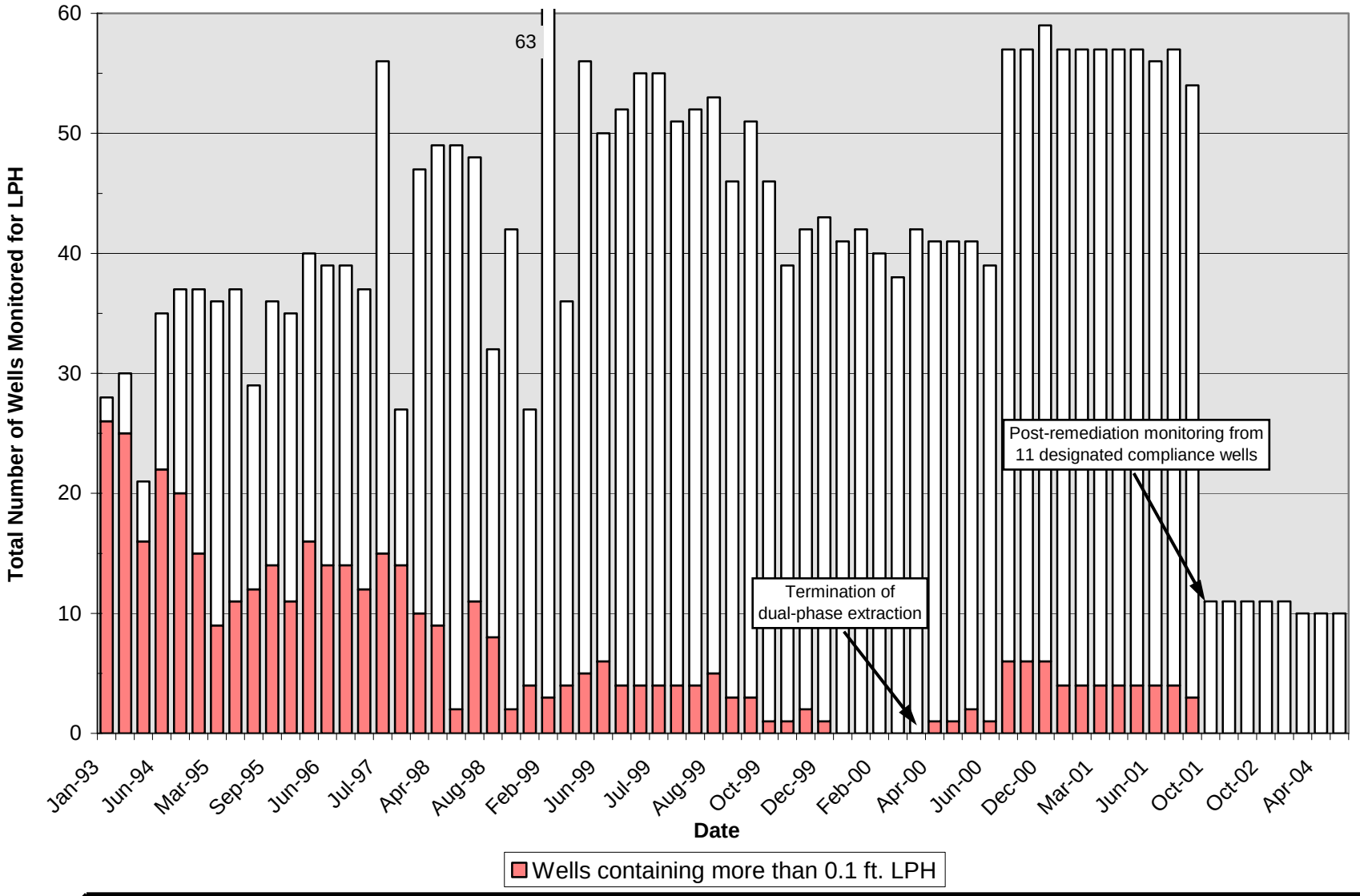
Cross sectional View of Typical
On-Site Utility Trench
February 2009

Figure
1



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Historical LPH Monitoring
(Total Wells Monitored / Wells with > 0.1 ft LPH)
February 2009

Figure
2