CORRECTIVE ACTION PLAN

FOR

FORMER USA GASOLINE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

Prepared for

MOLLER INVESTMENT GROUP, INC

FEBRUARY 25, 2010

Prepared by

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February 25, 2010

Mr. Jerry Wickham, P.G.
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502
(via GeoTracker)

Re: Corrective Action Plan
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Dear Mr. Wickham:

The data and information presented in this report were prepared under the supervision of the undersigned.

Sincerely,

STRATUS ENVIRONMENTAL, INC.

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Mr. John Jay, Jay-Phares Corporation
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1.0 INTRODUCTION AND EXECUTIVE SUMMARY

Stratus Environmental, Inc. (Stratus), on behalf of Moller Investment Group, Inc. (MIGI, formerly USA Gasoline Corporation [USA]), has prepared the following *Corrective Action Plan* (CAP) for the property formerly occupied by USA Service Station No. 57, located at 10700 Macarthur Boulevard, Oakland, California (see Figure 1 and Figure 2). This document was prepared pursuant to a request by Alameda County Health Care Services Agency (ACHCSA), in a letter dated February 13, 2009, and subsequent meetings held in September and December 2009.

The site is located in a vacant portion of the Foothill Square shopping center, near the intersection of 108th Avenue and Foothill Boulevard, in southeast Oakland. It is our understanding that the owner of the subject property (MacArthur Boulevard Associates, in conjunction with Jay-Phares Corporation) intends to redevelop the area formerly occupied by USA Station 57 in the near future. Based on a recent discussion with Jay-Phares Corporation, construction of a grocery store in the area formerly occupied by USA Station 57 is proposed.

Petroleum hydrocarbon impact to the subsurface was discovered during a subsurface investigation completed in 1987. The underground storage tanks (USTs) and associated fuel delivery system were removed from the subject property in 1994, and the service station was closed and demolished at this time. At the time of UST removal, impacted soil surrounding the former UST cavity (estimated at 775 cubic yards) was excavated and removed from the property, resulting in the removal of an estimated 327.2 pounds of total petroleum hydrocarbons as gasoline (TPHG) from the site.

The geology beneath the site predominately consists of fine grained soils (silt/clay mixtures) situated above an undulatory bedrock surface. Clayey sand, silty sand, and clayey gravel soils appear to be interbedded within the fine grained soils. The soil horizon thicknesses above bedrock, encountered during historical subsurface investigations, are variable, ranging from at least 10 feet to more than 44 feet below ground surface (bgs). The soil/bedrock interface appears to generally dip towards the north, at an apparent angle of approximately 25 degrees from horizontal.

A groundwater monitoring program was initiated at the site in 1995. Groundwater levels beneath the site have fluctuated significantly during this time, ranging from approximately 5 to 24.5 feet bgs; the historically low depth to groundwater measurement was recorded during a recent (fourth quarter 2009) monitoring event. A relatively large 'smear zone' of contaminants appears to be present at the site, likely resulting from the groundwater level fluctuations. A convergent groundwater flow direction, towards the former fuel dispenser portion of the site, appears to be predominately present, with north-northeast groundwater flow generally present beneath the southern portion of the site and south-southeast groundwater flow largely observed beneath the northern portion of the site.

Historical groundwater analytical data from the site indicate the presence of TPHG/gasoline range organics (GRO), total petroleum hydrocarbons as diesel/diesel range organics (TPHD/DRO), benzene, toluene, ethylbenzene, and xylenes (BTEX compounds), methyl tertiary butyl ether (MTBE), tertiary butyl alcohol (TBA), di-isopropyl ether (DIPE), and 1,2-dichloroethane (1,2-DCA). At the time of a recent well sampling event (fourth quarter 2009), GRO, benzene, and MTBE were detected at maximum concentrations of 12,000 micrograms per liter (µg/L), 4,200 µg/L, and 690 µg/L, respectively. The petroleum hydrocarbon plume appears to be relatively stable and decreasing. Groundwater is not used as a local drinking water source, there is no known water supply well usage in the immediate site vicinity, and groundwater impact originating from USA Station 57 appears unlikely to threaten potential groundwater sensitive receptors based on available site data.

In October 2009, a shallow soil gas survey was completed at the site; this work consisted of collecting 19 soil gas samples at a depth of approximately 4 feet bgs, and 20 soil gas samples at a depth of approximately 9 feet bgs. Results of this work indicate that TPHG and benzene are the primary contaminants of concern (COCs) in shallow soil gas. TPHG was detected in each of the 39 samples and benzene was detected in a majority of the samples. TPHG and benzene were detected at maximum concentrations of 8,000,000 micrograms per cubic meter (µg/m^3) and 7,800 µg/m^3, respectively (both at 9 feet bgs). These concentrations are elevated relative to Regional Water Quality Control Board (RWQCB) established Environmental Screening Levels (ESLs) for commercial property of 29,000 µg/m^3 for TPHG and 280 µg/m^3 for benzene.

In the February 13, 2009 letter, ACHCSA also requested that site specific cleanup goals (SSTLs) be developed for the project. Using the available site data, risk based cleanup objectives were initially submitted for ACHCSA review in a report titled *Remedial Alternative Evaluation and Proposed Site Specific Cleanup Objectives Report* (August 12, 2009). In a September 2009 meeting, ACHCSA personnel indicated that vapor intrusion was their primary concern regarding future exposure risk at the site. After completion of the October 2009 soil gas survey, a Vapor Intrusion Human Health Risk Assessment (HHRA) was prepared for the site, using the Johnson & Ettinger Model (results included in a December 3, 2009 report titled *Results of Soil Gas Investigation and Human Health Risk Assessment*). The HHRA concluded that vapor intrusion risk at the site is very low and within California Environmental Protection Agency (Cal-EPA) target levels.

Given that the primary remedial objective for the site is to reduce contaminant concentrations in shallow soil gas and thus further reduce human health risk exposure to these contaminants, this CAP proposes to excavate soil in the vicinity of the former fuel dispenser islands and UST complex, where the highest concentrations of petroleum hydrocarbons appear present in soil, groundwater, and soil gas. Stratus estimates that soil will be removed to an average depth of approximately 13 feet bgs. The location and dimensions of the excavation proposed in this report are only preliminary, based on our understanding of the distribution of petroleum hydrocarbons in soil. We intend to modify and extend the excavation limits based on the distribution of contaminants in the subsurface during excavation work, using field observations and a mobile analytical laboratory. In addition to reducing petroleum hydrocarbon mass in the

subsurface via excavation, Stratus is also proposing to place gypsum in the base of the excavation in order to enhance long-term remediation of groundwater and reduce re-adsorption of dissolved contaminants to shallow soil as groundwater levels fluctuate beneath the site. This gypsum will provide a source of sulfate to the subsurface, allowing for ongoing in-situ treatment of contaminants following backfilling of the UST cavity. Following placement of this gypsum, Stratus proposes to backfill the excavation cavity with compacted engineering fill from the base of the excavation to approximately 5 feet below current surface grade. Clean soil or sand would be placed on top of the engineering fill between surface grade and 5 feet bgs.

Collection of post-excavation soil gas samples might be necessary in order to assess the effectiveness of remedial work in reducing concentrations of petroleum hydrocarbons in shallow soil gas. While we believe that soil gas sampling work might be necessary in order for ACHCSA and RWQCB personnel to evaluate the environmental case at the site for closure following remedial efforts, this document does not provide a specific proposal for implementing a soil gas survey. Instead, Stratus is proposing that an addendum work plan be submitted, at a later date, to propose a specific scope of work for the soil gas survey after the excavation has been completed and data collected during the excavation has been thoroughly reviewed by Stratus, ACHCSA, and the property owner. This should allow for development of a focused scope of work for the collection of data needed to evaluate the effectiveness of remediation in reducing contaminant concentrations in shallow soil gas, and potentially an assessment as to whether the environmental case at the site can be considered for closure at that time. If installation of post-remediation groundwater monitoring wells near the excavation areas is required by ACHCSA, this addendum work plan will include a scope of work to complete this task.

2.0 SITE DESCRIPTION

2.1 Subject Site and Vicinity

The subject property is located in a mixed residential and commercial neighborhood in southeast Oakland. The property is bounded to the northeast by Foothill Boulevard, and to the southeast by 108th Avenue, and is situated approximately 500 feet west-southwest of Interstate 580. The site occupies a relatively small portion of the Foothill Square shopping center (see Figure 3). This portion of the subject property formerly occupied by USA Station 57 is currently undeveloped. Areas adjacent to the site (to the southwest and northwest) are used as parking for the shopping center. A residential neighborhood is located south of the Foothill Square shopping center.

The site is situated approximately 80 feet above sea level, immediately west of the Oakland/San Leandro Hills and approximately 4 miles northeast of San Francisco Bay. The property is located on the eastern portion of the East Bay Plain. Topography at the site is relatively flat, with the ground surface typically sloping west-southwest towards San Francisco Bay. The Oakland/San Leandro Hills rise sharply out of the East Bay Plain east of the site and Interstate 580.

The former service station configuration included three 12,000-gallon gasoline and one 8,000-gallon diesel USTs and three dispenser islands. The station was closed, and the USTs, dispensers, and associated product piping were removed, in July 1994. The approximate locations of the USTs and fuel dispensers are included on Figure 2.

It is our understanding that Jay-Phares Corporation intends to redevelop the Foothill Square shopping center, including the area formerly occupied by USA Station 57, in the near future. The current property redevelopment plan includes construction of a grocery store at the location of former USA Station 57. A map depicting the tentative redevelopment plan for the property, including the location of the grocery store, is illustrated on Figure 4.

3.0 SUBSURFACE CONDITIONS

Information pertaining to the subsurface conditions at the site are discussed in the following subsections of this document. Geologic logs prepared during historical subsurface investigations at the property, by Stratus and other consultants representing USA/MIGI, were used to prepare this discussion and are presented in Appendix A. Soil boring and well installation details are summarized on a table included in Appendix A.

3.1 Geologic Conditions

The geology beneath the site predominately consists of fine grained soils (silt/clay mixtures) situated above an undulatory bedrock surface. Clayey sand, silty sand, and clayey gravel soils appear to be interbedded within the fine grained soils. The soil horizon thicknesses above bedrock, encountered during historical subsurface investigations, are variable, ranging from at least 10 feet to more than 44 feet bgs. Based on available information, sedimentary bedrock (siltstone/sandstone or similar) appears to be present beneath the soil strata. The upper portion of the bedrock appears to be significantly weathered, allowing penetration by hollow stem auger drilling equipment and California split-spoon sampling equipment. The soil/bedrock interface appears to generally dip towards the north, at an apparent angle of approximately 25 degrees from horizontal.

3.2 Hydrogeologic Conditions

Depth to groundwater has ranged from approximately 5 to 24.5 feet bgs in the site monitoring wells between 1995 and 2009. Tables which include historical depth to groundwater measurements and groundwater elevations are provided in Appendix B. Recent depth to groundwater measurements in the site monitoring wells collected during the fourth quarter 2009 are near historically low levels. Groundwater flow beneath the site appears to be variable, with north and northeast groundwater flow predominately observed in the southern part of the site, and south and southeast groundwater flow predominately observed in the northern part of the site (general convergent groundwater flow pattern).

3.3 Extent of Petroleum Hydrocarbon Impact

Extent of Petroleum Hydrocarbon Impact in Soil

Stratus has prepared four soil iso-concentration contour maps depicting the approximate extent of TPHG impact to soil at depths of surface grade to 7 feet bgs (Figure 5), 7 to 12 feet bgs (Figure 6), 12 to 17 feet bgs (Figure 7), and 17 to 25 feet bgs (Figure 8). These figures include soil analytical data collected from compliance sampling during site demolition and excavation, and results of samples collected during subsurface investigation (drilling) activities. Subsequent to collection of the analytical data used to generate these figures, DPE/AS remediation (discussed in section 4.2) has been completed at the site, which would almost certainly have resulted in contaminant concentration reductions and a redistribution of contaminants within the

subsurface. Despite these remedial efforts and expectant reduction/redistribution of the contaminant mass concentrations, it is our opinion that these figures are useful for illustrative purposes to describe the extent of the petroleum hydrocarbon impact remaining at the site. TPHD, BTEX, and MTBE have also been reported in soil samples collected at the site. Historical analytical results for soil samples collected at the site are presented in Appendix C.

Petroleum hydrocarbon impact to the shallow subsurface (above 7 feet bgs) appears to primarily be located near the former fuel pump islands, in the northern portion of the site. The highest concentrations of petroleum hydrocarbons in the fuel pump island area appear to be present immediately below surface grade, with concentrations generally decreasing with depth in this area. Maximum TPHG concentrations of 4,500 milligrams per kilogram (mg/Kg) (beneath product line trench sample location PI-2 at 3.5 feet bgs) were historically reported. Excavation work to the south of the fuel dispenser island area (discussed in section 4.1) should have removed the majority of the shallow petroleum hydrocarbon impact in this portion of the site (the approximate lateral limits of excavation are included on Figures 5 through 8).

The lateral extent of petroleum hydrocarbon impact to soil appears to encompass a larger area from 7 to 12 feet bgs relative to that observed from surface grade to 7 feet bgs (see Figures 5 and 6), possibly due to 'smear zone' influence with the upper portion of the water table at times of high groundwater levels beneath the site. The highest concentration of TPHG and benzene in soil between 7 and 12 feet bgs, following excavation work, was detected at the southern limits of the excavation, at concentrations of 130 mg/Kg and 0.33 mg/Kg, respectively. TPHG was also detected in samples collected near the former diesel UST and southern fuel pump island at concentrations of 80 mg/Kg (boring AS-1) and 100 mg/Kg (sample TC2-5). Benzene and MTBE concentrations at this depth appear to be low.

The extent of petroleum hydrocarbon impact to soil appears to encompass the largest lateral area between approximately 12 and 17 feet bgs (see Figure 7). Three samples collected at this depth, at scattered locations across the site, contained TPHG concentrations between 500 mg/Kg and 540 mg/Kg. Soil samples collected at this depth should be within the 'smear zone' and affected by fluctuations in groundwater levels beneath the site. Re-adsorption of contaminants into backfill soil placed within the excavation may have occurred based on data obtained at boring EX-1; however limited samples within the excavation backfill have been collected.

Select soil samples collected between 17 feet bgs and 25 feet bgs also appear to be within the 'smear zone', with a similar lateral contaminant distribution as soils between 12 and 17 feet bgs (see Figures 7 and 8). Samples collected from portions of the site at this depth interval appear to be situated immediately above the soil/bedrock interface. The highest concentrations of TPHG in this depth interval were reported near the southern and northern corners of the former UST pit (620 mg/Kg and 600 mg/Kg, respectively). Benzene concentrations in soil at this depth also appear to be low (0.67 mg/Kg maximum concentration at boring AS-2 [21 feet bgs]).

Extent of Petroleum Hydrocarbon Impact in Groundwater

GRO, TPHD, BTEX, MTBE, TBA, DIPE, and 1,2-DCA have historically been reported in groundwater samples beneath the site. Historical groundwater analytical results are included in Appendix B. Stratus has prepared annual average GRO and benzene iso-concentration contour maps using analytical data collected from the site monitoring wells in 1998 (see Figures 9 and 10), and GRO, benzene, and MTBE iso-concentration contour maps using 2003 monitoring well analytical results (see Figures 11 through 13). GRO, benzene, and MTBE concentrations reported for samples collected during the fourth quarter 2009 well sampling event are summarized on Figure 14. Iso-concentration contour maps depicting the recent interpreted lateral extent of GRO, benzene, and MTBE impact to the subsurface, using fourth quarter 2009 analytical data, are presented as Figures 15, 16, and 17, respectively.

Figures 9 through 17 illustrate that petroleum hydrocarbon and MTBE impact to groundwater appears to remain in the area immediately surrounding the former USTs and fuel dispenser islands, with minimal lateral transport of contaminants away from these areas. A comparison of the iso-concentration contour maps prepared using annual average 1998, annual average 2003, and fourth quarter 2009 analytical data suggests that the plume of impacted groundwater beneath the property is relatively stable and decreasing.

The highest petroleum hydrocarbon concentrations appear situated in the southern portion of the site, near the former UST complex. At the time of the fourth quarter 2009 well sampling event, the highest concentrations of GRO and benzene were detected in the sample collected from well EX-2, at concentrations of 12,000 µg/L and 4,200 µg/L, respectively. The highest concentration of MTBE at the time of the fourth quarter 2009 well sampling event was detected in well S-2 (690 µg/L).

Petroleum Hydrocarbon Impact to Soil Gas and Vapor Intrusion Human Health Risk Assessment

In October 2009, Stratus completed a soil gas survey at the subject site. The work consisted of collecting 19 soil gas samples at a depth of approximately 4 feet bgs, and 20 soil gas samples at a depth of approximately 9 feet bgs. The locations of the soil gas samples are illustrated on Figure 2. Analytical Results of the soil gas samples are provided in Appendix D.

Analytical results of the 4 feet bgs soil samples indicated the presence of TPHG in all nineteen of the samples at concentrations ranging from 110 to 260,000 µg/m^3. The highest concentrations of TPHG were reported near the western edge of the former USTs (SV-10A) and the former fuel dispenser area (SV-5A and SV-13A). Benzene was detected in about 70% of the 4 foot bgs soil gas samples, at concentrations ranging from 4.9 to 360 µg/m^3. The highest concentration of benzene was detected in sample SV-19A, located southeast of the former USTs. MTBE was detected in only one 4 foot bgs soil gas sample (SV-5A, 3,700 µg/m^3), and naphthalene was detected in only two samples (SV-10A and SV-11A at 77 µg/m^3 and 45 µg/m^3, respectively). Analytical results for TPHG and benzene in the 4 feet bgs samples are illustrated on Figure 18.

In addition, the approximate extent of known TPHG soil impact (based on historical soil samples collected at depths of ground surface to 7 feet bgs) is included on Figure 18.

Analytical results of the 9 feet bgs soil samples indicated the presence of TPHG in all twenty of the samples, at concentrations ranging from 780 to 8,000,000 $\mu g/m^3$. The highest concentrations of TPHG were reported near the former fuel dispenser area (SV-5B and SV-6B) and near the western edge of the former USTs (SV-10B). Benzene was detected in 85% of the 9 foot bgs soil gas samples, at concentrations ranging from 11 to 7,800 $\mu g/m^3$. The highest concentration of benzene was detected in sample SV-5B located near the former fuel-dispensers. MTBE was detected in six of the 9 feet bgs soil gas samples (highest concentrations reported at SV-5B and SV-6B near the former dispensers). Analytical results for TPHG and benzene in the 9 feet bgs samples are illustrated on Figure 19. In addition, the approximate extent of known TPHG soil impact (based on historical soil samples collected at depths of 7 to 12 feet bgs) and the approximate extent of TPHG/benzene impact to groundwater (based on Fourth Quarter 2009 groundwater data) are shown on Figure 19.

After receiving the analytical results of the October 2009 soil gas samples, Stratus retained a subcontractor (Rubik Environmental [Rubik]) to perform a HHRA for the subject property. Rubik utilized the Department of Toxic Substances Control (DTSC) version of the Johnson and Ettinger Soil Gas Vapor Intrusion Model in order to estimate the excess cancer risk (ECR) and hazard index (HI) for the site under a commercial receptor scenario (agreed upon by Stratus and ACHCSA in the September 2009 meeting). A report prepared by Rubik, which summarizes the parameters and procedures used to complete the modeling, and the subsequent findings of this modeling, is included in Appendix D. The report includes a discussion of vapor intrusion risk levels based on construction of a building at the current ground surface, and also construction of a building at a level 5-feet below current surface grade, which may occur based on our understanding of the current property redevelopment plan.

The modeling results indicate that a very low vapor intrusion risk exists on the subject property. Individual and cumulative ECRs and HIs, using data from the 4-foot depth soil gas samples (current property grade scenario) were 9.9E-08 and 0.006. These levels are lower than the most stringent Cal-EPA targets of 1.0E-06 and 1.0. Under the future property grade scenario (9-foot depth soil gas samples and a 5-foot lower surface grade), individual chemical ECRs were below 1.0E-06. Using the 9-foot depth soil gas sample results, the cumulative ECR was calculated to be 5.7E-05 when naphthalene, which was detected in only 2 of the 20 soil gas samples from this depth, was included. If naphthalene results are excluded, the cumulative ECR is 9.3E-07. The HI at the lower surface grade level is 0.15 if naphthalene data are excluded, and 1.7 if naphthalene data from the 2 of 20 soil gas samples are included.

4.0 REMEDIAL ACTIVITIES AND FEASIBLITY TESTING

4.1 Soil Overexcavation

Approximately 775 cubic yards of soil were reported excavated at the time of UST removal in 1994. Using the arithmetic mean of concentrations reported from samples collected from the soil stockpile generated during the excavation, an estimated 327.2 pounds of TPHG, 41.3 pounds of TPHD, and 0.15 pounds of benzene were removed from the subsurface via excavation. A table summarizing petroleum hydrocarbon mass removal computations is provided in Appendix E.

4.2 Intermittent DPE and DPE/AS Remediation Events

In 2003, USA/MIGI was informed by the Jay-Phares Corporation that the property was being marketed actively for redevelopment. Potential development plans were provided to Stratus in June-July 2003. These plans included a proposal to lower surface grade by approximately 6 feet. Discussions and meetings were held between USA/MIGI, Jay-Phares, AEI Consultants (who represents Jay-Phares), ACHCSA, and Stratus, during the third and fourth quarters 2003, to identify the most viable remedial technology to mitigate petroleum hydrocarbon impact to the subsurface prior to redevelopment. Based on site geology, hydrogeology, and extent of impact, DPE was identified as an implementable, and likely viable, remedial alternative (although cost intensive) for the subject site. Therefore, with approval from ACHCSA, Stratus conducted petroleum hydrocarbon mass reduction events using DPE and DPE/AS technology, intermittently between July 2004 and November 2007. The objective of the mass removal events was to reduce concentrations of petroleum hydrocarbons in the subsurface, with an understanding that any remaining petroleum hydrocarbon impacted soil encountered during lowering of surface grade at the subject property would be removed and disposed of offsite during the anticipated property redevelopment activity.

The first three DPE events were completed using wells S-1, S-2, and MW-3 for extraction, with MW-7 also used for extraction during the third DPE event. Subsequent DPE and DPE/AS events were completed using wells EX-1 through EX-4 for extraction. Data tables summarizing information collected during the DPE and DPE/AS events are presented in Appendix F.

The first DPE event was conducted between July 6 and 25, 2004, using a 400 cubic feet per minute (cfm) DPE system. During the first DPE event, individual well DPE tests using wells S-1, S-2, and MW-3, and a combined DPE test using all three wells, were conducted to evaluate the technical viability of using DPE to mitigate the subsurface petroleum hydrocarbon impact. During the combined DPE test, an average applied vacuum of 22.66 inches mercury ("Hg) (or 308.18 inches water column ["WC]) resulted in an average soil vapor extraction rate of 86 cfm and an average groundwater extraction rate of 0.41 gallons per minute (gpm). Approximately 13.35 pounds of GRO were extracted in vapor and aqueous phases during this DPE event. Based on the findings of this test, and analytical results of subsequent quarterly monitoring, Stratus

proposed (letter dated October 15, 2004) to conduct quarterly DPE events as an interim remedial measure to reduce the subsurface petroleum hydrocarbon mass (prior to redevelopment). In a letter dated May 9, 2005, ACHCSA approved the proposal for conducting intermittent DPE events. The results of this DPE event indicated that relatively low hydraulic and air flow permeabilities are present in the subsurface, with low flow rates induced by the DPE system. Draw-down and induced vacuum data were collected from select observation wells to establish radius of influence (ROI) for vapor and groundwater extraction.

A second DPE petroleum hydrocarbon mass removal event was conducted at the site between June 6, 2005, and July 1, 2005, using a 400 cfm DPE system. During this DPE event, an applied vacuum in the range of 23 to 25 "Hg produced soil vapor flow rates in the range of 23 to 39.4 cfm, and an average groundwater extraction rate of 1.12 gpm. A total of 34,340 gallons of extracted groundwater were treated using the carbon vessels and discharged to the sanitary sewer. Approximately 6.449 pounds and 0.082 pounds of GRO were extracted in vapor and aqueous phases, respectively, during this DPE event.

A third DPE petroleum hydrocarbon mass removal event was conducted at the site between August 29, 2005, and September 16, 2005, using a 200 cfm DPE system. During this DPE event, an applied vacuum in the range of 16 to 18 "Hg produced soil vapor flow rates in the range of 37.3 to 62.5 cfm, and an average groundwater extraction rate of 2.45 gpm. A total of 54,730 gallons of extracted groundwater were treated using the carbon vessels and discharged to the sanitary sewer. GRO was not reported in any of the influent soil vapor samples collected during this DPE event. Approximately 0.014 pounds of GRO were extracted in aqueous phase during this DPE event.

Based on information collected from the first three mass removal events, Stratus proposed and installed strategically located extraction wells in known areas of petroleum hydrocarbon impact. Wells EX-1 through EX-4 were installed in October 2005, and screened shallower in the subsurface (entire screening interval above bedrock) than the previous monitoring wells used for extraction.

A fourth DPE petroleum hydrocarbon mass removal event was conducted at the site between February 20, 2006, and March 24, 2006, using the newly installed extraction wells EX-1 through EX-4. During this DPE event, an applied vacuum in the range of 18.5 to 23 "Hg produced influent soil vapor flow rates in the range of 22.4 to 50.6 cfm, and an average groundwater extraction rate of 0.40 gpm. A total of 13,340 gallons of extracted groundwater were treated using the carbon vessels and discharged to the sanitary sewer. Approximately 25.83 pounds of GRO were extracted in vapor and aqueous phases during this DPE event.

A fifth DPE petroleum hydrocarbon mass removal event was conducted at the site between May 1, 2006, and May 25, 2006. An applied vacuum in the range of 20 to 24.5 "Hg produced influent soil vapor flow rates in the range of 21.9 to 56.2 cfm, and an average groundwater extraction rate of 0.30 gpm. A total of 7,400 gallons of extracted groundwater were treated using the carbon vessels and discharged to the sanitary sewer. Based on influent soil vapor flow

rates and concentrations, approximately 5.43 pounds of GRO were extracted in vapor phase and 0.027 pounds of GRO were removed from the subsurface in aqueous phase during this DPE event.

A sixth DPE petroleum hydrocarbon mass removal event was conducted at the site between July 17, 2006, and August 10, 2006. An applied vacuum in the range of 16 to 18 "Hg produced influent soil vapor flow rates in the range of 70.7 to 114.8 cfm, and an average groundwater extraction rate of 0.06 gpm. A total of 1,900 gallons of extracted groundwater were treated using the carbon vessels and discharged to the sanitary sewer. Based on influent soil vapor flow rates and concentrations, approximately 47.63 pounds of GRO were extracted in vapor phase and 0.0072 pounds of GRO were removed from the subsurface in aqueous phase during the sixth DPE event.

In order to improve performance of future mass extraction events, Stratus proposed to complete AS in conjunction with DPE (Work Plan dated June 13, 2007); ACHCSA approved the scope of work proposed in this Work Plan (letter dated July 25, 2007). Two air sparge wells (AS-1 and AS-2) were subsequently installed on the property to enable implementation of combined DPE-AS.

The DPE-AS event was conducted between September 4 and November 14, 2007, for 779.50 hours (approximately 32.48 days). The DPE-AS system was unable to operate continuously due to frequent malfunctions of the propane generator used to power the control panel of the DPE system. A 2-hp Quincy blower, rated at 9.6 cfm, was used to inject air into the subsurface through recently installed wells AS-1 and AS-2 at approximately 150 to 200 percent of the static head pressure observed at wells AS-1 and AS-2 at the beginning of the remediation event. An applied vacuum in the range of 8.0 to 15.0 "Hg produced influent soil vapor flow rates in the range of 93.3 to 132.6 cfm and an average groundwater extraction rate of 0.03 gpm. GRO and benzene concentrations in the influent air samples ranged from 540 milligrams per cubic meter (mg/m^3) to 1,800 mg/m^3 and 0.75 mg/m^3 to 3.4 mg/m^3, respectively. GRO, benzene, and MTBE concentrations in the influent water samples ranged from 51 µg/L to 470 µg/L, 9.2 µg/L to 140 µg/L, and 3.8 µg/L to 230 µg/L, respectively. An estimated 693.8 pounds of GRO were removed in the vapor phase during the DPE/AS remediation event. Given these findings, combined DPE and AS was significantly more effective than DPE alone in removing petroleum hydrocarbon mass from the subsurface.

Although the total mass removed during the seven mass removal events was low (particularly for groundwater), DPE appears to have reduced concentrations of GRO and benzene in wells S-1, S-2, EX-1, EX-2, and MW-3. It appears that along with DPE events, other factors such as fluctuating groundwater elevations and naturally occurring processes like biodegradation and attenuation may have also contributed to the observed reduction in petroleum hydrocarbon concentrations.

4.3 iSOC™ Oxygen Injection Groundwater Remediation

An iSOC™ oxygen injection system operated at the site between January 22, 2006 and September 4, 2007, in order to supplement aerobic degradation of petroleum hydrocarbons in groundwater between intermittent DPE events. The iSOC™ oxygen injection system is a bioremediation technology that produces high levels of dissolved oxygen for in-situ biodegradation of petroleum hydrocarbon constituents. The iSOC™ system consists of individual injection units (1.62 inches in diameter and approximately 15 inches in length) made of stainless steel, and an industrial grade oxygen cylinder. The individual injection units contain a micro-flow controller that regulates the flow based on the static head and pressure setting at the oxygen cylinder. The injection units also contain micro-porous hollow fibers, which provide a significant mass transfer area and create an ultra saturation zone when oxygen gas pressure is maintained lower than the static groundwater pressure. Each individual injection unit is placed in a monitoring well and connected to a 250 cubic centimeter (cc) oxygen cylinder using a single run ¼-inch diameter tubing. Between January 11, 2006 and December 18, 2006, the individual injection units were placed in wells S-1, S-2, and MW-3. In December 2006, the iSOC™ units were moved from wells S-1 and MW-3 to wells EX-1 and EX-2. The operation of the oxygen injection system at the site was discontinued on September 4, 2007, prior to initiation of the DPE-AS event.

5.0 CORRECTIVE ACTION PLAN

On August 12, 2009, Stratus submitted a report titled *Remedial Alternatives Evaluation and Proposed Site Specific Cleanup Objectives Report*. In this document, Stratus discussed the technical feasibility, cost, and anticipated effectiveness of several remedial approaches that could be used to mitigate petroleum hydrocarbon impact beneath the site, based on our understanding of the extent of petroleum hydrocarbon impact, site geology, expected effectiveness of remedial technologies at the site, etc. at the time that this document was prepared.

The following assumptions were generally used in selecting a proposed remedial approach for the subject site:

- The site is currently a commercially zoned vacant lot, scheduled for redevelopment as a grocery store. The site will remain zoned for commercial use for the foreseeable future (assume 30 years).

- Given that groundwater is not a potential drinking water source near the site, and based on discussions with ACHCSA personnel, reducing petroleum hydrocarbon concentrations in shallow soil gas is the primary remedial objective for the site, based on the current and anticipated site exposure risks.

- Surface grade is expected to be lowered approximately 5 feet near the former service station during redevelopment of the property.

- TPHG and benzene appear to be the primary COCs, with lesser concentrations of TPHD, toluene, ethylbenzene, xylenes, MTBE, TBA, DIPE, 1,2-DCA, and naphthalene also detected in soil, groundwater, or soil gas.

- Limited migration of dissolved contaminants away from the UST/fuel dispenser area appears to have occurred.

- The geology beneath the site predominately consists of fine grained soils (silt/clay mixtures) situated above an undulatory bedrock surface.

- Relatively high concentrations of TPHG and benzene impact shallow soil gas at the site, particularly near the former fuel dispenser islands and edge of the UST overexcavation, based on the results of soil gas samples collected at 4 and 9 feet bgs in October 2009.

- Historical excavation activities appear to have been effective in reducing shallow soil gas concentrations within the former UST excavation area, based on the results of the October 2009 soil gas survey. Given this observation, we believe that additional excavation work will be an effective remedial alternative for the site.

- Underground utility lines located near the site, that do not serve the Foothill Square Shopping Center buildings (such as electric street lighting and abandoned sewer line(s) for the former USA Station) could be removed in order to allow for work.

- The property owner will allow for the work to be completed, despite any reasonable inconveniences associated with this work.

- ACHCSA will allow proper destruction of monitoring and remediation wells located in the proposed excavation area.

- An excavation permit can be obtained from the City of Oakland. Bay Area Air Quality Management District (BAAQMD) will approve of the excavation and removal of contaminated soil (Regulation 8, Rule 40)

- Groundwater could be hauled to an offsite facility for disposal, or treated and disposed of onsite, under permit from East Bay Municipal Utility District (EBMUD).

Based on the information available, Stratus is proposing, on behalf of MIGI, that soil excavation and disposal be implemented in order to mitigate the petroleum hydrocarbon impact beneath the site. Stratus intends to initially excavate soil to a depth of approximately 13 feet bgs. If substantially elevated concentrations (above approximately 180 parts per million for TPHG in soil, based on soil ESLs and discussed later in this report) are encountered at the base of the 13-foot cavity, the excavation will be extended to an anticipated maximum depth of approximately 18 feet bgs, or as conditions allow. By removing this soil from the subsurface, and transporting this material offsite for proper disposal, we believe that a majority of the remaining petroleum hydrocarbon mass can be removed from the site, therefore reducing petroleum hydrocarbon concentrations in shallow soil gas.

Once this petroleum hydrocarbon mass has been removed, shallow soil gas and groundwater concentrations should be significantly reduced. Placement of gypsum in the base of the excavation should also supplement the excavation remedial work, by providing a source of sulfate to enhance anaerobic degradation of remaining petroleum hydrocarbons, particularly areas within the saturated zone at, and beneath, the base of the excavation. Reducing petroleum hydrocarbon concentrations within the saturated zone should minimize re-contamination of clean backfill soil in the future, by adsorption of dissolved contaminants in the future as groundwater levels fluctuate seasonally at the site.

Prior to initiating the excavation, Stratus is proposing to properly destroy wells AS-1, AS-2, EX-1, EX-2, EX-4, and S-2, which are located within, or immediately adjacent to, the proposed excavation area. Once destruction of these wells has been completed, excavation of impacted soil will commence. During the excavation work, a Stratus representative will collect soil samples that will be chemically analyzed by an onsite laboratory; results of these analyses will be used to assess the mass of petroleum hydrocarbons removed via excavation and assist in

determining the lateral and vertical limits of the excavation across the site. All excavated soil will be hauled offsite for disposal.

Once excavation work has been completed, Stratus will begin backfilling the excavation cavity. Gypsum will be placed across the base of the excavation cavity, which we anticipate will be near the soil/groundwater interface or 'smear zone', using an excavator bucket or similar method. Engineering fill will then be placed in the excavation up to approximately 5 feet bgs. The engineering fill will be placed in lifts and compacted using a steel drum roller or similar equipment. A licensed geotechnical engineering firm will be retained in order to maintain quality control of fill placement and compaction. Clean soil will then be placed in the upper 5 feet of the excavation cavity.

Although the property owner intends to lower surface grade in the future (approximately 5 feet based on our understanding of the upcoming redevelopment project), Stratus is proposing to backfill the excavation cavity to the current surface grade level. This is necessary for site safety and to provide a workable surface for the anticipated soil gas survey work.

Following completion of the remedial efforts, a report will be prepared to document the work activities. After a review of data presented in this report is completed, Stratus intends to prepare an addendum work plan that proposes implementation of a soil gas survey, and if required, installation of replacement groundwater monitoring wells. Data obtained from the future soil gas survey will be useful, when compared against the results of the October 2009 survey, in assessing reduction in health risk and the effectiveness of the remedial project.

5.1 Scope of Work

The objective of the proposed scope of work is to complete remedial activities necessary to manage the environmental case at the site to closure. To accomplish this objective, Stratus is proposing the following work activities:

- Destroy 6 wells (AS-1, AS-2, EX-1, EX-2, EX-4, and S-2) by pressure grouting.
- Complete a soil overexcavation in the areas surrounding the former UST cavity and the fuel pump islands.
- Backfill the excavation cavity from the base of the excavation up to surface grade.

The proposed scope of work has been subdivided into two tasks. Details are provided for the activities associated with each task. All work will be conducted under the direct supervision of a State of California Registered Geologist or Engineer and will be conducted in accordance with standards established by the *Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites* (April 16, 2004). A California-licensed C-57 well driller will perform all well destruction activities.

Task 1: Well Destructions

Stratus will direct the destruction of 6 groundwater monitoring/remediation wells in order to facilitate implementation of excavation work. The locations of the wells proposed for destruction are shown on Figure 20.

Task 1A: Pre-field Activities

Following approval of this document by ACHCSA, the following activities will be implemented:

- Retain a C-57 licensed well driller to complete the work,
- Update the site-specific Health and Safety Plan,
- Secure well destruction permits from Alameda County Public Works Agency (ACPWA),
- Mark the proposed work locations, and
- Notify Underground Service Alert, the property owner, ACPWA, and ACHCSA of the scheduled field activities.

Task 1B: Field Activities

A Stratus representative will be on-site to direct completion of the work. A licensed well driller will pressure grout wells AS-1, AS-2, EX-1, EX-2, EX-4, and S-2 using a neat cement slurry. Following placement of the neat cement, the well casing will be pressurized at 10 to 15 pounds per square inch (psi) for approximately 5 minutes. Once the pressure grouting has been completed, additional neat cement will be placed with the well casing in order to 'top off' the grout seal to surface grade. The traffic rated vault box covering the well will then be removed.

Wastewater generated during the field activities will be contained in DOT-approved 55-gallon steel drums. The drums will be appropriately labeled and stored at the site pending proper disposal.

Task 1C: Report Preparation

A report will be prepared to document the well destruction work. The report will discuss the work activities completed, include Department of Water Resources well destruction notices for each well destroyed, and document any deviations from the original scope of work, if necessary.

Task 2: Soil Excavation and Backfill

In order to remove petroleum hydrocarbon mass from the subsurface, Stratus is proposing to overexcavate impacted soil located near the apparent sources of the underground fuel release (pump islands and USTs). The approximate limits of the proposed excavation are depicted on Figures 20, 22, and 23, and covers an area of approximately 6,178 square feet. Before initiating excavation work, underground utilities located within the proposed excavation area will be removed, as appropriate. A map showing the approximate locations of underground utilities identified during an April 2005 underground utility survey of the site is provided as Figure 21.

All available site data (soil, groundwater, soil gas) were used in developing the proposed limits of excavation. However, despite the available information, a field determination will be necessary in order to identify the actual vertical and lateral limits of the excavation.

Task 2A: Pre-field Activities

Prior to initiating the excavation, Stratus will perform the following activities:

- Obtain permits from the City of Oakland, BAAQMD, and EBMUD, as needed.
- Prepare a Stormwater Pollution Prevention Plan,
- Update the Health and Safety Plan, as needed,
- Mark the proposed work locations, and
- Notify Underground Service Alert, the property owner, ACHCSA, and other governmental agencies, as required, of the scheduled field activities.

Task 2B: Removal of Underground Utility Lines Above Excavation Cavity

Prior to initiating the excavation work, Stratus anticipates that two underground utility lines situated above the proposed excavation cavity will need to be removed. An electric line that serves overhead street lighting for the shopping center parking lot, and likely a sewer line that was formerly connected to the USA Station 57 facility prior to the building's demolition, appear to be situated within the excavation limits, and thus in the way of the proposed excavation. The exact location of the sewer line that formerly connected to the USA Station 57 building is not known, however based on our understanding of the former site layout, and the location of sewer cleanouts at the site, we believe that removal of the sewer line will be necessary.

Task 2C: Overexcavation of Soil and Temporary Stockpiling

Stratus will retain the services of subcontractors to excavate and backfill soil at the site, transport excavated soil for offsite disposal, transport gypsum and clean fill material to backfill the excavation cavity, provide excavation de-watering water storage tanks, if necessary, and perform mobile analytical laboratory services. A Stratus representative will be onsite to oversee all work, and will be in close communication with Stratus' project management staff.

Soil generated during the overexcavation will be placed on, and covered with, plastic sheeting and temporarily stored on-site pending disposal. Hay bales and/or straw wattles will be placed around the soil stockpiles. Minimally impacted soil, and soil with obvious or documented impact, will be stockpiled separately at the site. Given the large size of the property, sufficient space appears to be available for stockpiling soil.

Stratus anticipates that in order to safely complete the excavation to the desired depth, that benching will be required. Stratus proposes to initially excavate soil to a depth of approximately 7 feet. Excavation to the final depth (between approximately 13 and 18 feet bgs) will be

completed with the excavation equipment positioned on the 7-foot depth bench. Given these approximate dimensions, and the dimensions of the excavation and benches depicted on Figures 20, 22, and 23, Stratus anticipates that a minimum volume of 2,284 cubic yards of soil (before expansion upon removal from subsurface) will be excavated from the site.

Samples of the excavated soil will be chemically analyzed to determine an appropriate facility for disposal. Based on historical information collected from the site, Stratus anticipates that the soil will need to be transported to a Class II landfill for disposal. Given the amount of soil that will likely be generated during work, more than one landfill may be used for soil disposal, based upon daily soil quantity quotas at the nearby facilities. At a minimum, Stratus will contact landfill facilities in Livermore, Richmond, and Milpitas regarding possible acceptance of waste. Landfills in Vacaville or Novato could also be contacted, if necessary. Once the soil has been accepted for disposal, an appropriate trucking contractor(s) will haul the excavated material to the selected facility(s). During the excavation, Stratus and the selected contractor will attempt to separate minimally impacted/overburden soil from the more contaminated soil. By doing this, it may be possible to reduce soil transportation distances to an acceptable facility, resulting in more efficient removal of soil and possibly cost savings for the work.

Stratus will collect soil samples during the overexcavation and forward the samples to a state certified analytical laboratory(s) for chemical analysis. Soil sample results will be used to evaluate the petroleum hydrocarbon mass removed from the subsurface via excavation and used to evaluate the limits of the excavation. Soil samples will be retained in clean brass or stainless steel sleeves, capped, labeled, and identified on a chain-of-custody form. Once the limits of the excavation have been determined, Stratus will collect confirmation soil samples from the sidewalls and base of the excavation cavity. Sidewall samples will be collected at approximately 6 and 9 feet bgs, at approximately 15-foot linear spacings around the perimeter of the excavation. In the base of the excavation cavity, confirmation soil samples will be collected in a grid-pattern, at spacings of approximately 20 feet.

A mobile analytical laboratory contractor (such as Transglobal Environmental Geochemistry [TEG]) has the capability of analyzing about 12 to 15 soil samples per day. It is likely that Stratus representatives will collect more samples per day than can be analyzed by a single mobile analytical laboratory. However, instead of retaining multiple analytical laboratories to analyze all samples, Stratus intends to submit some soil samples collected during the excavation to a fixed-location laboratory. The mobile laboratory will be used to analyze 'strategic samples' that will be used in determining the exact limits of this excavation. Samples collected from within the inner portion of the excavation, and analyzed in order to evaluate petroleum hydrocarbon mass removal quantities, and compliance samples collected from the sidewalls and base of the excavation once the limits of this excavation have already been established, are more likely to be submitted to a fixed-location laboratory for analysis. Samples that will be analyzed by the mobile laboratory will be transferred to the laboratory representative immediately following sample collection. Samples that will be analyzed by a fixed business laboratory will be placed in a resealable plastic bag and stored in an ice-chilled cooler, pending delivery to the lab. The samples will be analyzed for GRO using U.S. Environmental Protection Agency

(USEPA) Method 8015 modified, and for BTEX and MTBE using USEPA Method 8260B. Samples used to profile soil waste for the selected landfill(s) will also be analyzed for total lead using USEPA Method 6020. Landfill profiling samples will likely be analyzed at a fixed-location laboratory, as it is our understanding that most mobile analytical laboratories do not have the capability of performing the total lead analyses.

In a document titled *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater, May 2008*, the San Francisco Bay RWQCB identify an ESL of 180 mg/Kg for TPHG in shallow (<3 meters) and deep (>3 meters) soil under the commercial/industrial land use scenario, where groundwater is not a current or potential drinking water resource (Tables B-2 and D-2). Given this observation, Stratus intends to use this concentration level as a general baseline for whether or not to extend the limits of the excavation laterally, or deeper than, about 13 feet bgs.

Task 2D: De-Watering of Excavation Cavity

It is likely that in order to access certain areas with contaminated soil for excavation, or if significant rainfall occurs during work, de-watering of the excavation cavity will be necessary. In order to complete this work, groundwater will be pumped from the excavation and transferred to an on-site portable tank(s) for temporary storage. De-watering will be completed on an 'as-needed basis'. Depending upon the quantity of groundwater pumped from the excavation, a determination will be made as to whether or not onsite treatment and disposal of groundwater or transport and disposal of groundwater to an offsite facility, is appropriate. Given expected low groundwater recharge rates into the excavation cavity, the site geologic conditions, and current groundwater levels, Stratus anticipates that relatively small quantities of groundwater will be generated and that transport of groundwater for offsite disposal will be more cost effective. However, if onsite treatment and disposal is warranted, Stratus will obtain a permit from EBMUD allowing discharge of this groundwater (after treatment in granular activated carbon vessels) to the sanitary sewer.

Task 2E: Excavation Backfill

Prior to backfilling the excavation, Stratus intends to place gypsum in the base of the excavation cavity in order to enhance in-situ degradation of petroleum hydrocarbon contaminants in groundwater at the excavation area. After placement of this gypsum, engineering fill will be placed in the lower section of the excavation cavity. The engineering fill will be placed in lifts of approximately 2 feet in thickness, and then compacted using heavy equipment (steel drum or 'brickfoot' roller, or similar). Prior to placing the fill, a licensed geotechnical firm will be retained to evaluate the physical properties of the selected engineering fill (i.e. moisture density proctor curves, maximum dry density, optimum moisture content, etc.) using various American Society of Testing and Materials (ASTM) methods. During fill placement, a representative of the geotechnical firm will be onsite to test/verify the compactive efficiency during fill placement. A nuclear-density gauge will be utilized to assess soil density and moisture content; several nuclear-density tests will be performed within the individual fill lifts. Once the engineering fill

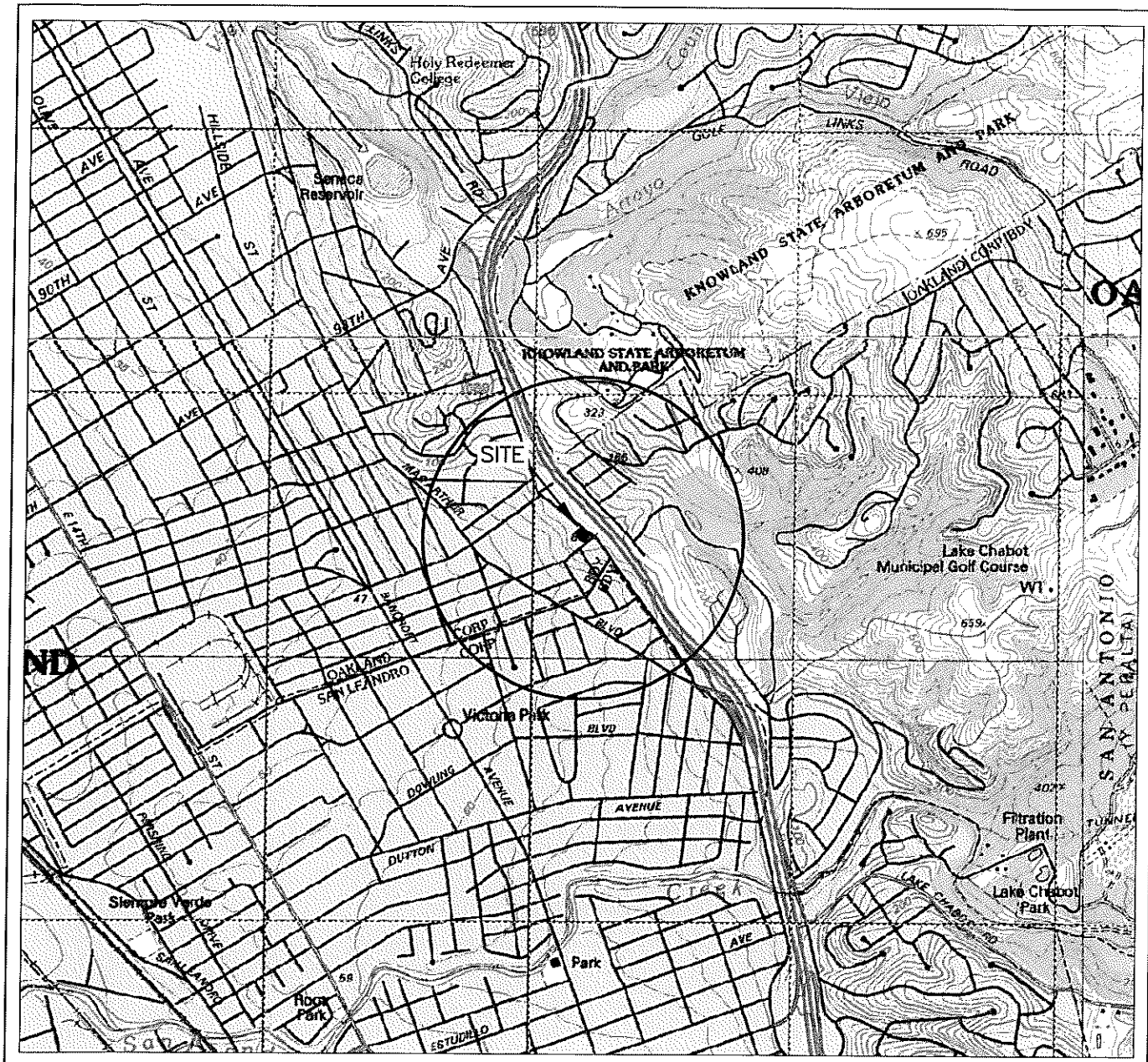
has been placed up to 5 feet bgs, clean soil will be used to backfill the remaining portion of the excavation up to surface grade. Based on the current property development plan, we anticipate that the clean soil in the upper 5-feet will be removed during future site re-grading.

Task 2F: Report Preparation

A report will be prepared to document work pertaining to soil excavation and backfill of this excavation cavity. The report will include soil waste disposal documentation, data pertaining to backfilling of the excavation and placement of gypsum within portions of this backfill, estimates regarding the mass of petroleum hydrocarbons removed during excavation, tabulated analytical results, and certified analytical reports. Stratus anticipates that the report will be submitted within approximately six weeks of receiving all analytical results.

6.0 LIMITATIONS

This report was prepared in general accordance with accepted standards of care which existed at the time this work was performed. No other warranty, expressed or implied, is made. Conclusions and recommendations are based on field observations and data obtained from this work and previous investigations. It should be recognized that definition and evaluation of geologic conditions is a difficult and somewhat inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present. More extensive studies may be performed to reduce uncertainties, such as additional subsurface assessment, risk-based corrective action analysis, or fate and transport modeling. This report is solely for the use and information of our client unless otherwise noted.



GENERAL NOTES:
BASE MAP FROM U.S.G.S.
OAKLAND, CA
7.5 MINUTE TOPOGRAPHIC
PHOTOREVISED 1980

North

QUADRANGLE LOCATION

0 2000 FT

SCALE 1:24,000

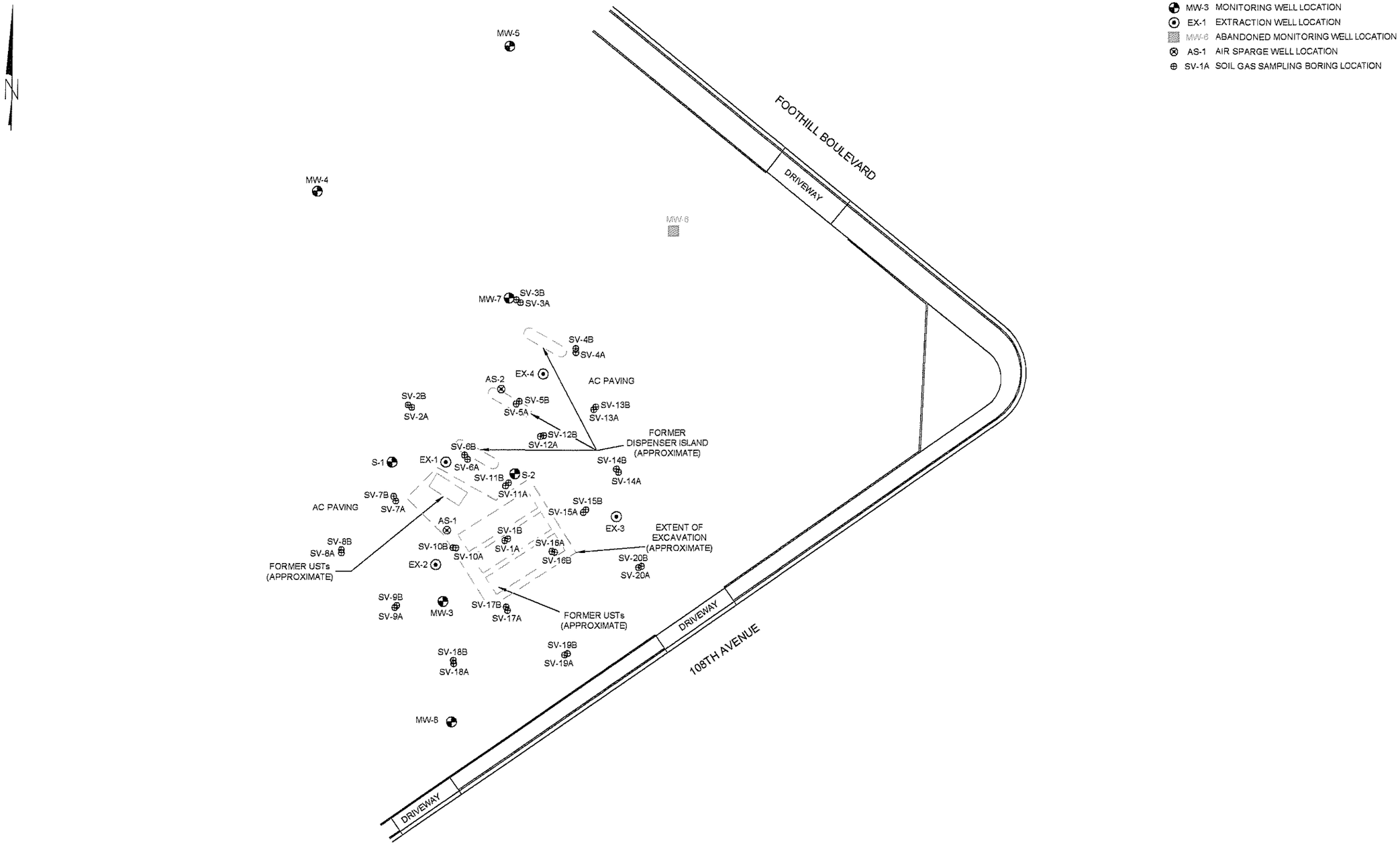
STRATUS ENVIRONMENTAL, INC.

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

SITE LOCATION MAP

FIGURE
1
PROJECT NO.
2007-0057-01

USA\57\Quarterly JMP REV December 15, 2009 USA 57 Site Location Map



JMP REV October 26, 2009 USA 57 NSiteplan

USA57

STRATUS ENVIRONMENTAL, INC.

0 40 FT

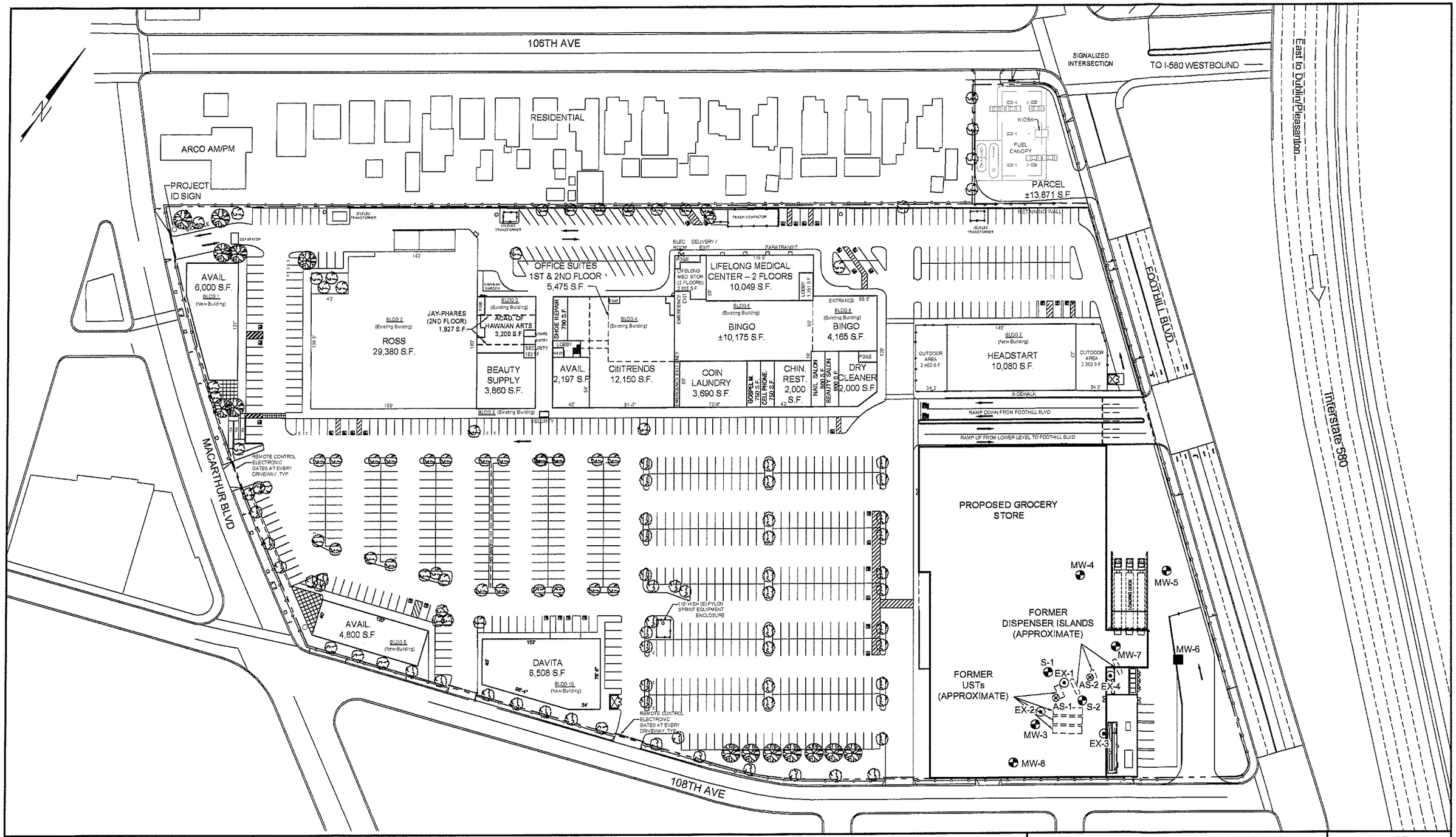
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

SITE PLAN

FIGURE
2

PROJECT NO.
2007-0057-01



STRATUS ENVIRONMENTAL, INC.

0 1200 FT

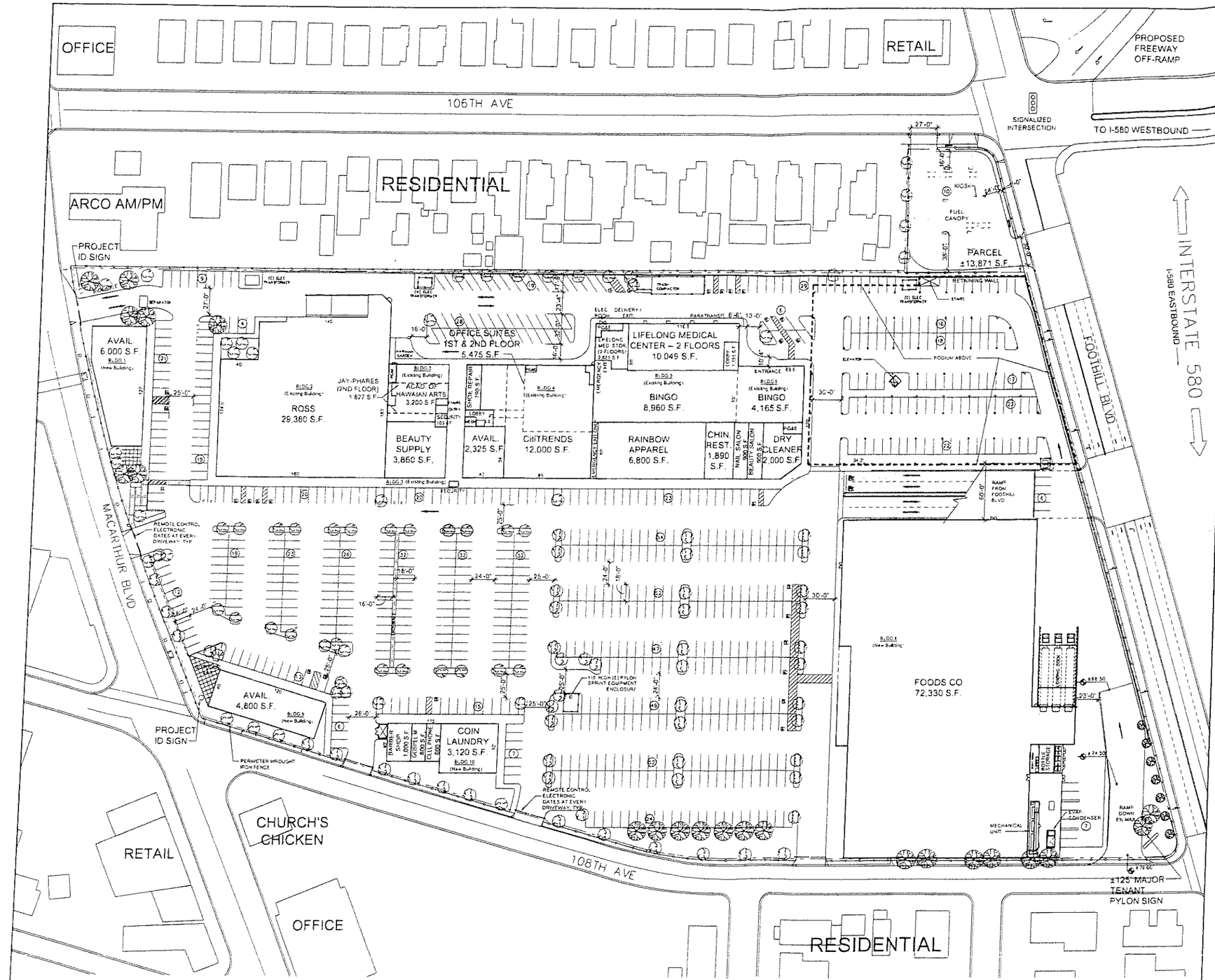
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

SITE VICINITY MAP

FIGURE
3

PROJECT NO.
2007-0057-01



SITE PLAN @ GRADE
SCALE: 1" = 40'-0"

SITE DATA

APNs: 47-5589-1 47-5589-1-5
47-5589-1-4 47-5589-1-6

ZONING: C-30 (DISTRICT THOROUGHFARE COMMERCIAL)

TOTAL SITE AREA	602,945 S.F. (±13.841 ACRES)
(-) UPPER LEVEL PARCEL	13,871 S.F. (±0.318) ACRES)
LOWER LEVEL COMMERCIAL PARCEL	589,074 S.F. (±13.523 ACRES)

COMMERCIAL BUILDING AREA

BUILDING 1 – AVAILABLE (6,000 S.F.)		6,000 S.F.
BUILDING 2 – ROSS		29,380 S.F.
BUILDING 3 – ACADEMY OF HAWAIIAN ARTS (8,990 S.F.)		3,200 S.F.
	BEAUTY SUPPLY	3,860 S.F.
	JAY-PHARES CORPORATION (2ND FLOOR)	1,827 S.F.
	SECURITY	103 S.F.
BUILDING 4 – OFFICE SUITES (20,605 S.F.)		5,475 S.F.
	SHOE REPAIR	790 S.F.
	CITI TRENDS	12,000 S.F.
	AVAILABLE	2,325 S.F.
BUILDING 5 – LIFELONG MEDICAL CENTER (31,765 S.F.)		10,049 S.F.
	LOBBY	1,151 S.F.
	LIFELONG MEDICAL ADDITION	2,655 S.F.
	PG&E	250 S.F.
	BINGO	8,960 S.F.
	RAINBOW APPAREL	6,800 S.F.
	NAIL SALON	900 S.F.
	CHINESE RESTAURANT	1,890 S.F.
BUILDING 6 – BINGO (6,205 S.F.)		4,165 S.F.
	NAIL SALON	900 S.F.
	BEAUTY SALON	900 S.F.
	DRY CLEANER	2,000 S.F.
	PG&E	240 S.F.
BUILDING 7 – NORTH PODIUM (20,772 SF)		
	DAVITA HEMODIALYSIS	9,504 S.F.
	HEADSTART - 1ST FLOOR	7,776 S.F.
	HEADSTART - 2ND FLOOR	3,452 S.F.
BUILDING 8 – FOODS CO		72,330 S.F.
BUILDING 9 –FINANCIAL/RETAIL AVAILABLE		4,800 S.F.
BUILDING 10 – CELL PHONE (5,320 S.F.)		600 S.F.
	GOSPEL MUSIC	600 S.F.
	BARBERSHOP	1,000 S.F.
	COIN LAUNDRY	3,120 S.F.
SUBTOTAL =		208,142 S.F.
NET COMMERCIAL BUILDING AREA (F.A.R.)		**208,142 S.F. (34.5%)**

(N) BUILDING AREA – PODIUM
NORTH PODIUM 149,050 S.F.

PARKING PROVIDED – TOTAL:

STANDARD & COMPACT	800
ACCESSIBLE (4%)	33
	833 SPACES
TOTAL PROJECT PARKING RATIO:	4.00/1,000 S.F.

ARC Inc. ARCHITECTS
580 First Street, Suite 200
Benicia CA 94510
Tel (707) 745-0502
arc@arcincarchitects.com

FOOTHILL SQUARE
MACARTHUR BLVD
OAKLAND, CA

MACARTHUR BOULEVARD ASSOCIATES
10700 MACARTHUR BLVD., SUITE 200
OAKLAND, CA 94605
P: (510)562-9500 F: (510)562-9505
johnjay@jayphares.com

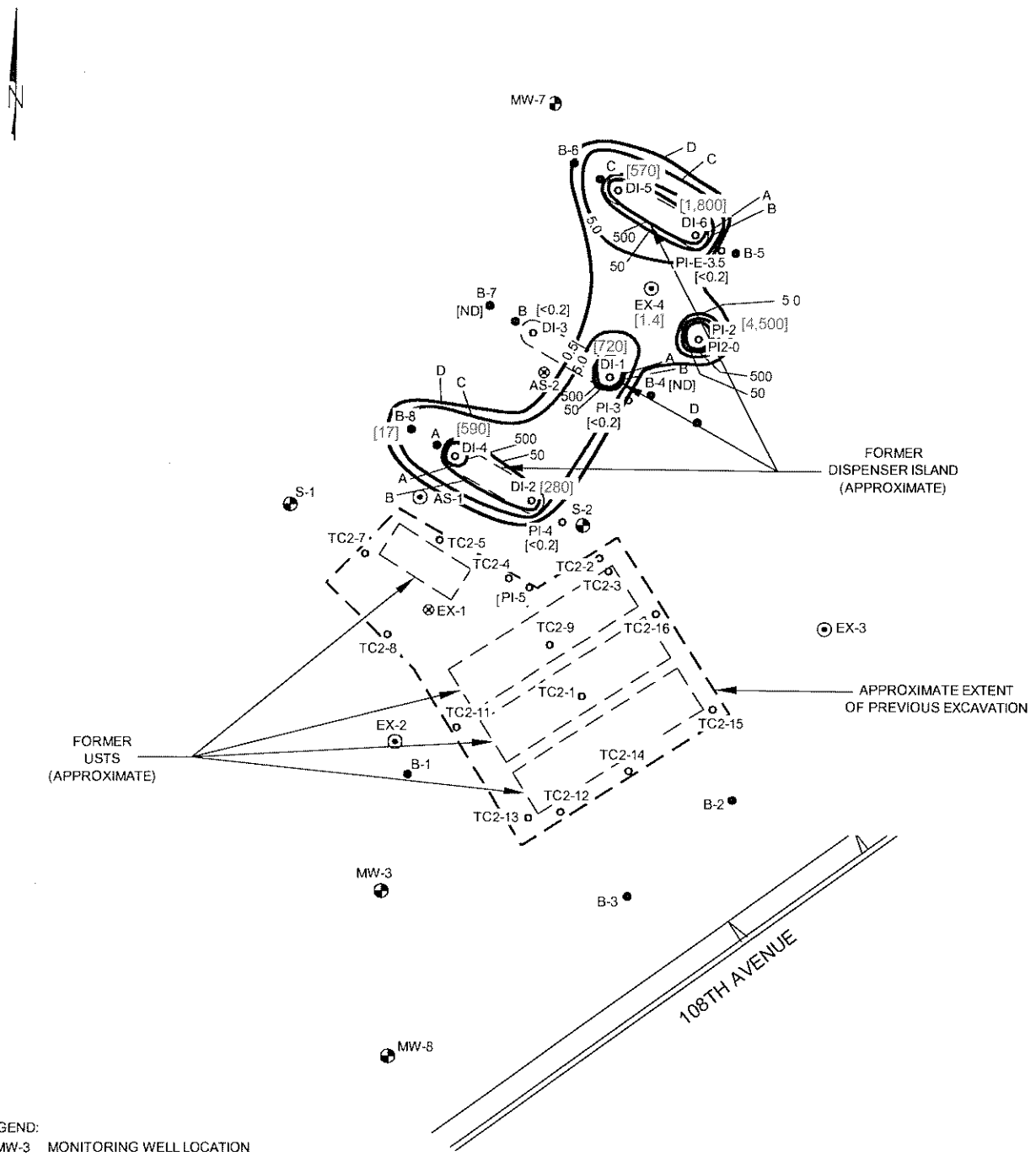
DATE: 5-13-09

REV NO	REV DATE
1	5-14-09

PRELIMINARY LEASING PLAN

JOB NO. JP003

Figure 4



LEGEND:

MW-3	MONITORING WELL LOCATION
EX-1	EXTRACTION WELL LOCATION
AS-1	APPROXIMATE AIR SPARGE WELL LOCATION
B-1	APPROXIMATE SOIL BORING LOCATION
D1-4	APPROXIMATE SOIL SAMPLE LOCATION
[<0.2]	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE IN mg/Kg
ND	NOT DETECTED (LABORATORY REPORTING LIMITS NOT AVAILABLE)
NA	NOT ANALYZED FOR THIS CONSTITUENT

SOIL SAMPLES COLLECTED BETWEEN 7/94 AND 3/95 & 10/05 AND 8/07
NOT ALL EXCAVATION SAMPLE LOCATIONS SHOWN; ONLY THOSE SAMPLES COLLECTED AT THE FURTHEST EXTENT OF EXCAVATION

NOTE: DPE REMEDIATION LIKELY RESULTED IN REDISTRIBUTION OF TPHG FOLLOWING SAMPLE COLLECTION

0 60 FT
SCALE

NOTE: MAP BASED ON SURVEY PREPARED BY RON ARCHER CIVIL ENGINEER INC. (DATED NOVEMBER 22, 1995) & MORROW SURVEYING (2005), AND DRAWINGS PREPARED BY ALTON GEOSCIENCE, WESTERN GEO-ENGINEERS, & GHH ENGINEERING.

JMP REV January 21, 2010 USA 57 Soil Analytical

USA157CAP

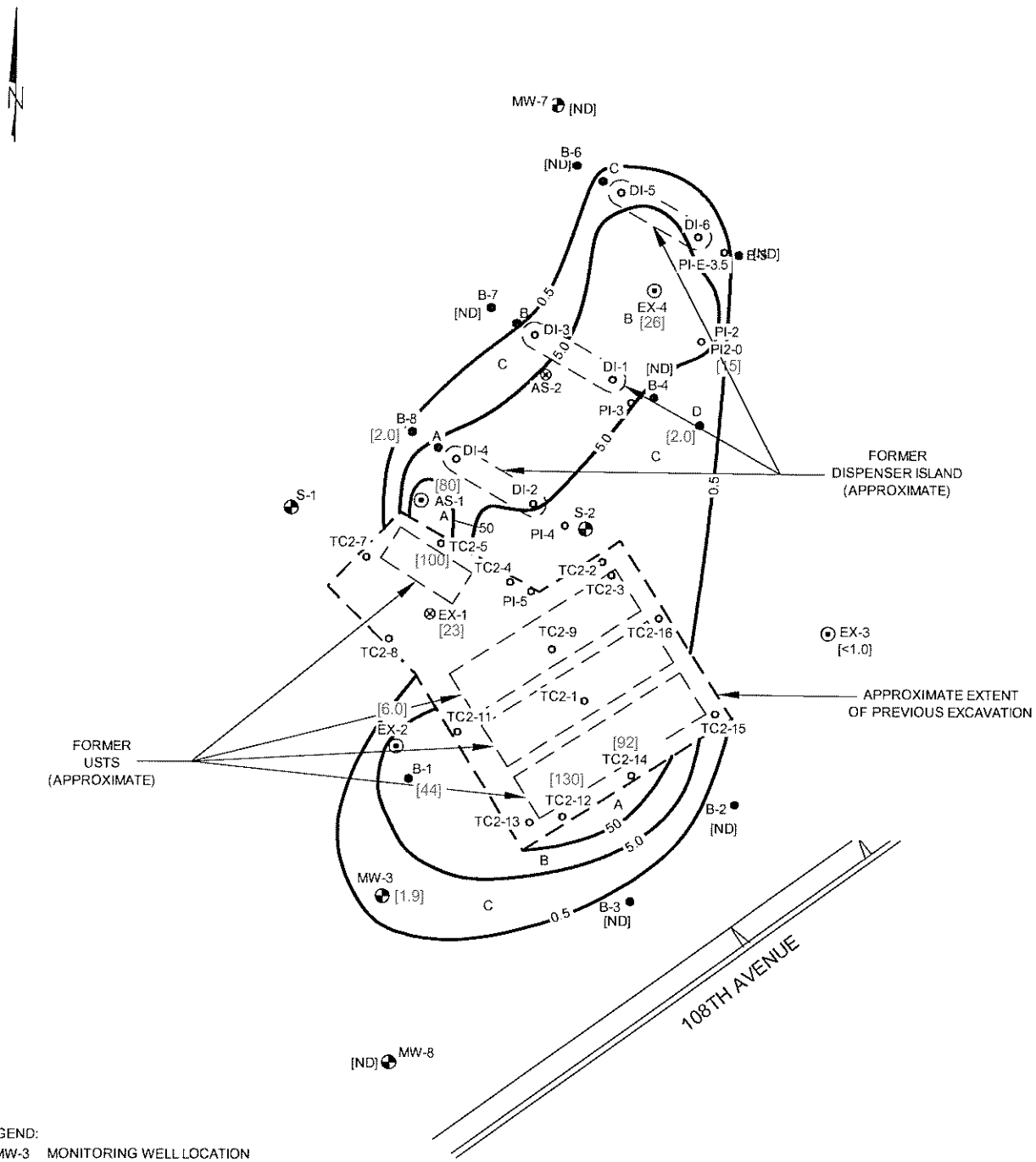
STRATUS ENVIRONMENTAL, INC.

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

TPHG IN SOIL ISO-CONCENTRATION CONTOUR MAP (0 - 7' bgs)

FIGURE
5

PROJECT NO.
2007-0057-01



LEGEND:

- MW-3 MONITORING WELL LOCATION
- EX-1 EXTRACTION WELL LOCATION
- AS-1 APPROXIMATE AIR SPARGE WELL LOCATION
- B-1 APPROXIMATE SOIL BORING LOCATION
- D1-4 APPROXIMATE SOIL SAMPLE LOCATION
- [44] TOTAL PETROLEUM HYDROCARBONS AS GASOLINE IN mg/Kg
- ND NOT DETECTED (LABORATORY REPORTING LIMITS NOT AVAILABLE) - ASSUMED <0.50
- NA NOT ANALYZED FOR THIS CONSTITUENT

SOIL SAMPLES COLLECTED BETWEEN 7/94 AND 11/95 & 10/05 AND 8/07
NOT ALL EXCAVATION SAMPLE LOCATIONS SHOWN; ONLY THOSE SAMPLES COLLECTED AT THE FURTHEST EXTENT OF EXCAVATION

NOTE: DPE REMEDIATION LIKELY RESULTED IN REDISTRIBUTION OF TPHG FOLLOWING SAMPLE COLLECTION

0 60 FT
SCALE

NOTE: MAP BASED ON SURVEY PREPARED BY RON ARCHER CIVIL ENGINEER INC. (DATED NOVEMBER 22, 1995) & MORROW SURVEYING (2005), AND DRAWINGS PREPARED BY ALTON GEOSCIENCE, WESTERN GEO-ENGINEERS, & GHH ENGINEERING.

JMP REV January 21, 2010 USA 57 Soil Analytical

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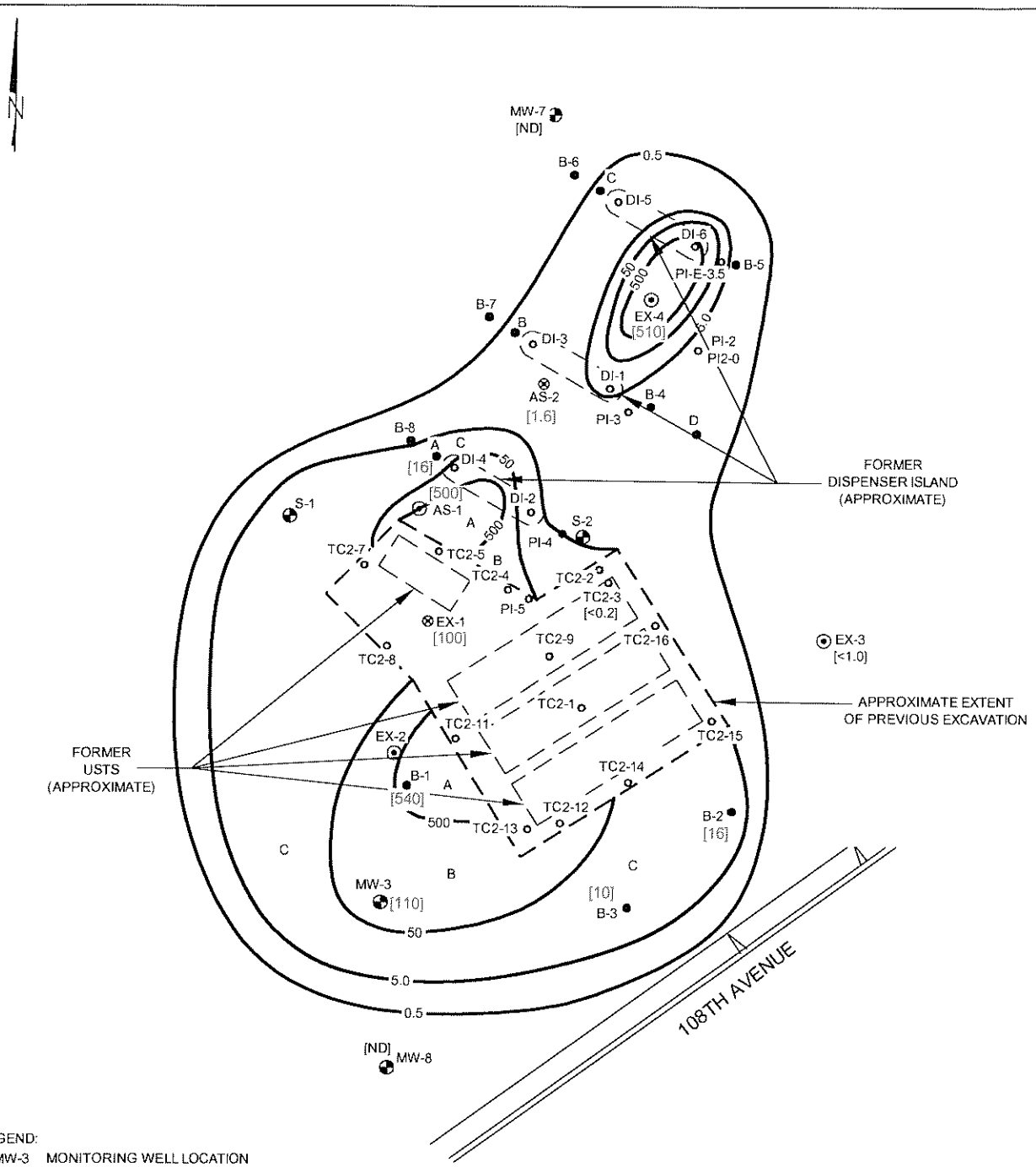
STRATUS ENVIRONMENTAL, INC.

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

TPHG IN SOIL ISO-CONCENTRATION CONTOUR MAP (7' - 12' bgs)

FIGURE
6

PROJECT NO.
2007-0057-01



LEGEND:

- MW-3 MONITORING WELL LOCATION
- EX-1 EXTRACTION WELL LOCATION
- AS-1 APPROXIMATE AIR SPARGE WELL LOCATION
- B-1 APPROXIMATE SOIL BORING LOCATION
- D1-4 APPROXIMATE SOIL SAMPLE LOCATION
- [<0.2] TOTAL PETROLEUM HYDROCARBONS AS GASOLINE IN mg/Kg
- ND NOT DETECTED (LABORATORY REPORTING LIMITS NOT AVAILABLE)
- NA NOT ANALYZED FOR THIS CONSTITUENT

SOIL SAMPLES COLLECTED BETWEEN 7/94 AND 11/95 & 10/05 AND 8/07
NOT ALL EXCAVATION SAMPLE LOCATIONS SHOWN; ONLY THOSE SAMPLES COLLECTED AT THE FURTHEST EXTENT OF EXCAVATION

NOTE: DPE REMEDIATION LIKELY RESULTED IN REDISTRIBUTION OF TPHG FOLLOWING SAMPLE COLLECTION

0 60 FT
SCALE

NOTE: MAP BASED ON SURVEY PREPARED BY RON ARCHER CIVIL ENGINEER INC. (DATED NOVEMBER 22, 1995) & MORROW SURVEYING (2005), AND DRAWINGS PREPARED BY ALTON GEOSCIENCE, WESTERN GEO-ENGINEERS, & GHH ENGINEERING.

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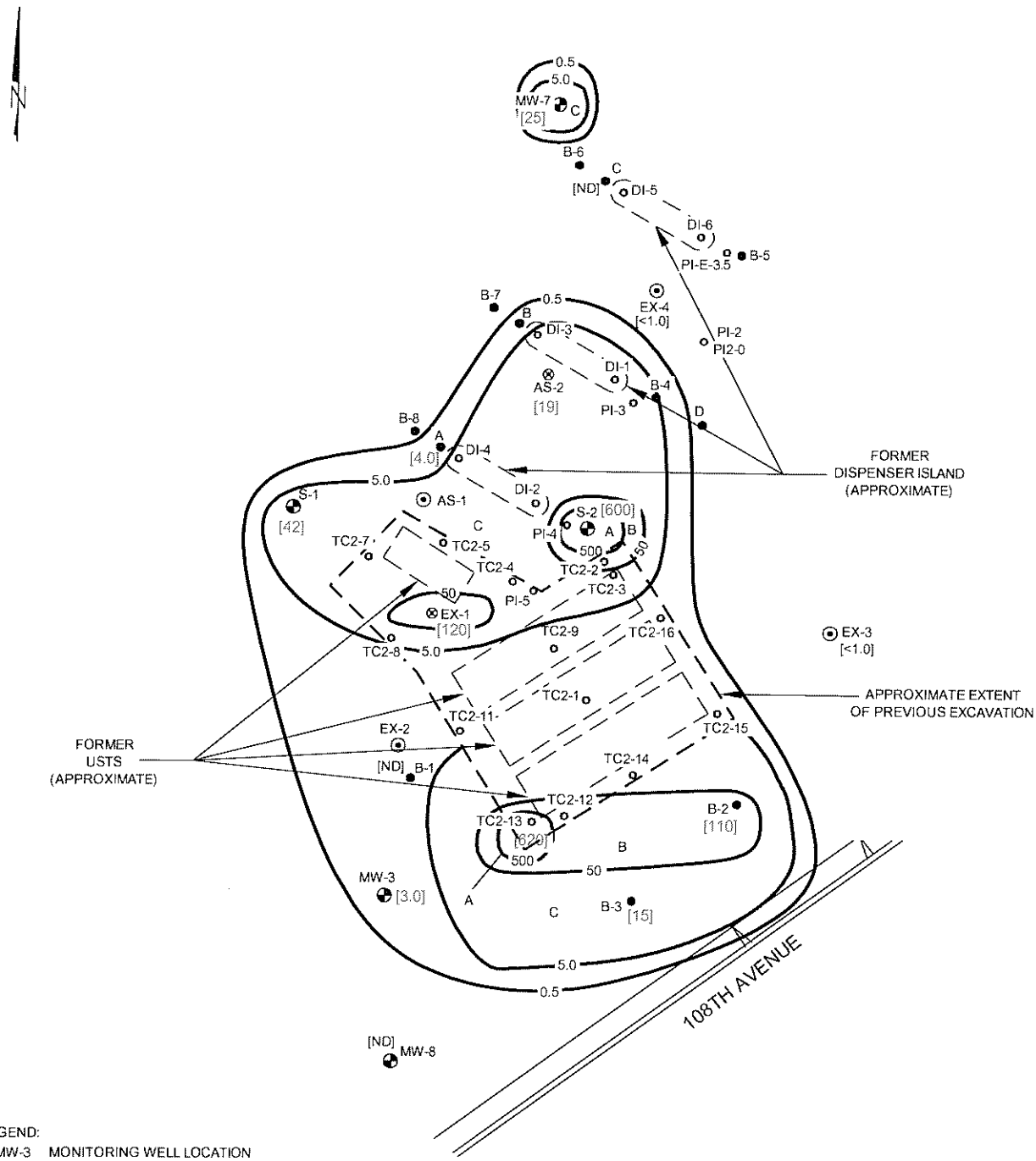
FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

TPHG IN SOIL ISO-CONCENTRATION CONTOUR MAP (12' - 17' bgs)

FIGURE
7

PROJECT NO.
2007-0057-01



LEGEND:

- MW-3 MONITORING WELL LOCATION
- EX-1 EXTRACTION WELL LOCATION
- AS-1 APPROXIMATE AIR SPARGE WELL LOCATION
- B-1 APPROXIMATE SOIL BORING LOCATION
- D1-4 APPROXIMATE SOIL SAMPLE LOCATION
- [3.0] TOTAL PETROLEUM HYDROCARBONS AS GASOLINE IN mg/Kg
- ND NOT DETECTED (LABORATORY REPORTING LIMITS NOT AVAILABLE)
- NA NOT ANALYZED FOR THIS CONSTITUENT

SOIL SAMPLES COLLECTED BETWEEN 7/94 AND 11/95 & 10/05 AND 8/07
NOT ALL EXCAVATION SAMPLE LOCATIONS SHOWN; ONLY THOSE SAMPLES COLLECTED AT THE FURTHEST EXTENT OF EXCAVATION

NOTE: DPE REMEDIATION LIKELY RESULTED IN REDISTRIBUTION OF TPHG FOLLOWING SAMPLE COLLECTION

0 60 FT
SCALE

NOTE: MAP BASED ON SURVEY PREPARED BY RON ARCHER CIVIL ENGINEER INC. (DATED NOVEMBER 22, 1995) & MORROW SURVEYING (2005), AND DRAWINGS PREPARED BY ALTON GEOSCIENCE, WESTERN GEO-ENGINEERS, & GHH ENGINEERING.

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FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

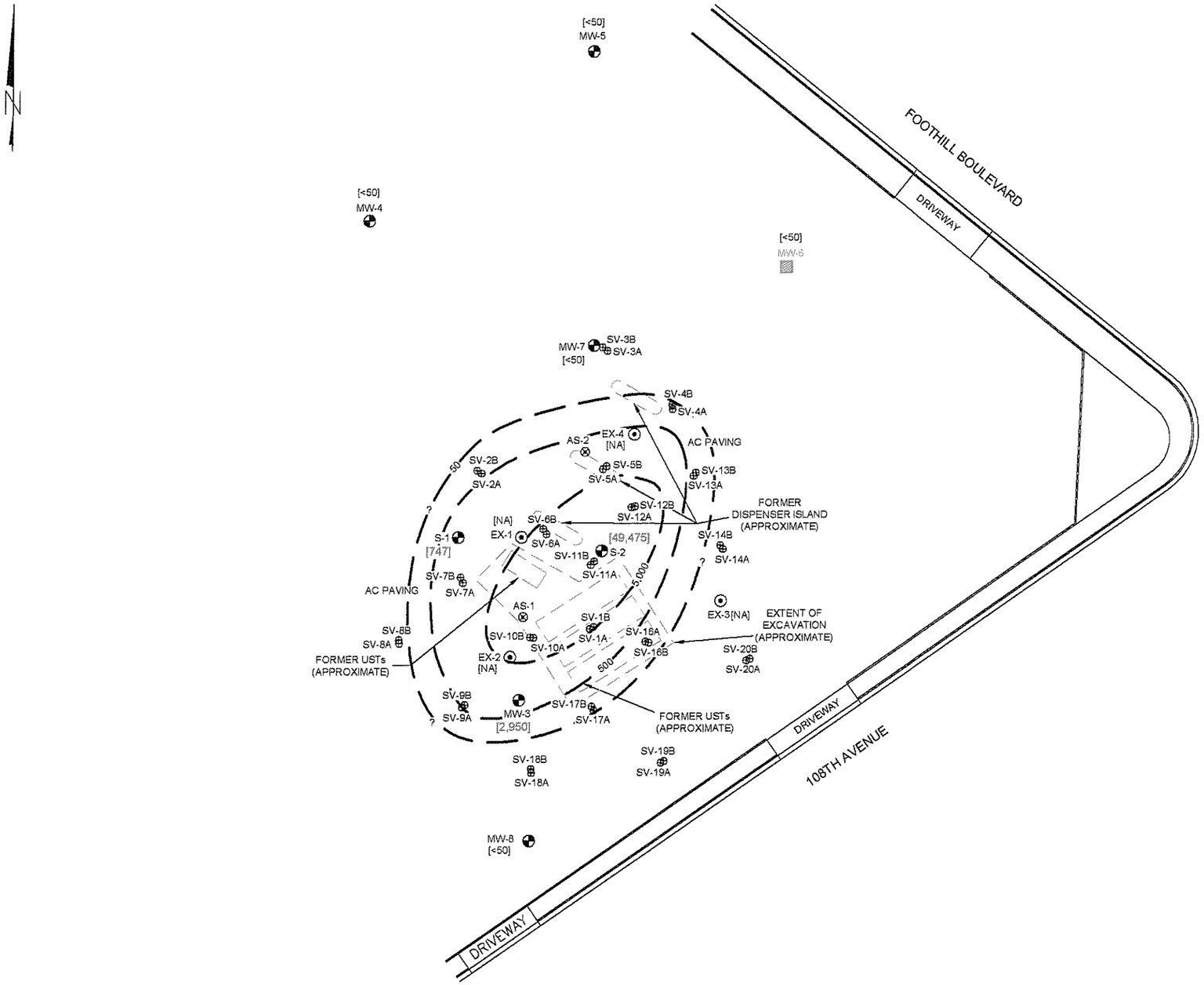
TPHG IN SOIL ISO-CONCENTRATION CONTOUR MAP (17' - 25' bgs)

FIGURE
8
PROJECT NO.
2007-0057-01

LEGEND

- MW-3 MONITORING WELL LOCATION
- EX-1 EXTRACTION WELL LOCATION
- MW-6 ABANDONED MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- SV-1A SOIL VAPOR SAMPLING BORING
- [<50] GASOLINE RANGE ORGANICS (GRO) CONCENTRATION IN µg/L
- 500 GRO ISO-CONCENTRATION CONTOUR LINE

GRO ANALYZED BY EPA METHOD 8015B
[NA] = WELL NOT YET INSTALLED



STRATUS ENVIRONMENTAL, INC.

0 40 FT
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

ANNUAL AVERAGE GRO IN GROUNDWATER
ISO-CONCENTRATION CONTOUR MAP, 1998

FIGURE
9

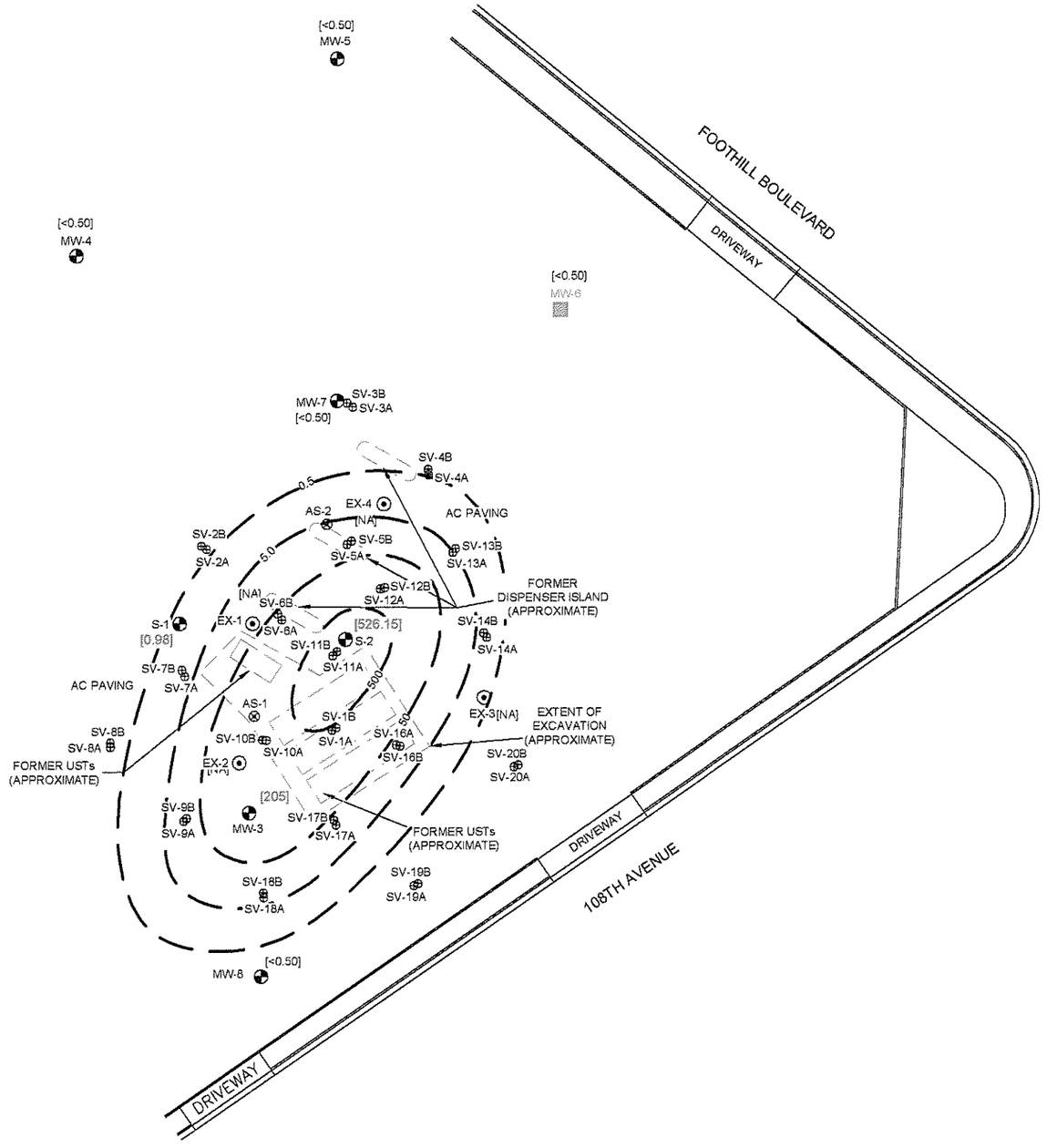
PROJECT NO.
2007-0057-01

JMP REV January 21, 2010 USA 57 1Q09
USA57ICAP

LEGEND

- MW-3 MONITORING WELL LOCATION
- EX-1 EXTRACTION WELL LOCATION
- MW-6 ABANDONED MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- SV-1A SOIL VAPOR SAMPLING BORING
- [<0.50] BENZENE CONCENTRATION IN µg/L
- 50 BENZENE ISO-CONCENTRATION CONTOUR LINE

BENZENE ANALYZED BY EPA METHOD 8260B
[NA] = WELL NOT YET INSTALLED



STRATUS ENVIRONMENTAL, INC.

0 40 FT
SCALE

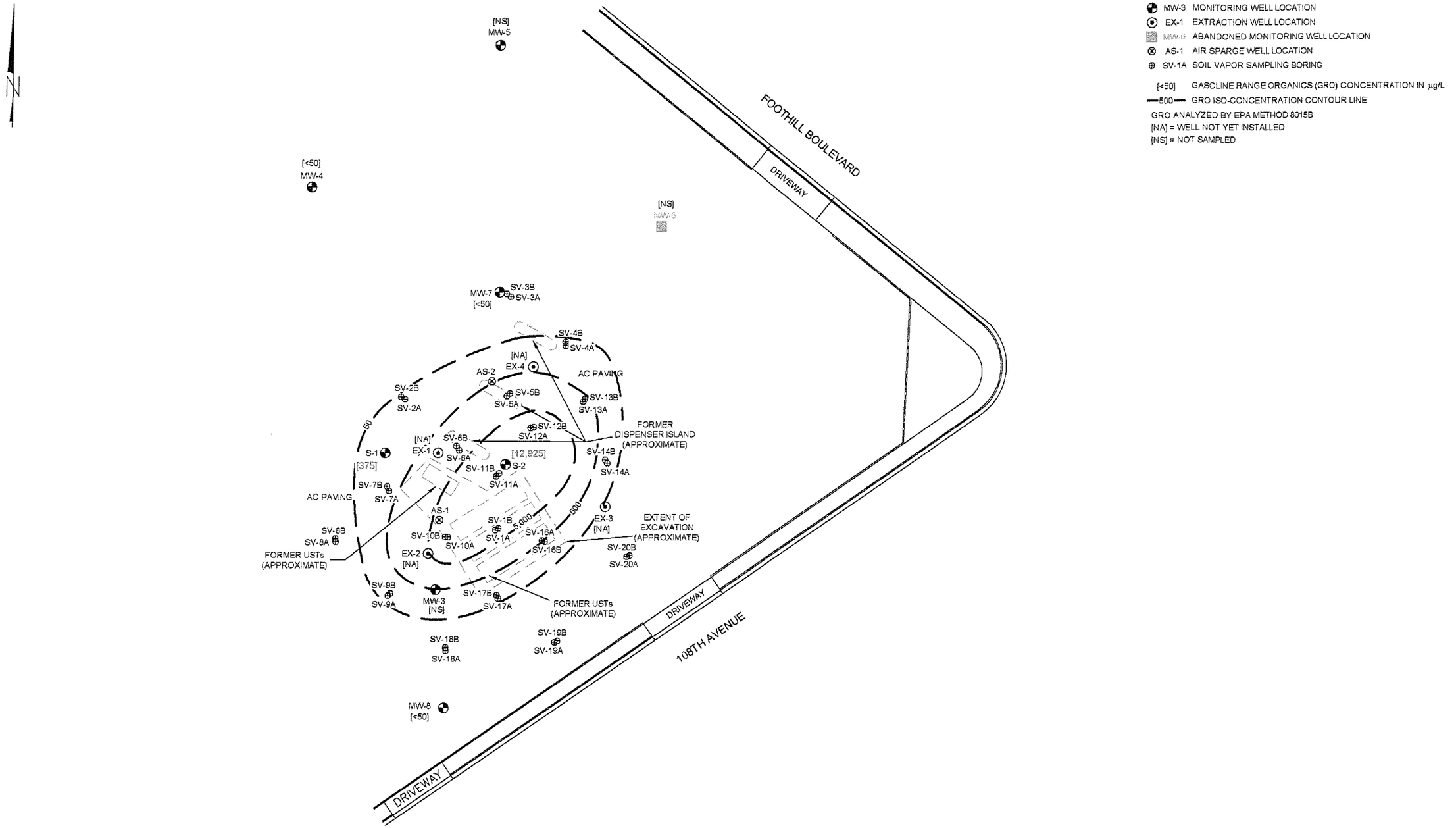
FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

ANNUAL AVERAGE BENZENE IN GROUNDWATER
ISO-CONCENTRATION CONTOUR MAP, 1998

FIGURE
10

PROJECT NO.
2007-0057-01

USA57CAP JMP REV January 21, 2010 USA 57 1Q09



STRATUS ENVIRONMENTAL, INC.

0 40 FT
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

ANNUAL AVERAGE GRO IN GROUNDWATER
ISO-CONCENTRATION CONTOUR MAP, 2003

FIGURE
11

PROJECT NO.
2007-0057-01

JMP REV January 21, 2010 USA 57 1Q09
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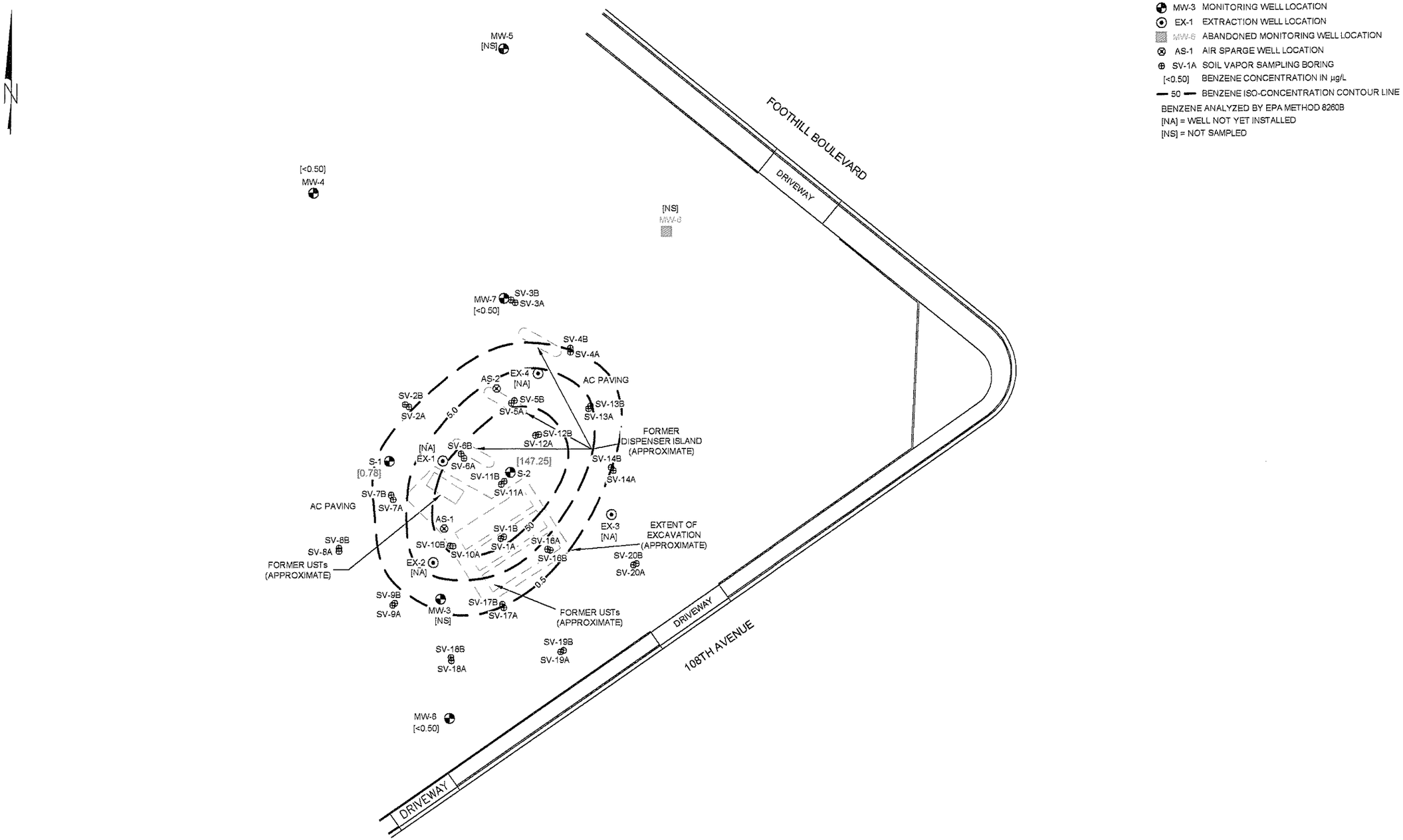


LEGEND

- MW-3 MONITORING WELL LOCATION
- EX-1 EXTRACTION WELL LOCATION
- MW-6 ABANDONED MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- SV-1A SOIL VAPOR SAMPLING BORING
- [<0.50] BENZENE CONCENTRATION IN µg/L
- 50 BENZENE ISO-CONCENTRATION CONTOUR LINE

BENZENE ANALYZED BY EPA METHOD 8260B
[NA] = WELL NOT YET INSTALLED
[NS] = NOT SAMPLED

STRATUS ENVIRONMENTAL, INC.

0 40 FT
SCALE

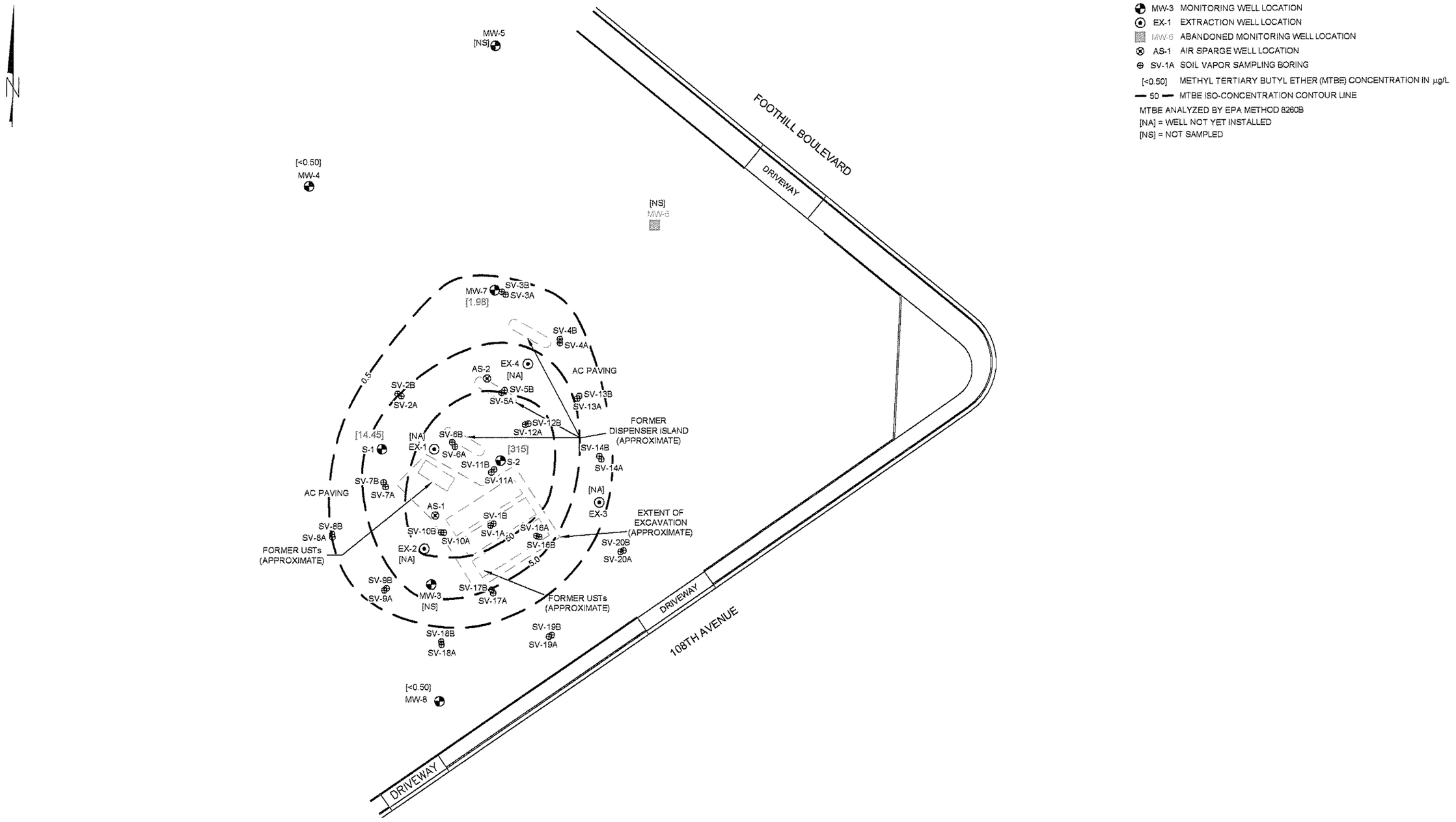
FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

ANNUAL AVERAGE BENZENE IN GROUNDWATER
ISO-CONCENTRATION CONTOUR MAP, 2003

FIGURE
12

PROJECT NO.
2007-0057-01

USA57CAP JMP REV. January 21, 2010 USA 57 1Q08



JMP REV January 21, 2010 USA 57 1Q09

USA57ICAP

STRATUS
ENVIRONMENTAL, INC.

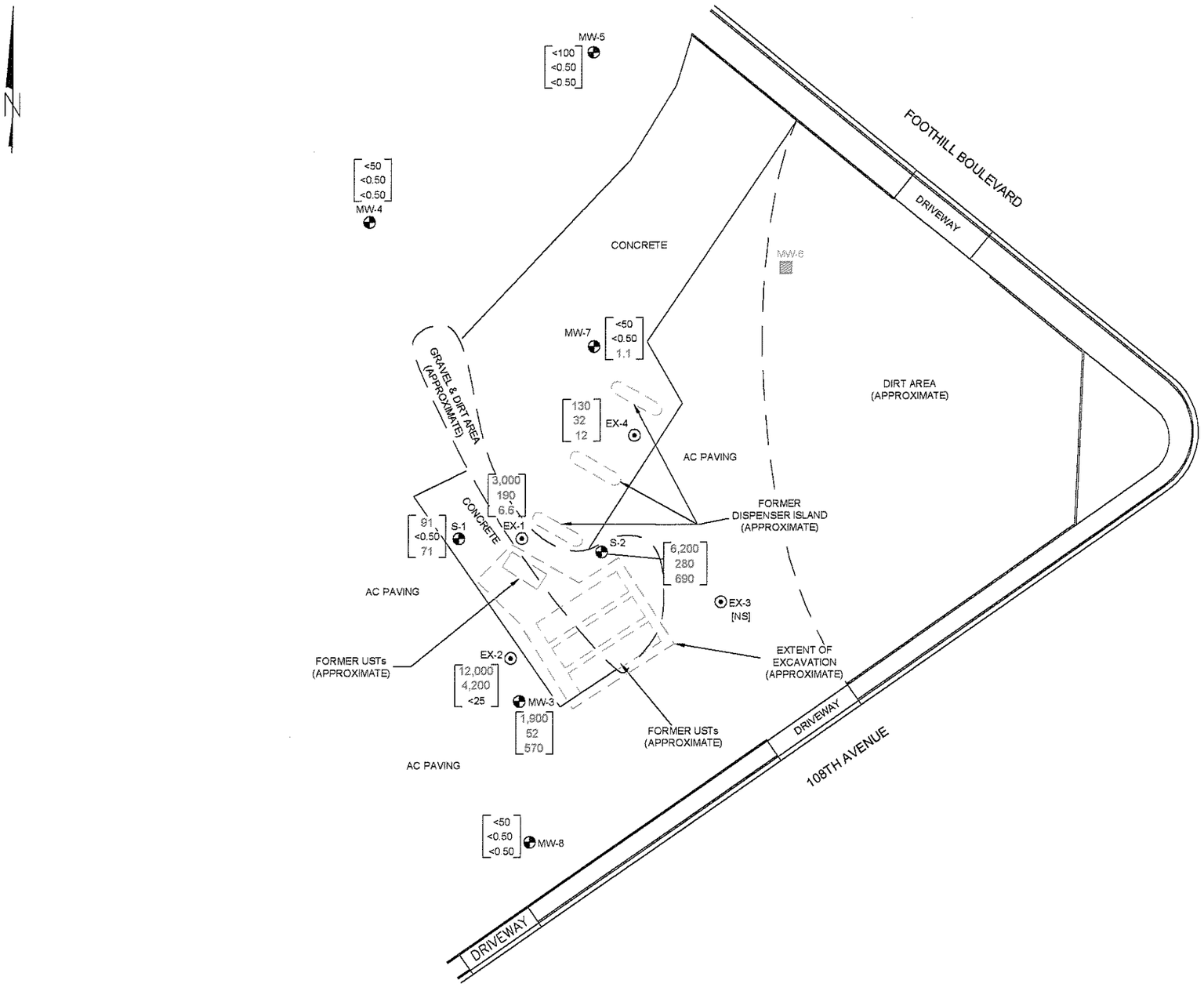
0 40 FT
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

ANNUAL AVERAGE MTBE IN GROUNDWATER
ISO-CONCENTRATION CONTOUR MAP, 2003

FIGURE
13

PROJECT NO.
2007-0057-01



LEGEND

- MW-3 MONITORING WELL LOCATION
- EX-1 EXTRACTION WELL LOCATION
- MW-6 ABANDONED MONITORING WELL LOCATION
- [<50 / <0.50 / <0.50] GASOLINE RANGE ORGANICS (GRO) IN µg/L; BENZENE CONCENTRATION IN µg/L; METHYL TERTIARY BUTYL ETHER (MTBE) IN µg/L

SAMPLES COLLECTED ON 11/16/09
GRO ANALYZED BY EPA METHOD 8015B
BENZENE & MTBE ANALYZED BY EPA METHOD 8260B
[NS] = NOT SAMPLED (WELL CURRENTLY INACCESSIBLE)

NOTE: LOCATIONS OF ALL CURRENT AND FORMER SITE FEATURES IS APPROXIMATE

JMP REV January 21, 2010 USA 57 Quarterly Figures
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STRATUS ENVIRONMENTAL, INC.

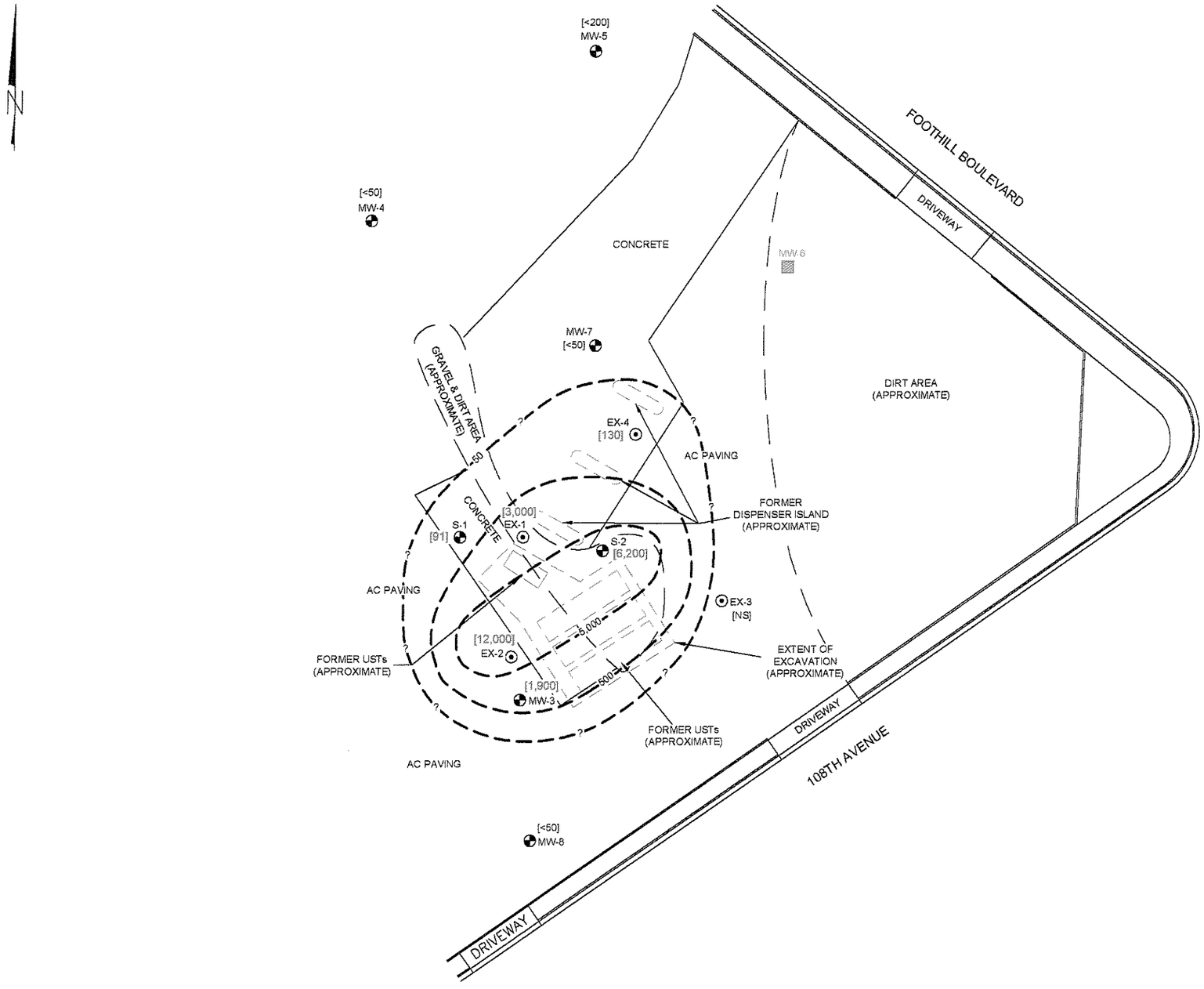
0 40 FT
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

GROUNDWATER ANALYTICAL SUMMARY
4th QUARTER 2009

FIGURE
14

PROJECT NO.
2007-0057-01



NOTE: LOCATIONS OF ALL CURRENT AND FORMER SITE FEATURES IS APPROXIMATE

STRATUS ENVIRONMENTAL, INC.

0 40 FT
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

GRO IN GROUNDWATER
ISO-CONCENTRATION CONTOUR MAP
4th QUARTER 2009

FIGURE
15

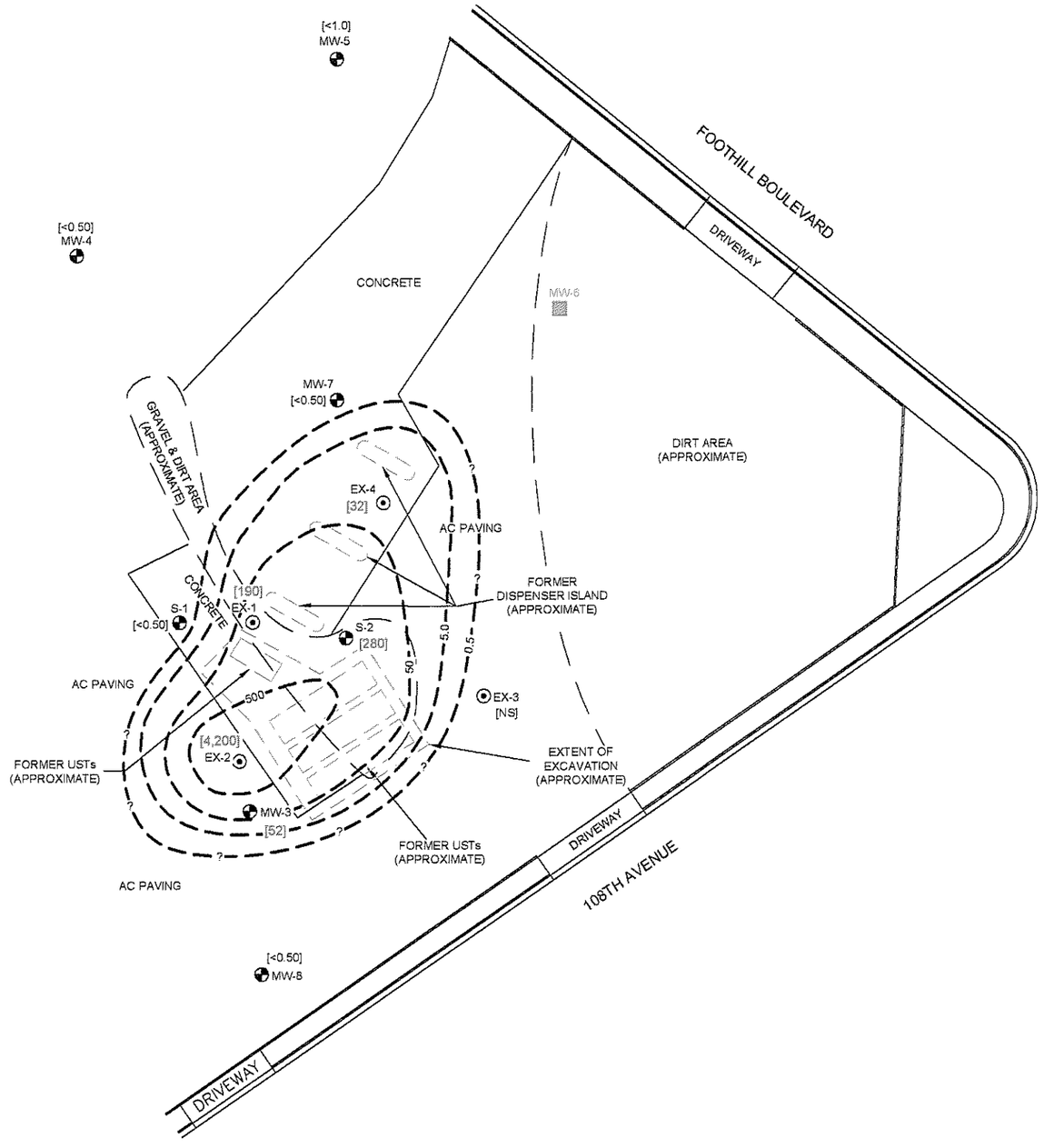
PROJECT NO.
2007-0057-01

JMP REV January 21, 2010 USA 57 Quarterly Figures
USA\57\CAP

LEGEND

- MW-3 MONITORING WELL LOCATION
- EX-1 EXTRACTION WELL LOCATION
- MW-6 ABANDONED MONITORING WELL LOCATION
- [<0.50] BENZENE CONCENTRATION IN µg/L

SAMPLES COLLECTED ON 11/16/09
BENZENE ANALYZED BY EPA METHOD 8260B



NOTE: LOCATIONS OF ALL CURRENT AND FORMER SITE FEATURES IS APPROXIMATE

STRATUS ENVIRONMENTAL, INC.

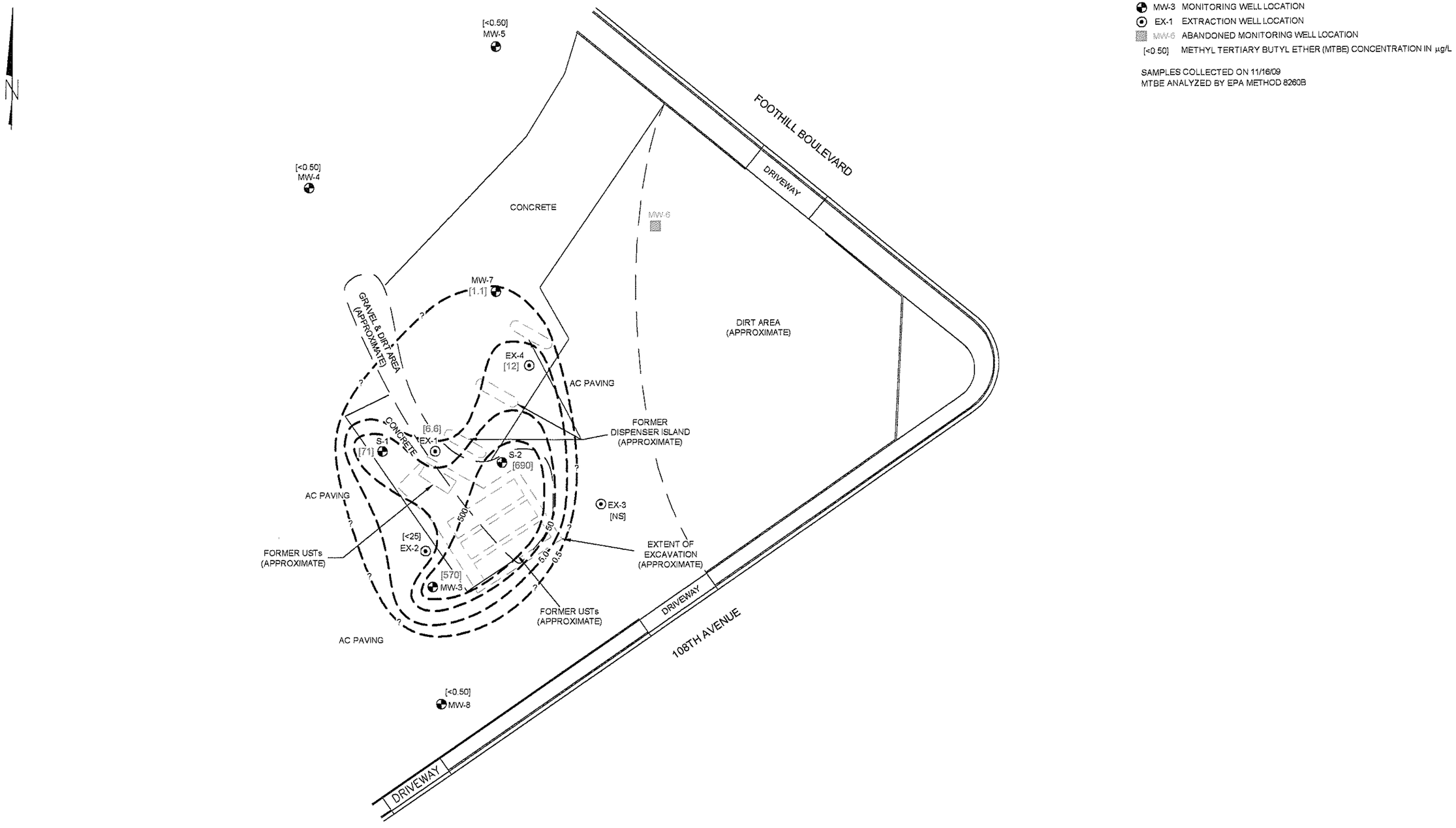
0 40 FT
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

BENZENE IN GROUNDWATER
ISO-CONCENTRATION CONTOUR MAP
4th QUARTER 2009

FIGURE
16
PROJECT NO.
2007-0057-01

USA\57\CAP JMP REV January 21, 2010 USA 57 Quarterly Figures



NOTE: LOCATIONS OF ALL CURRENT AND FORMER SITE FEATURES IS APPROXIMATE

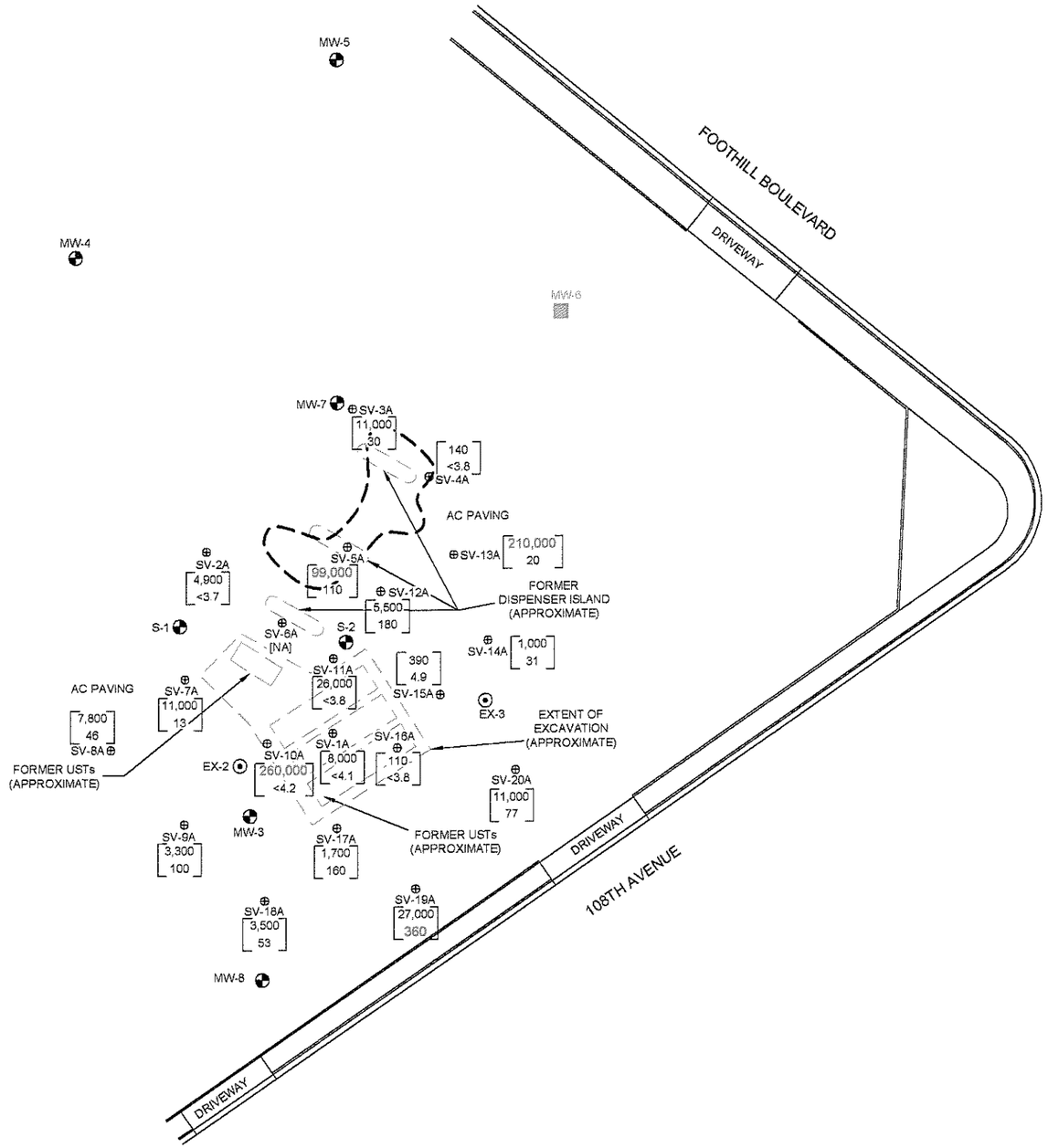
STRATUS ENVIRONMENTAL, INC.

0 40 FT
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA
MTBE IN GROUNDWATER
ISO-CONCENTRATION CONTOUR MAP
4th QUARTER 2009

FIGURE
17
PROJECT NO.
2007-0057-01

USA57/CAP JMP REV January 21, 2010 USA 57 Quarterly Figures



LEGEND

- MW-3 MONITORING WELL LOCATION
- EX-1 EXTRACTION WELL LOCATION
- MW-6 ABANDONED MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- SV-1A SOIL GAS SAMPLING BORING LOCATION

[8,000 / <4.1] TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (TPHG) IN µg/m³ / BENZENE CONCENTRATION IN µg/m³

[210,000] TPHG CONCENTRATIONS ABOVE COMMERCIAL ESL FOR TPHG (29,000 µg/m³)

[360] BENZENE CONCENTRATIONS ABOVE COMMERCIAL ESL FOR BENZENE (280 µg/m³)

– – – OUTER LIMITS OF TPHG IN SOIL (0'-7' bgs)

[NA] = INSUFFICIENT AIR FLOW THROUGH SUBSURFACE STRATA TO ENABLE COLLECTION OF SAMPLE

NOTE: SOIL GAS COLLECTED ON OCTOBER 12, 21, & 22, 2009
CONCENTRATIONS REPORTED IN MICROGRAMS PER CUBIC METER (µg/m³)

JMP REV January 21, 2010 USA-57 NSoil Plan

USA57\CAP

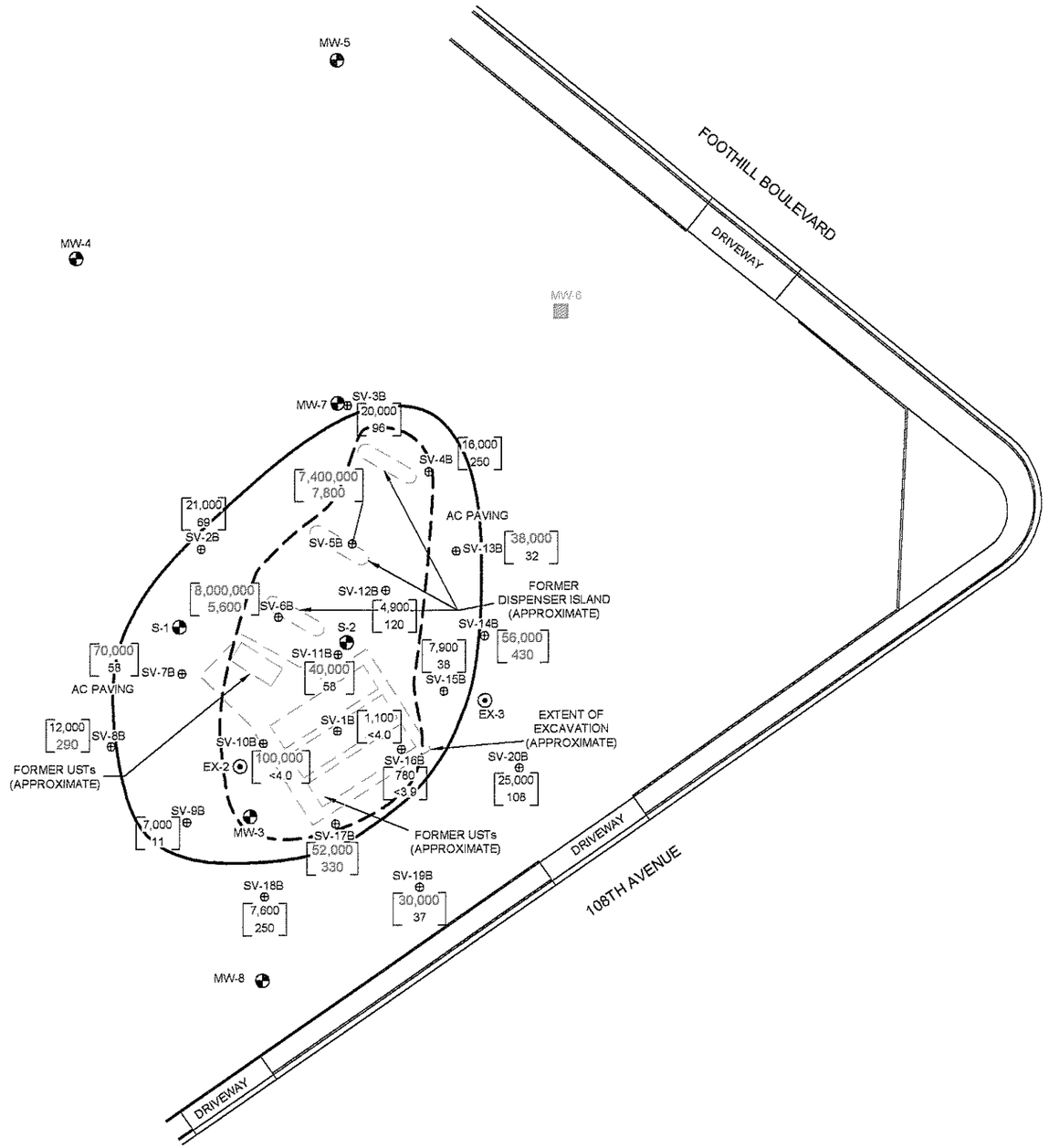
STRATUS ENVIRONMENTAL, INC.

0 40 FT
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

TPHG AND BENZENE IN SOIL GAS CONCENTRATIONS, 4ft bgs

FIGURE
18
PROJECT NO.
2007-0057-01



LEGEND

- MW-3 MONITORING WELL LOCATION
- EX-1 EXTRACTION WELL LOCATION
- MW-6 ABANDONED MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- SV-1A SOIL GAS SAMPLING BORING LOCATION

[780 / <3.9] TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (TPHG) IN µg/m³ / BENZENE CONCENTRATION IN µg/m³

[100,000] TPHG CONCENTRATIONS ABOVE COMMERCIAL ESL FOR TPHG (29,000 µg/m³)

[430] BENZENE CONCENTRATIONS ABOVE COMMERCIAL ESL FOR BENZENE (280 µg/m³)

- - - OUTER LIMITS OF TPHG IN SOIL (7' - 12' bgs)

——— APPROXIMATE LIMITS OF TPHG/BENZENE GROUNDWATER IMPACT (BASED ON 11/16/09 WELL RESULTS)

NOTE: SOIL GAS COLLECTED ON OCTOBER 12, 21, & 22, 2009
CONCENTRATIONS REPORTED IN MICROGRAMS PER CUBIC METER (µg/m³)

JMP REV January 21, 2010 USA-57 NSoil Plan

USA57tCAP

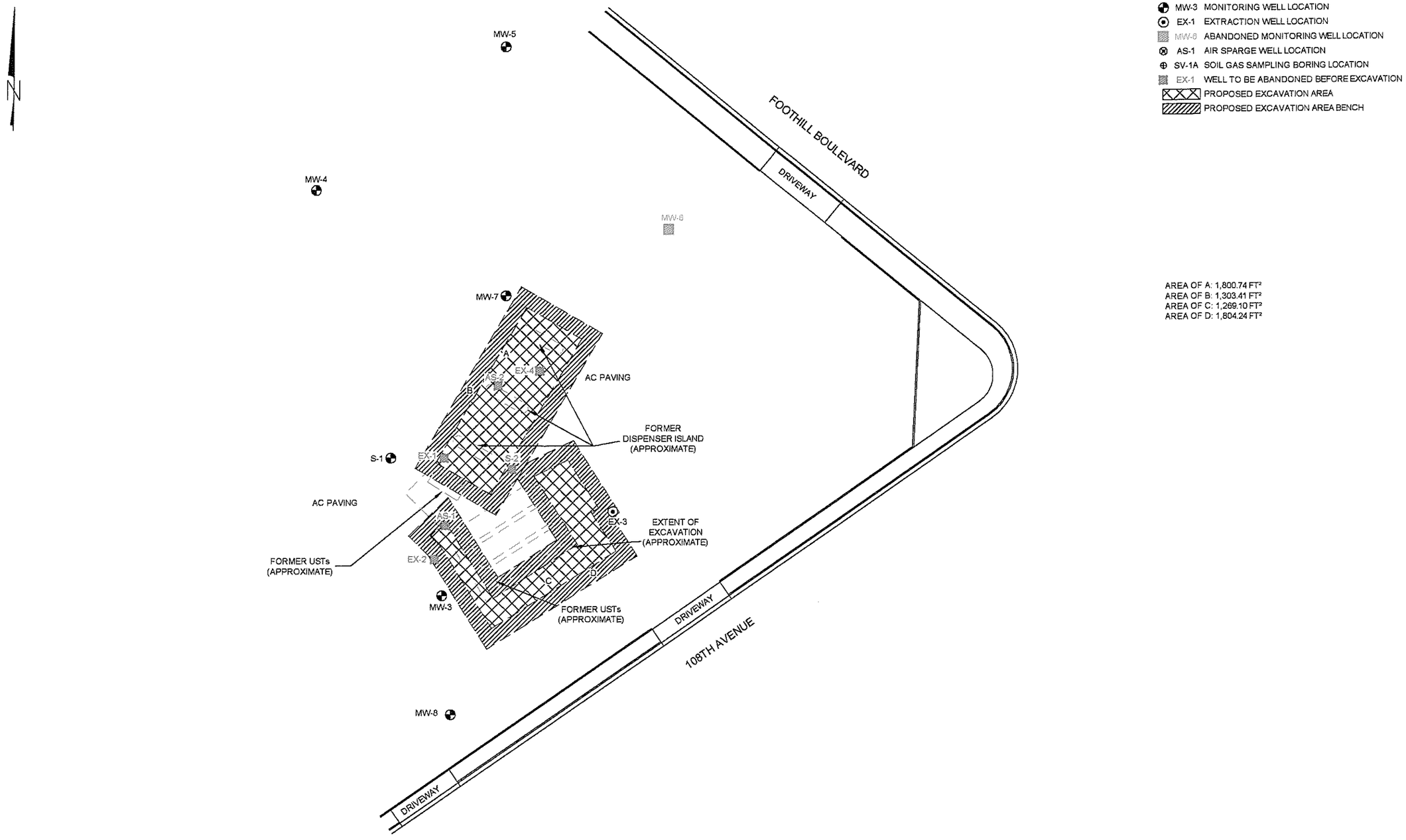
STRATUS ENVIRONMENTAL, INC.

0 40 FT
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

TPHG AND BENZENE IN SOIL GAS CONCENTRATIONS, 9ft bgs

FIGURE
19
PROJECT NO.
2007-0057-01



LEGEND

- MW-3 MONITORING WELL LOCATION
- EX-1 EXTRACTION WELL LOCATION
- MW-6 ABANDONED MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- SV-1A SOIL GAS SAMPLING BORING LOCATION
- EX-1 WELL TO BE ABANDONED BEFORE EXCAVATION
- PROPOSED EXCAVATION AREA
- PROPOSED EXCAVATION AREA BENCH

AREA OF A: 1,800.74 FT²
AREA OF B: 1,303.41 FT²
AREA OF C: 1,269.10 FT²
AREA OF D: 1,804.24 FT²

JMP REV. January 21, 2010 USA 57 NSoil Plan USA57NCAP

STRATUS ENVIRONMENTAL, INC.

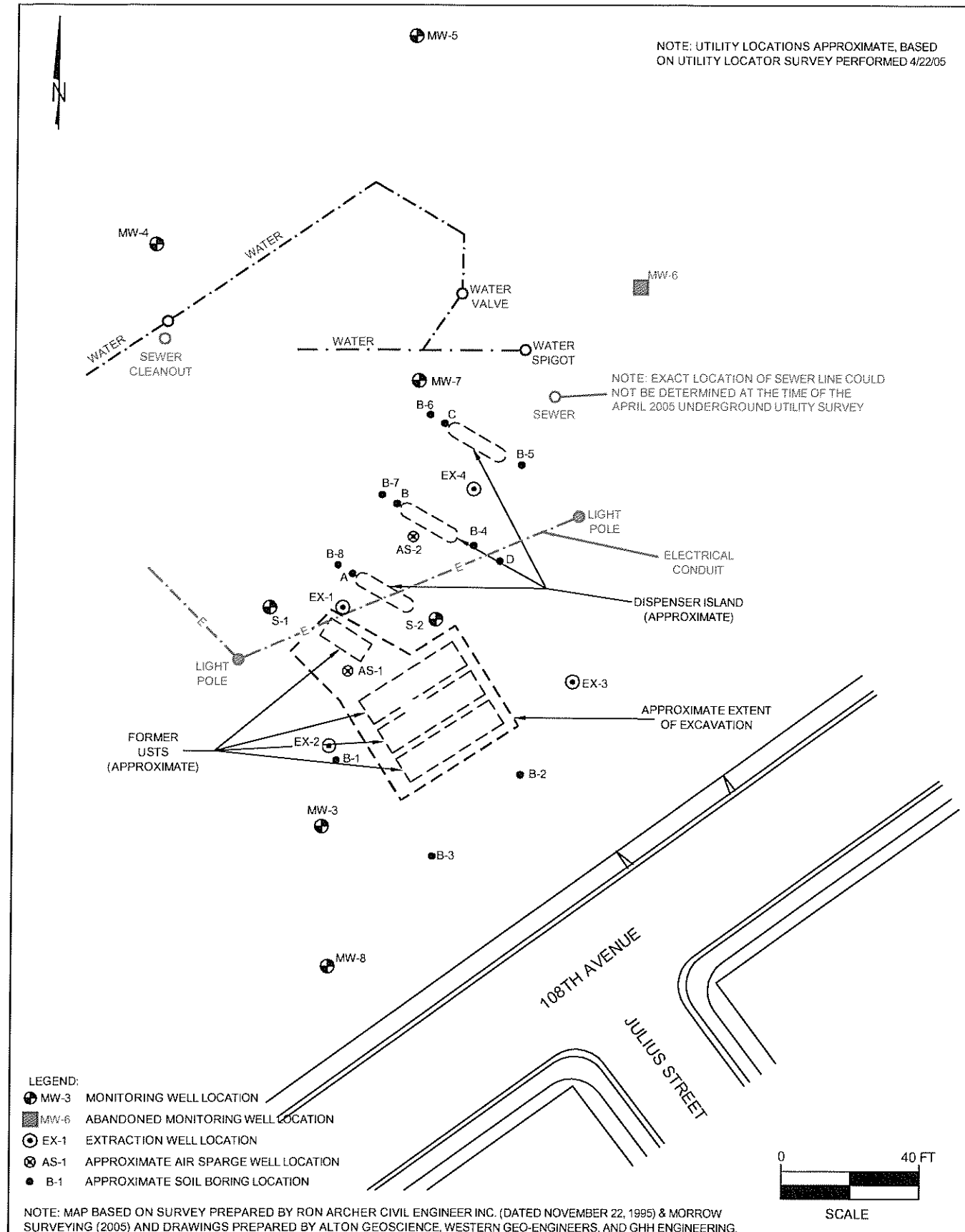
0 40 FT
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

SITE PLAN DEPICTING WELLS
PROPOSED FOR DESTRUCTION

FIGURE
20

PROJECT NO.
2007-0057-01



NOTE: MAP BASED ON SURVEY PREPARED BY RON ARCHER CIVIL ENGINEER INC. (DATED NOVEMBER 22, 1995) & MORROW SURVEYING (2005) AND DRAWINGS PREPARED BY ALTON GEOSCIENCE, WESTERN GEO-ENGINEERS, AND GHH ENGINEERING.

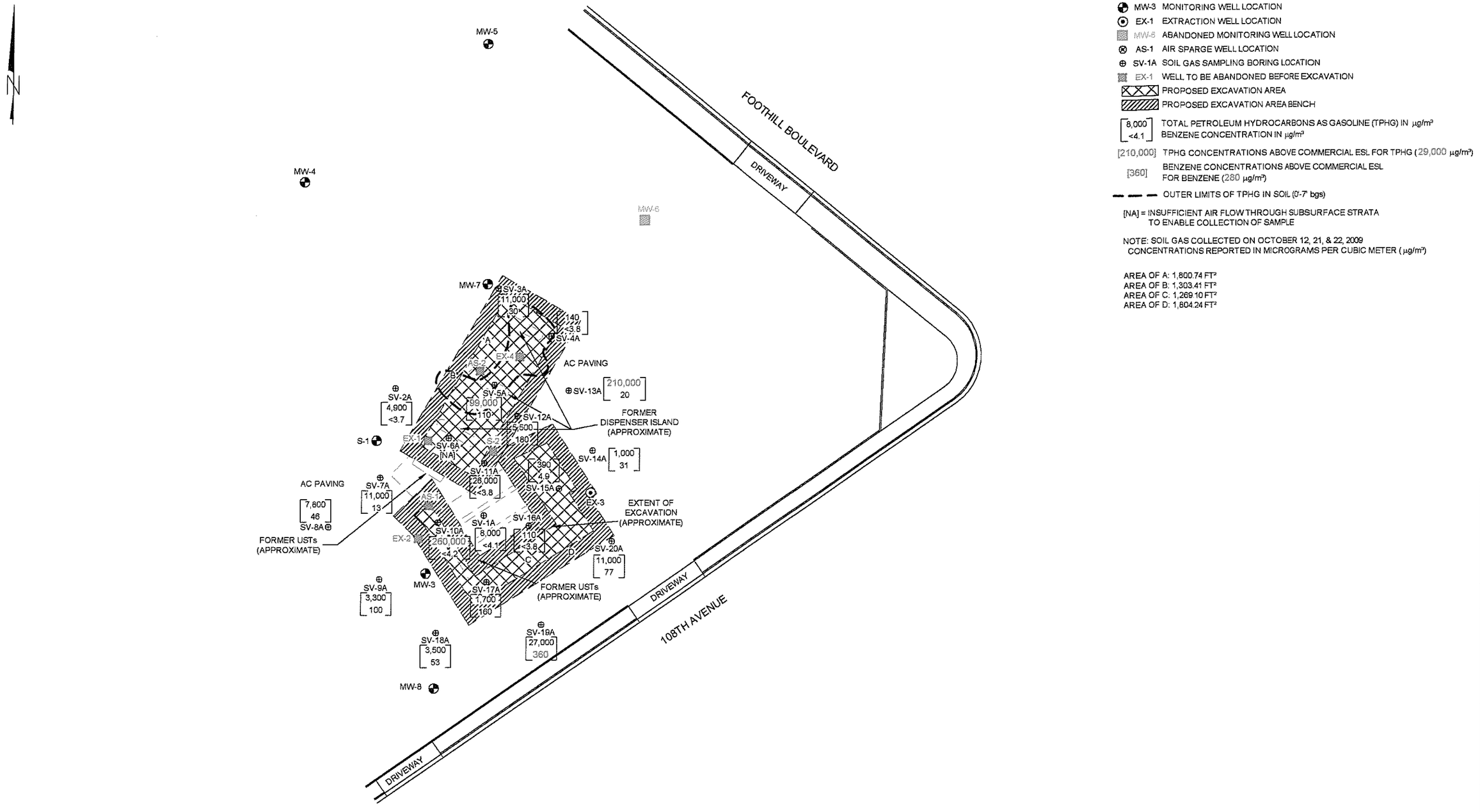
STRATUS ENVIRONMENTAL, INC.

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

UNDERGROUND UTILITY PLAN

FIGURE
21

PROJECT NO.
2007-0057-01



LEGEND

- MW-3 MONITORING WELL LOCATION
- EX-1 EXTRACTION WELL LOCATION
- MW-6 ABANDONED MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- SV-1A SOIL GAS SAMPLING BORING LOCATION
- EX-1 WELL TO BE ABANDONED BEFORE EXCAVATION
- PROPOSED EXCAVATION AREA
- PROPOSED EXCAVATION AREA BENCH
- [8,000 / <4.1] TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (TPHG) IN µg/m³ / BENZENE CONCENTRATION IN µg/m³
- [210,000] TPHG CONCENTRATIONS ABOVE COMMERCIAL ESL FOR TPHG (29,000 µg/m³)
- [360] BENZENE CONCENTRATIONS ABOVE COMMERCIAL ESL FOR BENZENE (280 µg/m³)
- OUTER LIMITS OF TPHG IN SOIL (0'-7' bgs)

[NA] = INSUFFICIENT AIR FLOW THROUGH SUBSURFACE STRATA TO ENABLE COLLECTION OF SAMPLE

NOTE: SOIL GAS COLLECTED ON OCTOBER 12, 21, & 22, 2009
CONCENTRATIONS REPORTED IN MICROGRAMS PER CUBIC METER (µg/m³)

AREA OF A: 1,800.74 FT²
AREA OF B: 1,303.41 FT²
AREA OF C: 1,269.10 FT²
AREA OF D: 1,804.24 FT²

JMP REV January 21, 2010 USA 57 NSoil Plan

USA57ICAP

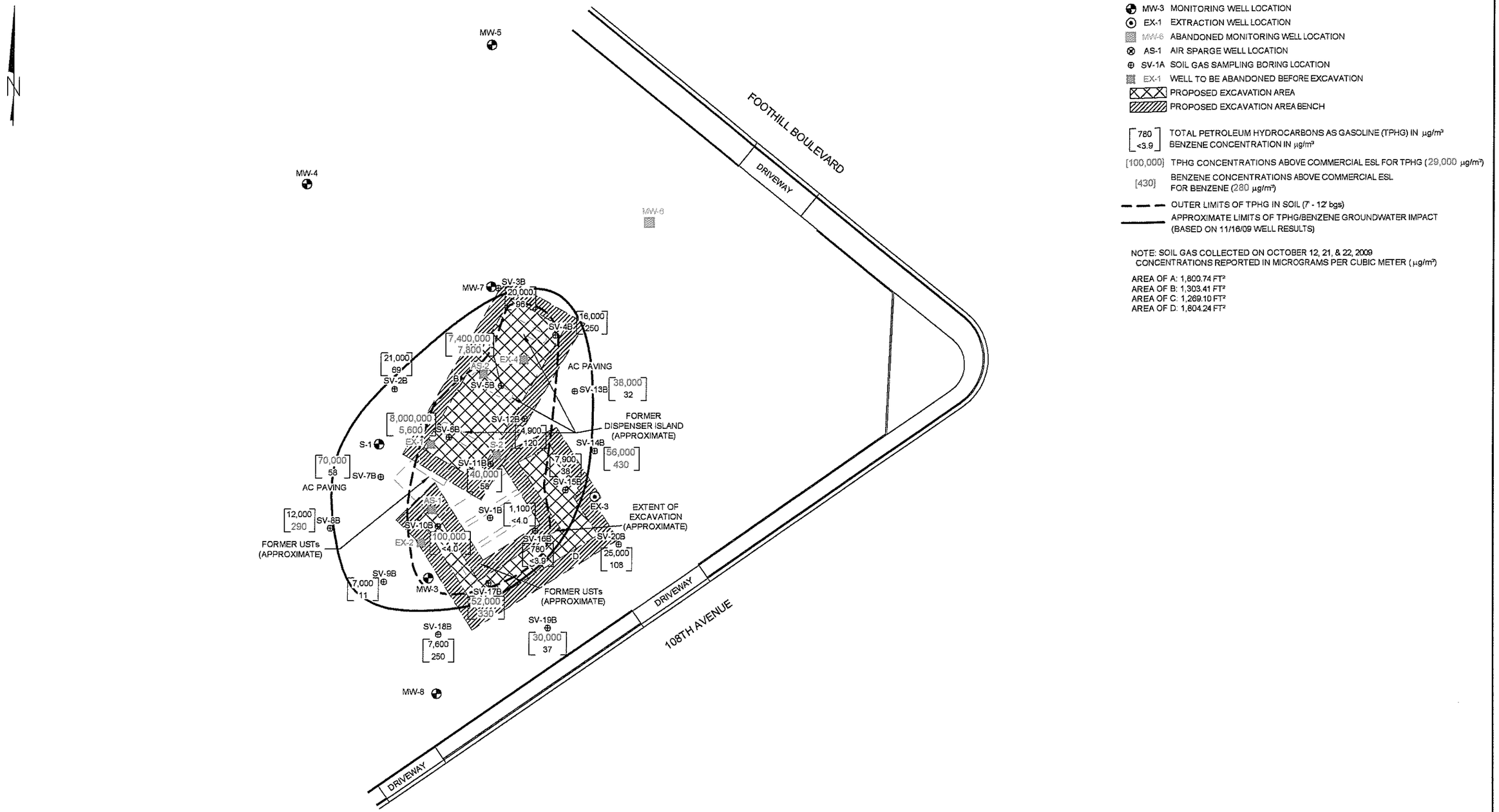
STRATUS ENVIRONMENTAL, INC.

0 40 FT
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

APPROXIMATE LOCATION OF PROPOSED EXCAVATION AND TPHG AND BENZENE IN SOIL GAS CONCENTRATIONS, 4ft bgs

FIGURE
22
PROJECT NO.
2007-0057-01



LEGEND

- MW-3 MONITORING WELL LOCATION
- EX-1 EXTRACTION WELL LOCATION
- MW-6 ABANDONED MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- SV-1A SOIL GAS SAMPLING BORING LOCATION
- EX-1 WELL TO BE ABANDONED BEFORE EXCAVATION
- PROPOSED EXCAVATION AREA
- PROPOSED EXCAVATION AREA BENCH

[780 / <3.9] TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (TPHG) IN µg/m³ / BENZENE CONCENTRATION IN µg/m³

[100,000] TPHG CONCENTRATIONS ABOVE COMMERCIAL ESL FOR TPHG (29,000 µg/m³)

[430] BENZENE CONCENTRATIONS ABOVE COMMERCIAL ESL FOR BENZENE (280 µg/m³)

- OUTER LIMITS OF TPHG IN SOIL (7' - 12' bgs)
- APPROXIMATE LIMITS OF TPHG/BENZENE GROUNDWATER IMPACT (BASED ON 11/16/09 WELL RESULTS)

NOTE: SOIL GAS COLLECTED ON OCTOBER 12, 21, & 22, 2009
CONCENTRATIONS REPORTED IN MICROGRAMS PER CUBIC METER (µg/m³)

AREA OF A: 1,800.74 FT²
AREA OF B: 1,303.41 FT²
AREA OF C: 1,269.10 FT²
AREA OF D: 1,804.24 FT²

JMP REV January 21, 2010 USA 57 NSoil Plan

USA57CAP

STRATUS ENVIRONMENTAL, INC.

0 40 FT
SCALE

FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

APPROXIMATE LOCATION OF PROPOSED EXCAVATION AND TPHG AND BENZENE IN SOIL GAS CONCENTRATIONS, 9ft bgs

FIGURE
23
PROJECT NO.
2007-0057-01

APPENDIX A

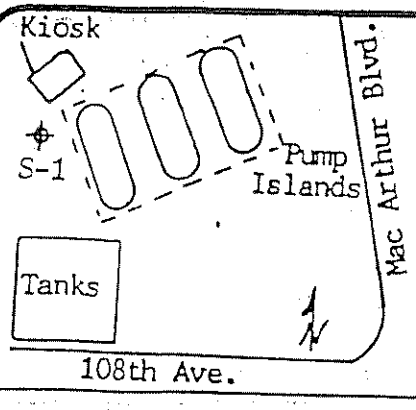
DRILLING AND WELL CONSTRUCTION SUMMARY TABLE, SOIL BORING LOGS, AND WELL DETAILS

TABLE 1
DRILLING AND WELL CONSTRUCTION SUMMARY
Former USA Station #57
10700 MacArthur Boulevard
Oakland, California

ID	Date	Boring Dia. (inches)	Boring Depth (feet bgs)	Casing Diameter (inches)	Casing Depth (feet bgs)	Slot Size (inches)	Screen Interval (feet bgs)
Monitoring Wells							
S-1	2/12/87	8	40	3	40	0.02	20 to 40
S-2	2/12/87	8	40	3	40	0.02	20 to 40
MW-3	2/28/95	10	44	4	44	0.02	24 to 44
MW-4	11/20/95	10	40.5	4	40.5	0.02	10 to 40.5
MW-5	11/20/95	10	41	4	40	0.02	10 to 40
MW-6	11/20/95	10	40.5	4	40.5	0.02	10 to 40.5
MW-7	11/21/95	10	41	4	40	0.02	10 to 40
MW-8	11/21/95	10	35.5	4	35	0.02	10 to 35
Extraction Wells							
EX-1	10/6/05	10	25	4	25	0.02	5 to 25
EX-2	10/7/05	10	25	4	25	0.02	5 to 25
EX-3	10/6/05	10	25	4	25	0.02	5 to 25
EX-4	10/6/05	10	25	4	25	0.02	5 to 25
Air Sparge Wells							
AS-1	8/23/07	8	20	1	20	0.02	17.5 to 20
AS-2	8/23/07	8	25	1	20	0.02	17.5 to 20
Soil Borings							
A	2/12/87	8	20				
B	2/12/87	6	20				
C	2/12/87	6	20				
D	2/12/87	6	20				
B-1	2/28/95	8	46				
B-2	3/1/95	8	31				
B-3	3/1/95	8	21				
B-4	3/2/95	8	12				
B-5	3/2/95	8	12				
B-6	3/2/95	8	12				
B-7	3/2/95	8	12				
B-8	3/2/95	8	12				

PACIFIC ENVIRONMENTAL GROUP, INC.

JOB NO. 100-22.01



SHELL OIL COMPANY -- WELL LOG

PAGE 1 OF 2

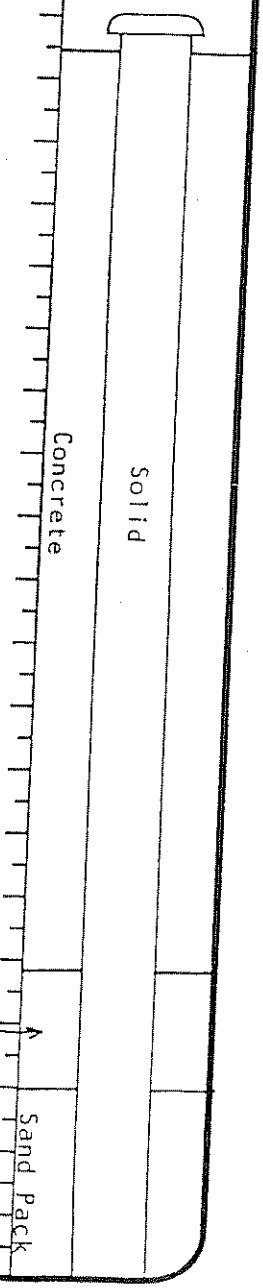
WELL NUMBER ▶ S-1		LOCATION ▶ Oakland	
DATE ▶ 2/12/87		WEATHER ▶ Cool, rain	
LOGGED BY ▶ DM		DRILLED BY ▶ Bayland: Ed, Curt	
DRILLING METHOD ▶ HSA		SAMPLING METHOD ▶ Cal. Mod.	
GRAVEL PACK ▶ CA		SEAL ▶ Bentonite & concrete	

CASING ▶ TYPE Schedule 40 PVC DIAMETER 3" LENGTH 20' HOLE DIA 8"

SCREEN ▶ TYPE Schedule 40 PVC SLOT .020" DIAMETER 3" LENGTH 20' TOTAL DEPTH 40'

MOISTURE CONTENT	SORTING	ROUNDSITY	PLASTICITY	SAMPLE NO.	H-NU (ppm)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY / REMARKS
						0			Concrete
						1			(CL) olive-brown silty clay
						2			
						3			
Dp			M		ND	4		P	(minor sand; no odor)
						5			(gravelly at 5')
						6			
						7			
						8			
Dp	MS	VD				9		8	(SC) dark yellowish-brown clayey sand; trace find gravel; no odor
					ND	10		25	
						1		45	
						2			
						3			
						4		15	
Dp	MS	VD			38	5		30	(very silty, slight odor)
						6		50	
						7			
						8			
						9		6	
Dp	MS	VD			102			15	(very fine grained; moderate to strong odor)

WELL COMPLETION



PACIFIC ENVIRONMENTAL GROUP, INC.

JOB NO. 100-22.01

LOCATION MAP

See page 1 for details.

SHELL OIL COMPANY -- WELL LOG

WELL NUMBER ▶ S-1	LOCATION ▶ Oakland
DATE ▶	WEATHER ▶
LOGGED BY ▶	DRILLED BY ▶
DRILLING METHOD ▶	SAMPLING METHOD ▶
ELEVATION ▶	GRAVEL PACK ▶
	SEAL ▶

CASING ▶ TYPE DIAMETER LENGTH HOLE DIA

SCREEN ▶ TYPE SLOT DIAMETER LENGTH TOTAL DEPTH

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NO.	H-NU (ppm)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY / REMARKS
						20		15 25	(SC) continued
						1			
						2			(harder drilling)
						3			
Dr-Dp	PS	VD			ND	4		50	yellowish-brown silty sandstone; deeply weathered; fractured; trace clay; no odor
						5			
						6			
						7			
						8			
Dp		Hd			1	9		30 50	yellowish-brown claystone; no odor
						30			
						1			
						2			
						3			
						4		30	(very closely fractured; deeply weathered; no odor to very slight odor)
Dp		Hd			ND	5		50	
						6			
						7			
						8			dark grayish-brown silty sandstone; fractured
						9		50	
Wt	PS	VD							Total Depth = 40'

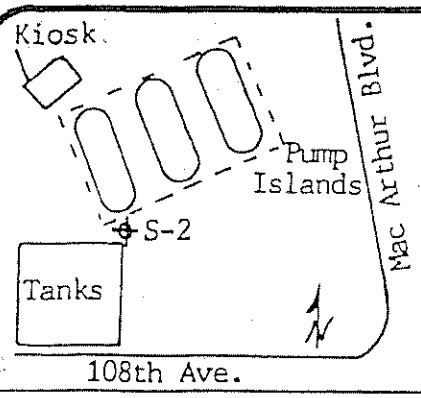
WELL COMPLETION

Sand Pack

Screens

PACIFIC ENVIRONMENTAL GROUP, INC.

JOB NO. 100-22.01



SHELL OIL COMPANY -- WELL LOG

WELL NUMBER ▶ S-2		LOCATION ▶ Oakland	
DATE ▶ 2/12/87		WEATHER ▶ cool, rainy	
LOGGED BY ▶ DM		DRILLED BY ▶ Bayland: Ed, Curt	
DRILLING METHOD ▶ HSA		SAMPLING METHOD ▶ Cal. Mod.	
GRAVEL PACK ▶ CA		SEAL ▶ bentonite & concrete	

CASING ▶ TYPE Schedule 40 PVC DIAMETER 3" LENGTH 20' HOLE DIA 8"

SCREEN ▶ TYPE Schedule 40 PVC SLOT .020" DIAMETER 3" LENGTH 20' TOTAL DEPTH 40'

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NO.	H-NU (ppm)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY / REMARKS
						0			concrete
						1			(CL) gray silty clay; no odor
						2			
						3			
P	WS				ND	4		P	(SM) dark yellowish-brown silty sand; very fine-grained; no odor
						5			
						6			
						7			
						8			
Dp		Hd	L		4.4	9		11	(CL) dark yellowish-brown sandy clay; very silty; moderate odor
						10		22	
						1		30	
						2			
						3			
Dp		VSt	L		127	4		P	(CL-ML) dark grayish-brown silty clay to clayey silt; no odor
						5			
						6			
						7			
						8			(SC) dark yellowish-brown clayey sand; some gravel; silty; very fine-grained; no odor
Dp	PS					9			

WELL COMPLETION: Concrete; Solid; Bentonite; Sand Pack

PACIFIC ENVIRONMENTAL GROUP, INC.

JOB NO. 100-22.01

LOCATION MAP

See page 1 for details.

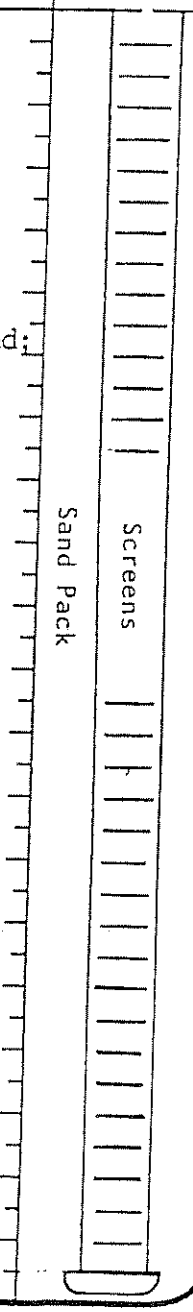
SHELL OIL COMPANY -- WELL LOG

WELL NUMBER ▶ S-2	LOCATION ▶ Oakland
DATE ▶	WEATHER ▶
LOGGED BY ▶	DRILLED BY ▶
DRILLING METHOD ▶	SAMPLING METHOD ▶
ELEVATION ▶ --	GRAVEL PACK ▶
	SEAL ▶

CASING ▶ TYPE | DIAMETER | LENGTH | HOLE DIA

SCREEN ▶ TYPE | SLOT | DIAMETER | LENGTH | TOTAL DEPTH

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NO.	H-PAC (ppm)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY / REMARKS
						20			(SC) continued
						1			
						2			
						3			
						4		P	
Dp	P				152	5			dark yellowish brown to dark grayish-brown sandstone; fractured; weathered; no odor
						6			
						7			
						8			
						9			
Dp	P	VD				30		P	(very closely fractured; very strong odor)
						1	▽		
						2			
						3			
Wt		VD				4		P	(fractured; moderate odor)
						5			
						6			
						7			
						8			
Wt		VD				9		P	(fractured; weathered; no odor) total depth = 40'

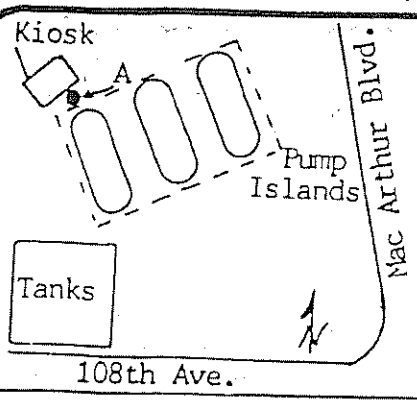


WELL COMPLETION

JOB NO. 100-22.01

SHELL OIL COMPANY -- WELL LOG

PAGE 1 OF 1



WELL NUMBER	Boring A	LOCATION	Oakland
DATE	2/12/87	WEATHER	cool, rainy
LOGGED BY	DM	DRILLED BY	Bayland: Ed, Curt
DRILLING METHOD	HSA	SAMPLING METHOD	Cal. Mod.
GRAVEL PACK	n/a	SEAL	concrete

CASING ▶ TYPE n/a DIAMETER n/a LENGTH HOLE DIA 8"

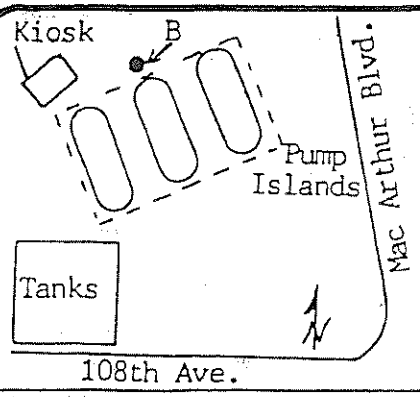
SCREEN ▶ TYPE n/a SLOT n/a DIAMETER n/a LENGTH TOTAL DEPTH 20'

MOISTURE CONTENT	BORING	DENSITY	PLASTICITY	SAMPLE NO.	H-NU (ppm)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY / REMARKS
						0			concrete
						1			asphalt
									(CL) olive silty clay; brown mottling
						2			
						3			
Dp	PS				ND	4		P	(SC) olive-gray clayey sand; little gravel; no odor
						5			
						6			
						7			
						8			
Dp		Hd	L		ND	9		8	(CL) dark yellowish-brown sandy clay; some silt; trace fine gravel; no odor
								18	
						10		20	
						1			
						2			
						3			
Dp		Hd	L		8.3	4		12	(increasing sand and fine gravel; slight odor)
								20	
						5		30	
						6			
						7			
						8			(SC) dark yellowish-brown clayey sand; some gravel; no odor
Dp					4.6	9			total depth = 20'; no water encountered

WELL COMPLETION: concrete

PACIFIC ENVIRONMENTAL GROUP, INC.

JOB NO. 100-22.01



SHELL OIL COMPANY -- WELL LOG

PAGE 1 OF 1

WELL NUMBER ▶ Boring B		LOCATION ▶ Oakland	
DATE ▶ 2/12/87		WEATHER ▶ cool, cloudy	
LOGGED BY ▶ DM		DRILLED BY ▶ Bayland: Ed, Curt	
DRILLING METHOD ▶ CFA		SAMPLING METHOD ▶ Cal. Mod.	
GRAVEL PACK ▶ n/a		SEAL ▶ concrete	

CASING ▶ TYPE n/a DIAMETER n/a LENGTH HOLE DIA 6"

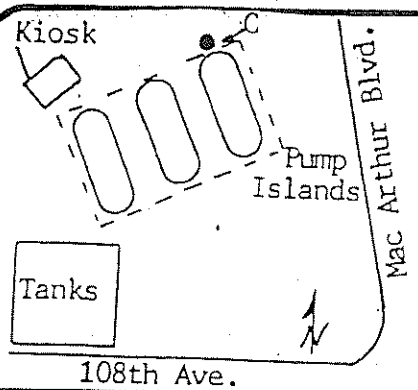
SCREEN ▶ TYPE n/a SLOT n/a DIAMETER n/a LENGTH TOTAL DEPTH 20'

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NO.	H-NU (ppm)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY / REMARKS
						0			concrete; odor in base rock
Dp-Mst						1			(CL) yellowish-brown silty clay; trace fine sand; no odor
						2			
						3			
Dp	MS				ND	4		P	(SM) dark yellowish-brown silty sand; fine to medium grained; no odor (gravelly at 5')
						5			
						6			
						7			
						8			(CL) dark yellowish-brown sandy clay; some silt; no odor
Dp		Hd	L		ND	9		8	
						10		20	
								20	
						1			
						2			
						3			
Dp		Hd	L		ND	4		10	(very silty; no odor)
								20	
						5		25	
						6			
						7			
						8			(SC) dark yellowish-brown clayey sand; some grave; silty; no odor
Dp	PS	VD			<1	9		10	
								25	
								30	total depth = 20'; no water encountered

WELL COMPLETION: concrete

PACIFIC ENVIRONMENTAL GROUP, INC.

JOB NO. 100-22.01



SHELL OIL COMPANY -- WELL LOG

PAGE 1 OF 1

WELL NUMBER ▶ Boring C		LOCATION ▶ Oakland	
DATE ▶ 2/12/87		WEATHER ▶ cool, rainy	
LOGGED BY ▶ DM		DRILLED BY ▶ Bayland: Ed, Curt	
DRILLING METHOD ▶ CFA		SAMPLING METHOD ▶ Cal. Mod.	
GRAVEL PACK ▶ n/a		SEAL ▶ concrete	

CASING ▶ TYPE n/a DIAMETER n/a LENGTH HOLE DIA 6"

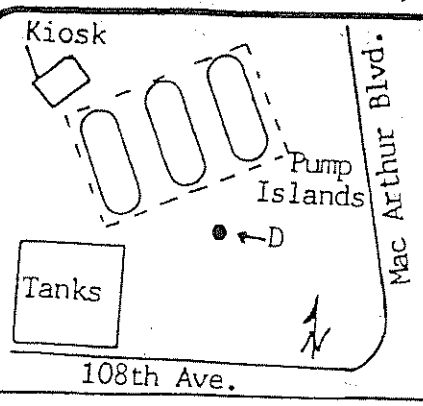
SCREEN ▶ TYPE n/a SLOT n/a DIAMETER n/a LENGTH TOTAL DEPTH 20'

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NO.	H-NU (PPM)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY / REMARKS	WELL COMPLETION
						0			concrete	
Dp						1			(SM-ML) dark yellowish-brown silty sand to sandy silt	
						2				
						3				
Dp	MS				ND	4		P	(fine to medium grained; no odor)	
						5				
						6				
						7				
						8			(CL) dark yellowish-brown sandy clay; some silt; trace gravel; no odor	
Dp		Hd			ND	9		10		
						10		18		
								23		
						1				
						2				
						3				
Dp		Hd			<1	4		10	(very silty; no odor)	
						5		18		
								25		
						6				
						7				
						8				
						9		10		
Dp		Hd			14.2			18	(dark grayish-brown; slight odor)	
								20	total depth = 20'; no water encountered	

concrete

PACIFIC ENVIRONMENTAL GROUP, INC.

JOB NO. 100-22.01



SHELL OIL COMPANY -- WELL LOG

PAGE 1 OF 1

WELL NUMBER ▶ Boring D		LOCATION ▶ Oakland	
DATE ▶ 2/12/87		WEATHER ▶ cold, rainy	
LOGGED BY ▶ DM		DRILLED BY ▶ Bayland: Ed, Curt	
DRILLING METHOD ▶ CFA		SAMPLING METHOD ▶ Cal. Mod.	
GRAVEL PACK ▶ n/a		SEAL ▶ concrete	

CASING ▶ TYPE n/a DIAMETER LENGTH HOLE DIA 6"

SCREEN ▶ TYPE SLOT DIAMETER LENGTH TOTAL DEPTH 20'

MOISTURE CONTENT	CEMENTING	DENSITY	PLASTICITY	SAMPLE NO.	H-NU (PPM)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY / REMARKS	WELL COMPLETION
						0			concrete	
Dp-Mst						1			(CL) yellowish-brown silty clay; trace sand	
						2				
						3			?	
						4		P	(SW) dark grayish-brown sand	
						5				
						6				
						7				
						8				
Wt	PS				18.2	9		P		
Dp		Stf	L						(no odor)	
						10			(GC-SC) dark grayish-brown clayey gravel to sand; very silty; no odor	
						1				
						2				
						3				
						4		P	(CL) yellowish-brown silty clay; very silty; some very fine sand	
Dp		Stf	L		ND	5				
						6				
						7				
						8				
		VSt				9		P		
									total depth = 20'; no water encountered	

concrete

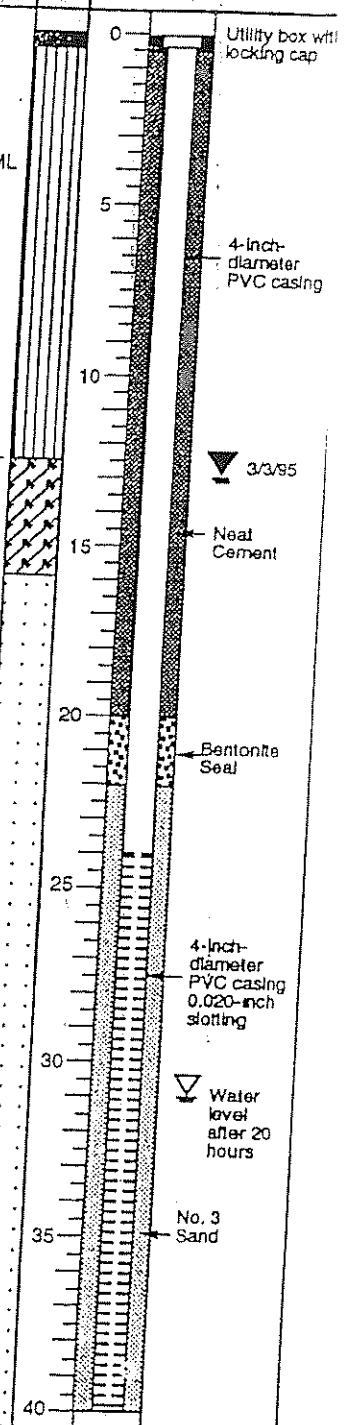
PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

DATE DRILLED: 2/28/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: Bayland Drilling

DRILLING METHOD: 10-Inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 44.0 feet DEPTH TO WATER:

BLOWS PER 6 INCHES	CGI (ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS
				0	Hand-augered to 5 feet. 4 inches of Asphalt.	
7,8,10	115	ND		5	CLAYEY SILT: yellowish brown, soft, damp, very fine-grained.	ML
5,7,8	20	1.9		10	Olive, moist.	
—	10% LEL	240			GRAVELLY SAND: yellowish brown, damp, well graded, with clay.	GC
13,24,50 for 4"	2% LEL	110		15		
5 for 5"	500				SANDSTONE: brownish yellow, very friable, dry, fine-grained with silt.	
—	50				SILTSTONE: dark yellowish brown, very friable, dry, with sand.	
11,22,50 for 4"	100	3.0		20		
50 for 6"	10	ND			Soft, interbedded with fractured, very hard, damp sandstone.	
50 for 6"	25			25		
—	20				Dry.	
15,17,19	50	ND				
—	0			30	Damp.	
—	15					
—	15			35		
	0				With increased clay content in siltstone, mottled dark green and yellowish brown. Moist.	
50 for 6"	100	ND		40		

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

MW-3

41-0034/MW-3 03/17/95

PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

DATE DRILLED: 2/26/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: Bayland Drilling

DRILLING METHOD: 10-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 44.0 feet DEPTH TO WATER:

BLOWS PER 6 INCHES	CGI (ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY	WELL CONSTRUCTION DETAIL
				40				End cap
				45				
				50				
				55				
				60				
				65				
				70				
				75				
				80				

ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

MW-3
PAGE 2 OF 2

41-0034/MW-3 03/17/95

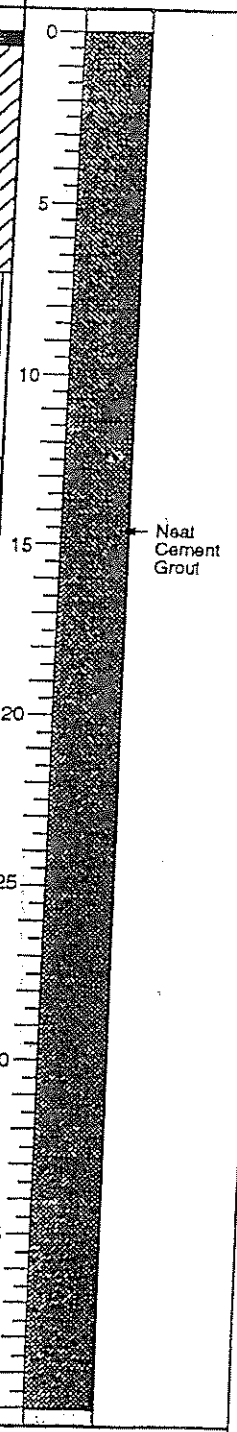
PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

DATE DRILLED: 2/28/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: Bayland Drilling

DRILLING METHOD: 8-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 46.0 feet DEPTH TO WATER: 44.0 feet

BLOWS PER 6 INCHES	CGI (ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hand-augered to 4 feet. 6 Inches of Concrete.		
7,11,8	0	ND		5	SILTY CLAY: dark gray brown, soft, damp.	CL	
6,7,11	75	44		10	CLAYEY SILT: dark yellowish brown, soft, damp, few small pebbles.	ML	
6,11,15	70% LEL	540		15	GRAVELLY SAND: mottled dark yellow brown and green, loose, damp, with clay.	GC	
					From approximately 17 feet to bottom of hole: Interbedded sandstone and siltstone.		
21,37,42	350	ND		20	SANDSTONE: light olive brown, very fractured and friable with calcium carbonate infill in fractures.		
					SILTY CLAY (weathered bedrock): dark grayish brown, soft, damp at 10 feet.		
47 for 12"	5% LEL	3.9		25	Light olive brown, wet, with gravel. SANDSTONE: light olive brown, very fractured and friable with calcium carbonate infill in fractures.		
15,29,26	5% LEL	ND		30	SILTY CLAY (weathered bedrock): light olive brown, soft, wet, with gravel.		
					GRAVELLY SAND (weathered bedrock): dark yellowish brown, loose, moist.		
12,15,19	175	ND		35	Interbedded with silty clay.		
41,27,35	175	ND		40			

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

B-1
PAGE 1 OF 2

41-0034/B-1 03/17/95

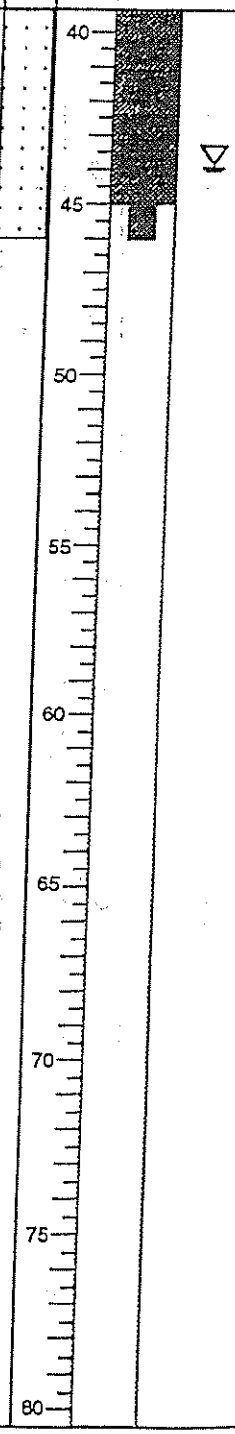
PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

DATE DRILLED: 2/28/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: Bayland Drilling

DRILLING METHOD: 8-Inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 46.0 feet DEPTH TO WATER: 44.0 feet

BLOWS PER 6 INCHES	CGI (ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
27,30 41 for 4"	40	4		40			
				45	GRAVELLY CLAY (weathered bedrock): dark yellowish brown, saturated, well graded, with sand and pebbles to 1/4 inch.		
				50		ML	
				55			
				60			
				65			
				70			
				75			
				80			

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

B-1

41-0034/B-1 03/17/95

PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

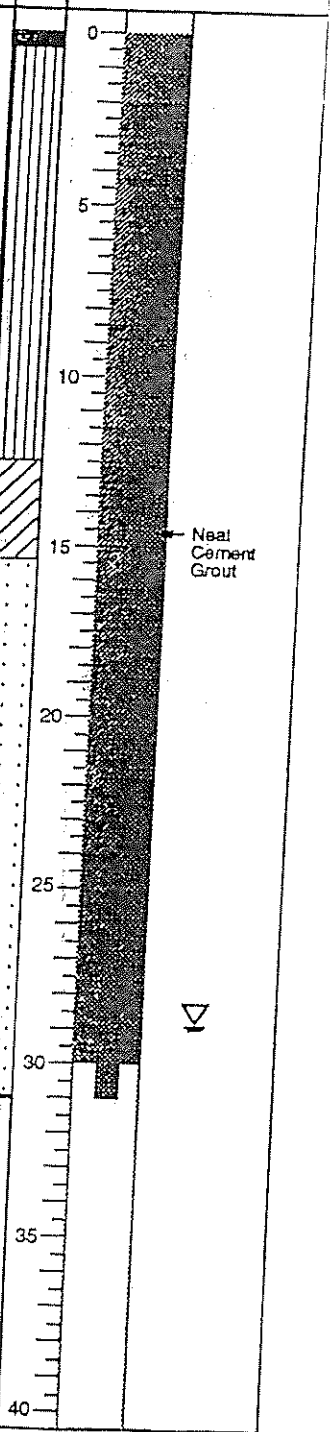
DATE DRILLED: 3/1/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: Bayland Drilling

DRILLING METHOD: 8-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 31.0 feet DEPTH TO WATER: 29.0 feet

BLOWS PER 6 INCHES	CGI (ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS
				0	Hand-augered to 5 feet. 4 inches of Asphalt.	
11,12,17	60	ND		5	CLAYEY SILT: dark yellowish brown, soft, damp, fine-grained, low plasticity.	ML
11,16,21	80	ND		10	At approximately 10 feet depth includes small pebbles and mottled dark brown and green.	
21,27,31	5% LEL	16		15	SANDY CLAY: dark yellowish brown, damp, fine-grained.	CL
					SANDSTONE: brownish yellow, fractured, damp, fine-grained, with clay.	
8,10,16	325	110		20	SANDY CLAY (weathered bedrock): dark yellowish brown, damp, fine-grained. SANDSTONE: brownish yellow, fractured, fine-grained, with green staining.	
8,11,17	60 150% LEL	240		25	Interbedded with sandy clay. SANDY CLAY (weathered bedrock) to 25 feet, then fractured sandstone.	
6,11,13	LEL off scale			30	GRAVELLY SAND (weathered bedrock): very dark grayish brown, loose, saturated, well graded.	
				35		
				40		

LITHOLOGY

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

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PAGE 1 OF 1

41-0034/B-1 03/17/95

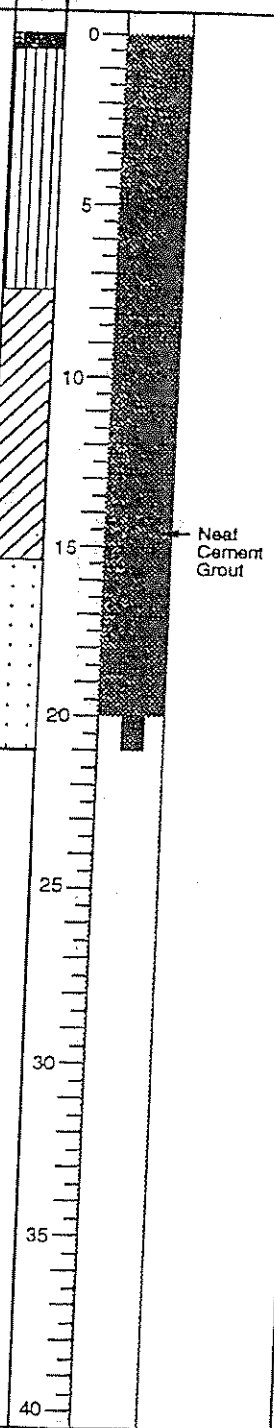
PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

DATE DRILLED: 3/1/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: Bayland Drilling

DRILLING METHOD: 8-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 21.0 feet DEPTH TO WATER:

BLOWS PER 6 INCHES	CGI (ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hand-augered to 5 feet. 4 Inches Asphalt.		
5,7,10	0			5	CLAYEY SILT: brown, soft, damp, fine-grained, with sand and occasional pebbles.	ML	
8,10,8	5	ND		10	SANDY CLAY: very dark grayish brown, soft, damp, with small pebbles and a moderate amount of silt.	SC	
28,39,43	15	10		15	SANDSTONE: light yellowish brown, friable, very fractured, contains 3-inch thick layer of sandy clay at 15 feet.		
27,46,23	30	15		20	Interbedded with gravelly clay. GRAVELLY CLAY (weathered bedrock): dark olive brown, moderately soft, with large pebbles to 0.5-inch diameter.		
				25			
				30			
				35			
				40			

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

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PAGE 1 OF 1

41-0034/B-3 03/21/95

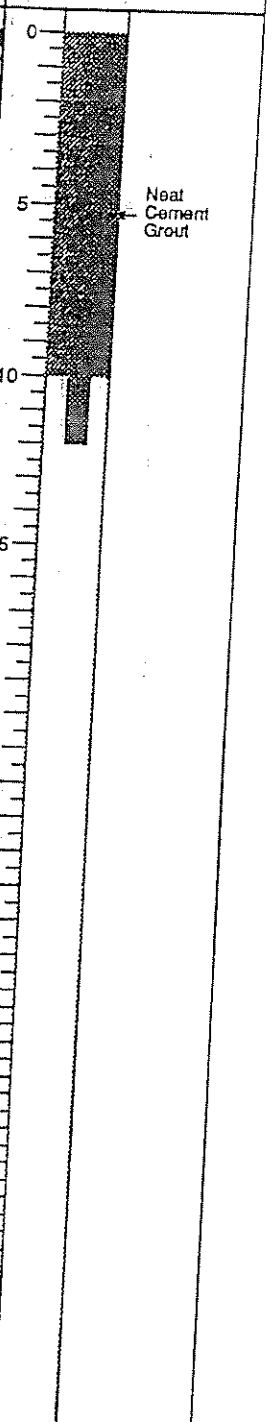
PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

DATE DRILLED: 3/2/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: Bayland Drilling

DRILLING METHOD: 8-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 12.0 feet DEPTH TO WATER:

BLOWS PER 6 INCHES	CGI (ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hand-augered to 4 feet. 6 Inches Concrete		
5,7,13	5	ND			SANDY CLAY: olive brown, soft, saturated from surface, with small amount of pebbles.	CL	
7,7,8	15	ND		5	SAND: dark yellowish brown, loose, saturated, medium- to coarse-grained sand, poorly graded.	SP	
6,15,15	15	ND		10	SANDY CLAY: olive brown, medium soft, moist, with small amount of pebbles.	CL	
				15			
				20			
				25			
				30			
				35			
				40			

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

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PAGE 1 OF 1

41-0034/B-4 03/21/95

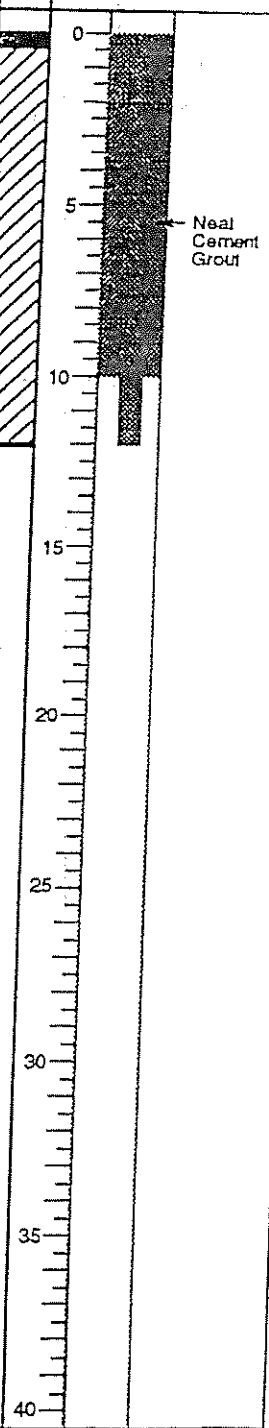
PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

DATE DRILLED: 3/2/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: Bayland Drilling

DRILLING METHOD: 8-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 12.0 feet DEPTH TO WATER:

BLOWS PER 6 INCHES	CGI (ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hand-augered to 4 feet. 6 inches Concrete.		
	0				SANDY CLAY: olive brown, very soft, damp, with small pebbles.	CL	
5,7,14	10	ND		5	Moist, with silt.		
15,16,21	15	ND		10			

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

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PAGE 1 OF 1

41-0034/B-5 03/21/95

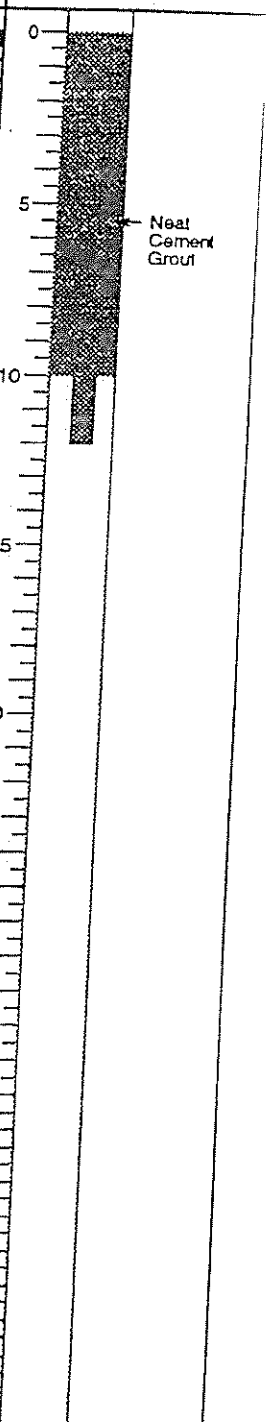
PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

DATE DRILLED: 3/2/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: Bayland Drilling

DRILLING METHOD: 8-Inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 12.0 feet DEPTH TO WATER:

BLOWS PER 6 INCHES	CGI (ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hand-augered to 4 feet. 6 Inches of Concrete.		
2,2,5	130	33			SANDY CLAY: green olive gray, very soft, damp, with silt and occasional pebbles.	CL	
	60						
2,7,11	10	2.6		5	Olive gray.		
2,13,21	10	ND		10	SILTY CLAY: dark brown, soft, with occasional larger pebbles.		
				15			
				20			
				25			
				30			
				35			
				40			

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

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PAGE 1 OF 1

41-0034/B-6 03/21/95

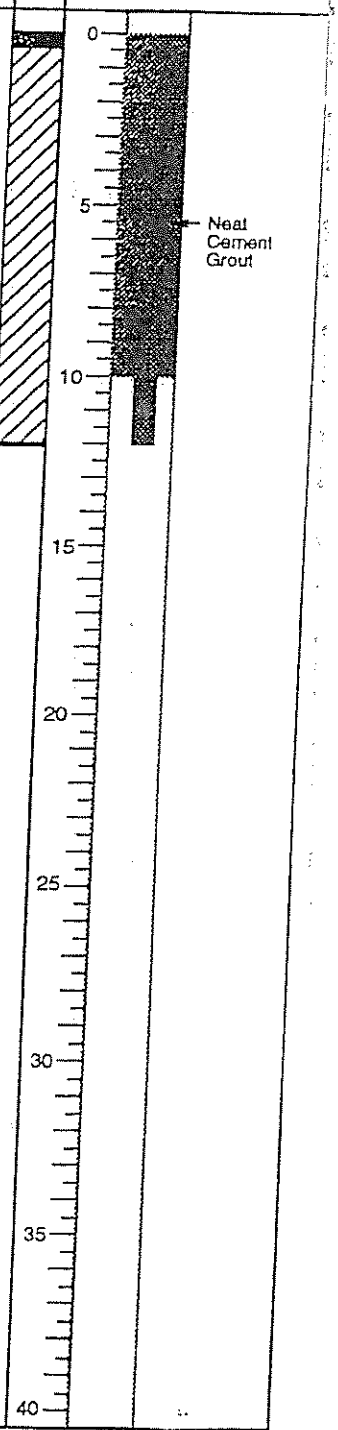
PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

DATE DRILLED: 3/2/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: Bayland Drilling

DRILLING METHOD: 8-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 12.0 feet DEPTH TO WATER:

BLOWS PER 6 INCHES	CGI (ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hand-augered to 5 feet. 6 inches Concrete.		
2,2,5	130 60	ND			SANDY CLAY: dark olive gray, very soft, damp, with silt and occasional pebbles.	CL	
2,7,11	10	ND		5	At 4.5 feet depth, dark brown, harder, increased silt content.		
2,13,21	10	ND		10	Dark olive gray, medium hard, damp, with silt. At 11.5 feet depth, dark brown, hard.		
				15			
				20			
				25			
				30			
				35			
				40			

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

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PAGE 1 OF 1

41-0034/B-7 03/21/95

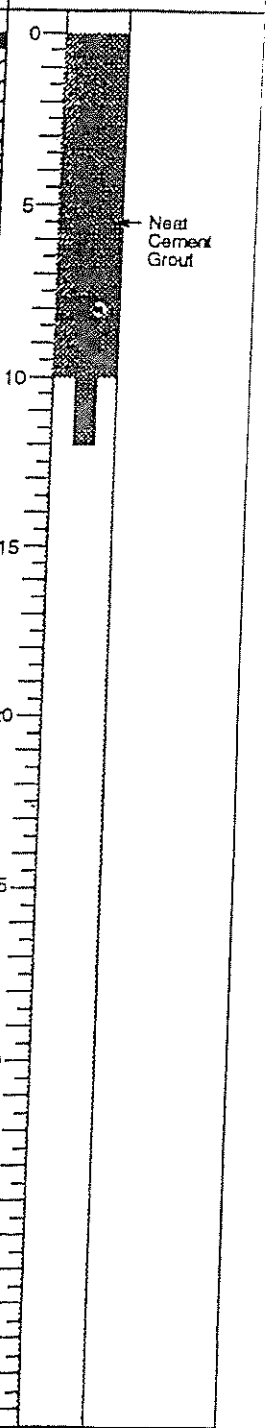
PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

DATE DRILLED: 3/2/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: Bayland Drilling

DRILLING METHOD: 8-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 12.0 feet DEPTH TO WATER:

BLOWS PER 6 INCHES	CGI (ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hand-augered to 4 feet. 6 inches Concrete.		
4,4,7	90	17			SANDY CLAY: dark olive gray, very soft, damp.	CL	
					CLAYEY SAND: dark olive gray, very soft, damp, with some small gravel pebbles.	SC	
2,3,5	95	ND		5	GRAVELLY CLAY: dark olive gray, very soft, saturated.	CL	
17,23,22	25	2.0		10	SILTY CLAY: dark yellowish brown, hard, damp, with rare small pebbles, with sand.		
				15			
				20			
				25			
				30			
				35			
				40			

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

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PAGE 1 OF 1

41-0034/B-8 03/21/95

PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

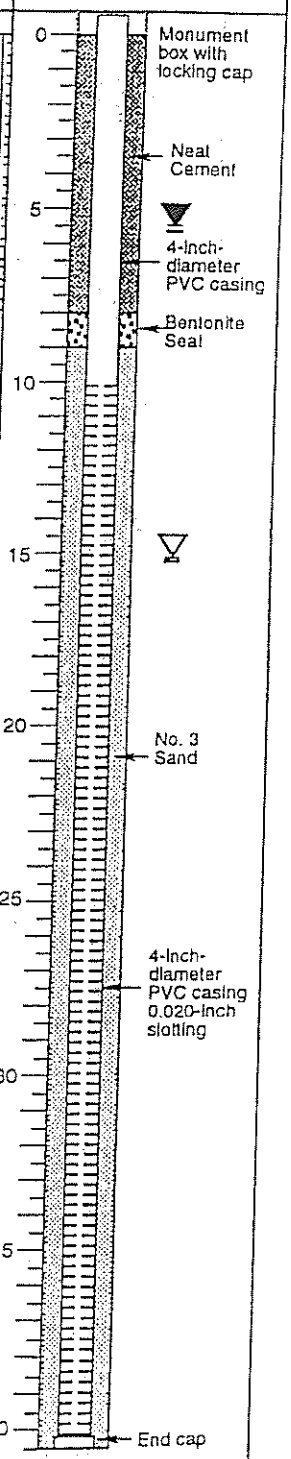
DATE DRILLED: 11/20/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: V & W Drilling

DRILLING METHOD: 10-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 40.5 feet DEPTH TO WATER: 15.0 feet

BLOWS PER 6 INCHES	PID(ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS
				0	Hand-augered to 5 feet.	
9,14,15	—			5	SILTY SAND: dark yellowish brown, medium dense, damp, poorly graded.	SM
8,11,14	0	ND		10	SANDY SILT: dark yellowish brown, stiff, damp, with clay.	ML
18,21,34	5			15	SILTY SAND: dark yellowish brown, medium dense, moist, with clay, contains carbonate pebbles up to 0.13-inch diameter.	SM
18,31,34	0			20	SILTY SAND and GRAVEL Mixture: dark yellowish brown, medium dense, wet,with clay.	GC
14,24,36	0			25	SILTY CLAYEY SAND and GRAVEL Mixture: strong brown, dense, damp, with pebbles to 0.5-inch diameter.	
12,18,23	0			30		
9,22,31	0			35	Medium dense.	
30,50	0			40	Increased silt content.	

LITHOLOGY

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

MW-4
PAGE 1 OF 1

41-0034/MW-4 01/05/96

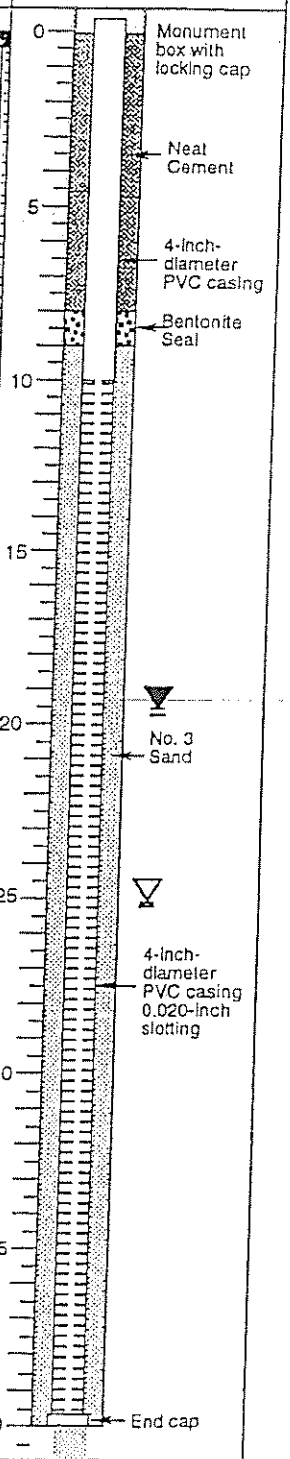
PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

DATE DRILLED: 11/20/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: V & W Drilling

DRILLING METHOD: 10-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 41.0 feet DEPTH TO WATER: 25.0 feet

BLOWS PER 6 INCHES	PID(ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hand-augered to 5 feet. 4 inches Asphalt.		
7,18,21	0			5	SILTY SAND: yellowish brown, medium dense, damp, fine-grained, poorly graded.	SM	
10,14,19	0	ND		10	CLAYEY SAND: dark yellowish brown, medium dense, damp, poorly graded, with occasional pebbles to 0.5-inch diameter.	SC	
16,23,24	0	ND		15	SILTY SAND: dark yellowish brown, medium dense, damp, with gravel and some clay.	SM	
12,18,24	0			20			
6,9,16	—			25	No recovery, sampler saturated, gravel lense?	GM	
10,15,24	0			30	SILTY CLAYEY SANDY GRAVEL: dark yellowish brown, loose, saturated, poorly graded.		
					SILTY SAND: dark yellowish brown, medium dense, damp, with gravel and some clay.	SM	
5,12,21	0			35	With lenses up to 4 inches of more gravel-rich, saturated.		
10,21,32				40			

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

MW-5
PAGE 1 OF 1

41-0034/MW-5 01/05/96

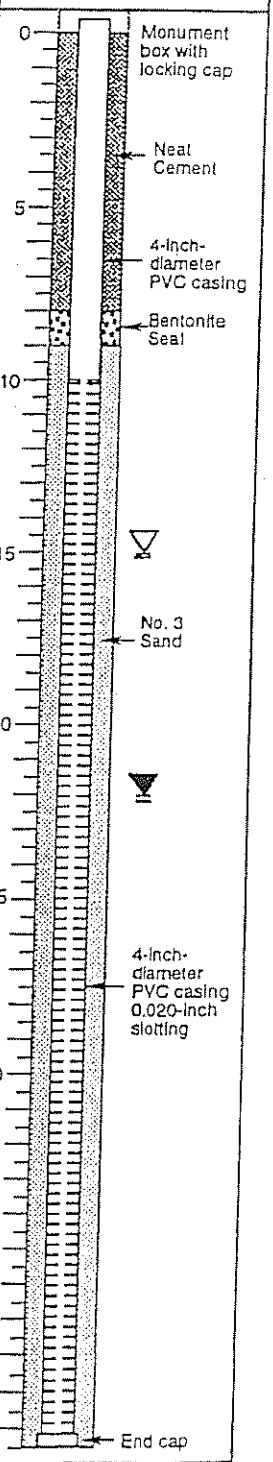
PROJECT NO.: 41-0034
LOCATION: USA Gas #57
10700 MacArthur Boulevard
Oakland, California

DATE DRILLED: 11/20/95
LOGGED BY: A. Le May
APPROVED BY: M. Katen, RG
DRILLING CO.: V & W Drilling

DRILLING METHOD: 10-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 40.5 feet DEPTH TO WATER: 15.0 feet

BLOWS PER 6 INCHES	PID(ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hand-augered to 5 feet.		
10,16,21	—			5	SILTY SAND for 2 inches: brown, dry, then SILTY SAND: dark yellowish brown, medium dense, damp with some clay.	SM	
13,25,30	0	ND		10	With gravel.		
9,18,28	0			15	SILTY SAND and GRAVEL Mixture: moist, with clay.		
18,21,24	0			20	Wet.		
9,14,19	0			25	Gravel-rich lenses up to 4-inch thick.	GC	
6,11,16	—			30	Saturated, poor recovery.		
				35	As above for 6 inches, damp.		
12,50 for 4"					SILTY SANDSTONE BEDROCK: dark yellowish brown, dry, fractured and friable.		
12,17,17	0			40	CLAYEY GRAVEL BEDROCK Interbedded: brown, loose, saturated, includes fractured bedrock pebbles.		

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

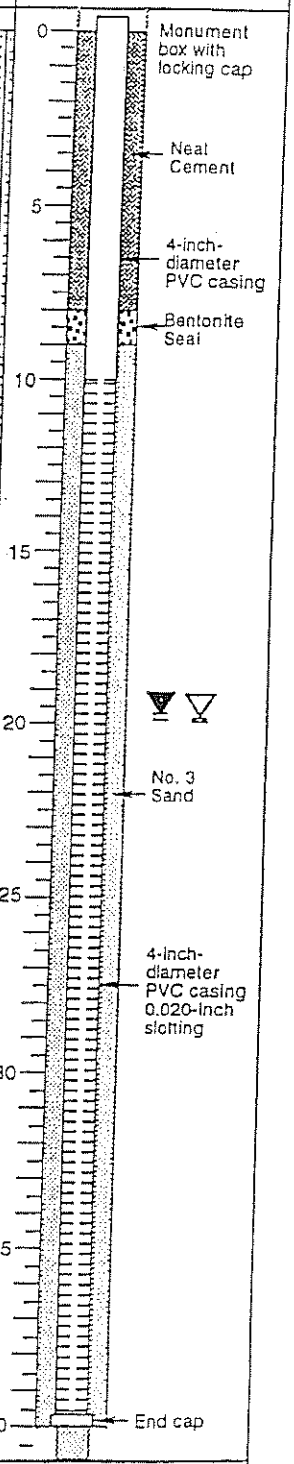
MW-6
PAGE 1 OF 1

41-0034/MW-6 01/05/96

PROJECT NO.: 41-0034	DATE DRILLED: 11/21/95
LOCATION: USA Gas #57	LOGGED BY: A. Le May
10700 MacArthur Boulevard	APPROVED BY: M. Katen, RG
Oakland, California	DRILLING CO.: V & W Drilling

DRILLING METHOD: 10-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 41.0 feet DEPTH TO WATER: 20.0 feet

BLOWS PER 6 INCHES	PID(ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hand-augered to 5 feet.		
6,11,19	0			5	SILTY SAND: dark yellowish brown, medium dense, damp, fine-grained, poorly graded.		
9,15,22	0	ND		10	With clay and carbonate pebbles to 0.5-inch diameter.	SM	
8,15,23	0	ND		15			
10,13,20	>2,500	25		20	Slight greenish color.		
14,19,22	>2,500			25	CLAYEY SANDY and GRAVEL Mixture: yellowish brown, medium dense, damp, pebbles to 0.13-inch diameter.	GC	
17,31,32	0			30	SILTY SAND: dark yellowish brown, dense, damp, with gravel and clay.	SM	
23,50	0			35	SILTY SANDSTONE BEDROCK; light olive brown, very fractured, moist, very friable, with clay.		
13,2232	0			40	With claystone interbeds, saturated.		



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

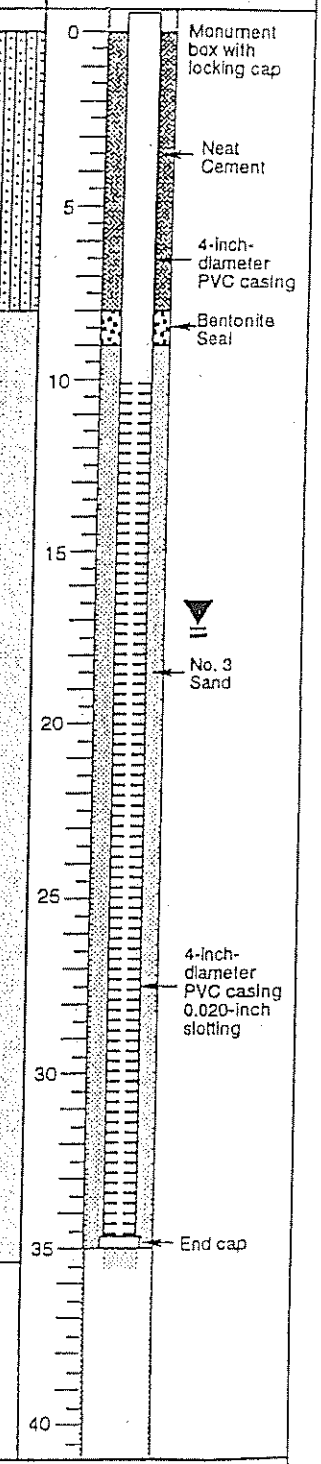
MW-7
PAGE 1 OF 1

41-0034/MW-7 01/05/96

PROJECT NO.: 41-0034	DATE DRILLED: 11/21/95
LOCATION: USA Gas #57	LOGGED BY: A. Le May
10700 MacArthur Boulevard	APPROVED BY: M. Katen, RG
Oakland, California	DRILLING CO.: V & W Drilling

DRILLING METHOD: 10-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 35.5 feet DEPTH TO WATER: N/A

BLOWS PER 6 INCHES	PID(ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS
				0	Hand-augered to 5 feet.	
10,14,24	—			5	SILTY SAND: dark yellowish brown, medium dense, damp, with gravel and clay.	SM
50 for 3"	0	ND		10	SILTY SANDSTONE BEDROCK: yellowish brown, friable, fractured, dry, very dense	
50 for 5"	—	ND		15		
50 for 5"	—	ND		20		
50 for 6"	—			25		
25,32,50	0			30	As above including 6 inches of strong brown claystone and sand.	
28,50 for 6"	0			35		
				40		



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

MW-8
PAGE 1 OF 1

41-0034/MW-8 01/05/96

SOIL BORING LOG

Boring No. EX-1 **Sheet** 1 **of** 2

Client	Former USA 57	Date	10/6/2005
Address	10700 MacArthur Blvd	Drilling Company	Woodward Drilling Co. rig type: Mobil B-61
	Oakland, CA	Drilling Foreman	Amador
Project No.	2007-0057-01	Method	HSA hole diam.: 10"
Logged By:	Justin Crose		
Well Pack	sand: 4.5 ft. to 25 ft.	Well Construction	casing: PVC screen: 5 to 25 ft.
	bent.: 3.5 ft. to 4.5 ft.		casing diam.: 4" screen slot: 0.02"
	grout: 0.5 ft. to 3.5 ft.		

Sample Type	Sample No.	Blow Count	Sample Time	Sample Recov.	Well Construct.	Depth Scale	LITHO COLUMN	Descriptions of Materials and Conditions	PID (PPM)
						1		Concrete	
						2	CL	CLAY, olive brown 2.5Y 4/3, 10-15% fine sand, moist	0
						3			
						4			
						5			
		3					SC	CLAYEY SAND (5'-5.2'), brown 10YR 4/3, 75% fine sand, 25% clayey fines,	
S	EX-1-6	3	16:13	60		6		moist	0
		10				7	CL	CLAY, dark grayish brown 2.5Y 4/3, 5-10% fine to medium sand, trace black MnO2, moist, stiff	
						8			
						9			
						10			
		7							
S	EX-1-11	7	16:28	70		11	CL	CLAY, olive brown 2.5Y to dark grayish brown 2.5Y, moist	39
		10				12			
						13			
						14			
						15			
		4							
S	EX-1-16	5	16:38	60		16	CL	CLAY, dark grayish brown 2.5Y 4/2 with spots of greenish gray GLEY 1 &	>1000
		20				17		dark yellowish brown 10YR 4/6, 5% fine to coarse sand, moist, very stiff	
						18			
						19			
						20			

Comments: Drilled to 25 feet bgs

STRATUS ENVIRONMENTAL, INC.

SOIL BORING LOG Boring No. EX-1 Sheet 2 of 2

Client: Former USA 57
Address: 10700 MacArthur Blvd
Oakland, CA
Project No.: 2007-0057-01
Logged By: Justin Crose

Date: 10/6/2005
Drilling Company: Woodward Drilling Co. rig type: Mobil B-61
Drilling Foreman: Amador
Method: HSA hole diam.: 10"

Sample Type	Sample No.	Blow Count	Sample Time	Sample Recov.	Well Construct.	Depth Scale	LITHO COLUMN	Descriptions of Materials and Conditions	PID (PPM)
		7				21			
S	EX-1-21	19	16:56	90			CL	CLAY, light olive brown 2.5Y 5/6 to olive yellow 2.5Y, 10-15% fine to	
		22						CLAY, dark grayish brown to very dark grayish brown 2.5Y with spots of	>1000
						22		greenish gray GLEY 1 & orange FeO2 stains, trace gravel, moist, hard	
						23			
						24			
						25			
		50(4)	17:18	25		26	CL	CLAY to Mudstone, clay - dark yellowish brown 10YR to brownish yellow	527
								10YR, mudstone - brown 10YR, 5-15% fine sand to fine gravel 4/3	
						27			
						28			
						29			
						30			
						31			
						32			
						33			
						34			
						35			
						36			
						37			
						38			
						39			
						40			

STRATUS
ENVIRONMENTAL, INC.

WELL DETAILS

PROJECT NUMBER: 2007-0057-01

PROJECT NAME: USA 57

LOCATION: 10700 MacArthur Blvd, Oakland, California

WELL PERMIT NO.: W2005-0944

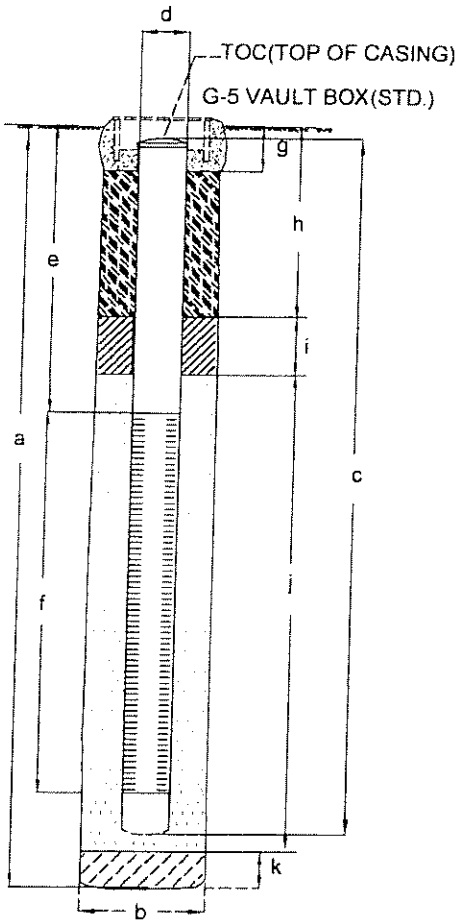
BORING/WELL NO.: EX-1

TOP OF CASING ELEV.: 77.72'

GROUND SURFACE ELEV.: 78.04'

DATUM: NAD 83

INSTALLATION DATE: October 6, 2005



BENTONITE

CEMENT

CONCRETE

SAND

PERFORATION

NOT TO SCALE

EXPLORATORY BORING

a. TOTAL DEPTH 25 ft.

b. DIAMETER 10 in.

DRILLING METHOD Hollow stem auger

WELL CONSTRUCTION

c. TOTAL CASING LENGTH 25 ft.

MATERIAL Schedule 40 PVC

d. DIAMETER 4 in.

e. DEPTH TO TOP PERFORATIONS 5 ft.

f. PERFORATED

INTERVAL FROM 5 TO 25 ft.

PERFORATION TYPE Slotted Screen

PERFORATION SIZE 0.02 in.

g. SURFACE SEAL 0 to 1.0 ft.

SEAL MATERIAL Concrete

h. BACKFILL 1.0 to 3.5 ft.

BACKFILL MATERIAL Neat Cement

i. SEAL 3.5 to 4.5 ft.

SEAL MATERIAL Bentonite

j. FILTER PACK 4.5 to 25 ft.

FILTER PACK MATERIAL #3 Sand

k. BOTTOM SEAL

SEAL MATERIAL N/A

PREPARED BY _____ DATE _____

REVIEWED BY _____ DATE _____

SOIL BORING LOG

Boring No. EX-2 **Sheet** 1 of 2

Client	Former USA 57	Date	10/7/2005
Address	10700 MacArthur Blvd	Drilling Company	Woodward Drilling Co. rig type: Mobil B-61
	Oakland, CA	Drilling Foreman	Amador
Project No.	2007-0057-01	Method	HSA hole diam.: 10"
Logged By:	Justin Crose		
Well Pack	sand: 4.5 ft. to 25 ft.	Well Construction	casing: PVC screen: 5 to 25 ft.
	bent.: 3.5 ft. to 4.5 ft.		casing diam.: 4" screen slot: 0.02"
	grout: 1 ft. to 3.5 ft.		

Sample Type	Sample No.	Blow Count	Sample Time	Sample Recov.	Well Construct.	Depth Scale	LITHO COLUMN	Descriptions of Materials and Conditions	PID (PPM)
						1		Concrete	
						2	CL	CLAY, yellowish brown 10YR 5/4 to brown 10YR 4/3, trace black MnO2, moist	7
						3			
						4			
						5			
S	EX-2-6	4 8 22	8:38	70		6	CL	CLAY, yellowish brown 10YR 5/4 to brown 10YR 4/3, trace black MnO2, trace caliche, moist, hard	0
						7			
						8			
						9			
						10			
S	EX-2-11	10 12 28	8:45	80		11	CL	CLAY, very dark brown 7.5YR to olive gray 5Y 5/2 with orange FeO2 stains, trace gravel, moist, hard	0
						12			
						13			
						14			
						15			
		50(3)	8:57	20		16	CL	CLAY, light olive brown 2.5Y 5/6, trace caliche, 5-10% fine to coarse sand, trace gravel, dry, hard	466
						17			
						18			
						19			
						20			

Comments: Drilled to 25 feet bgs

STRATUS ENVIRONMENTAL, INC.

SOIL BORING LOG Boring No. EX-2 Sheet 2 of 2

Client: Former USA 57
Address: 10700 MacArthur Blvd
Oakland, CA
Project No.: 2007-0057-01
Logged By: Justin Crose

Date: 10/7/2005
Drilling Company: Woodward Drilling Co. rig type: Mobil B-61
Drilling Foreman: Amador
Method: HSA hole diam.: 10"

Sample Type	Sample No.	Blow Count	Sample Time	Sample Recov.	Well Construct.	Depth Scale	LITHO COLUMN	Descriptions of Materials and Conditions	PID (PPM)
		50(5)	9:20	25		21	CL	CLAY, light olive brown 2.5Y 5/6 to olive yellow 2.5Y, 10-15% fine to medium sand, trace coarse sand and fine gravel, intermittent cementation, dry, hard	66
						22			
						23			
						24			
						25			
		50(6)	9:40	30		26	CL	CLAY to Mudstone, mudstone - white CaCO3 cementing, clay - olive gray 5Y 5/2 & very dark brown 7.5YR, dry to moist	45
						27			
						28			
						29			
						30			
						31			
						32			
						33			
						34			
						35			
						36			
						37			
						38			
						39			
						40			

STRATUS ENVIRONMENTAL, INC.

WELL DETAILS

PROJECT NUMBER: 2007-0057-01

PROJECT NAME: USA 57

LOCATION: 10700 MacArthur Blvd, Oakland, California

WELL PERMIT NO.: W2005-0945

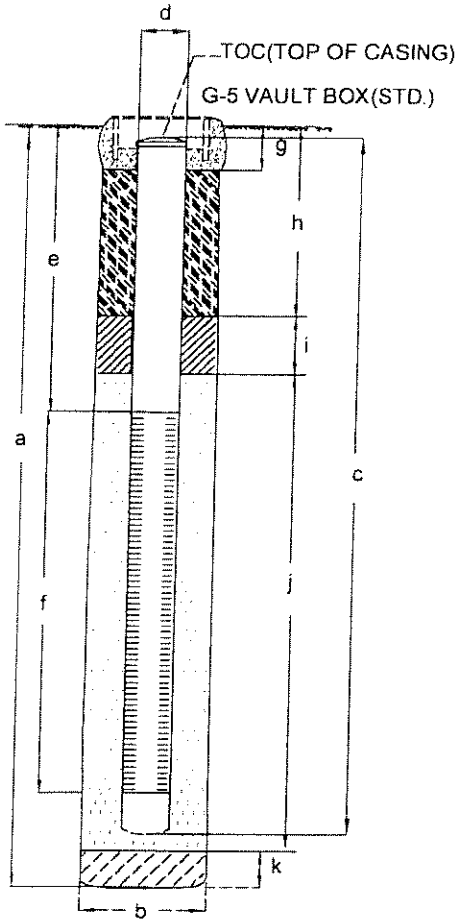
BORING/WELL NO.: EX-2

TOP OF CASING ELEV.: 76.96'

GROUND SURFACE ELEV.: 77.24'

DATUM: NAD 83

INSTALLATION DATE: October 7, 2005



BENTONITE

CONCRETE

CEMENT

SAND

PERFORATION

NOT TO SCALE

EXPLORATORY BORING

a. TOTAL DEPTH 25 ft.

b. DIAMETER 10 in.

DRILLING METHOD Hollow stem auger

WELL CONSTRUCTION

c. TOTAL CASING LENGTH 25 ft.

MATERIAL Schedule 40 PVC

d. DIAMETER 4 in.

e. DEPTH TO TOP PERFORATIONS 5 ft.

f. PERFORATED

INTERVAL FROM 5 TO 25 ft.

PERFORATION TYPE Slotted Screen

PERFORATION SIZE 0.02 in.

g. SURFACE SEAL 0 to 1.0 ft.

SEAL MATERIAL Concrete

h. BACKFILL 1.0 to 3.5 ft.

BACKFILL MATERIAL Neat Cement

i. SEAL 3.5 to 4.5 ft.

SEAL MATERIAL Bentonite

j. FILTER PACK 4.5 to 25 ft.

FILTER PACK MATERIAL #3 Sand

k. BOTTOM SEAL

SEAL MATERIAL N/A

PREPARED BY _____ DATE _____

REVIEWED BY _____ DATE _____

SOIL BORING LOG

Boring No. EX-3 **Sheet** 1 of 2

Client	Former USA 57	Date	10/6/2005
Address	10700 MacArthur Blvd	Drilling Company	Woodward Drilling Co. rig type: Mobil B-61
	Oakland, CA	Drilling Foreman	Amador
Project No.	2007-0057-01	Method	HSA hole diam.: 10"
Logged By:	Justin Crose		
Well Pack	sand: 4.5 ft. to 25 ft.	Well Construction	casing: PVC screen: 5 to 25 ft.
	bent.: 3.5 ft. to 4.5 ft.		casing diam.: 4" screen slot: 0.02"
	grout: 0.5 ft. to 3.5 ft.		

Sample Type	Sample No.	Blow Count	Sample Time	Sample Recov.	Well Construct.	Depth Scale	LITHO COLUMN	Descriptions of Materials and Conditions	PID (PPM)
						1		Asphalt	
						2	CL	CLAY, dark yellowish brown 10YR, trace black MnO2, 5% fine sand, moist	0
						3			
						4			
						5			
S	EX-3-6	4 4 12	12:46	80		6	CL	CLAY, dark yellowish brown 10YR 4/4, trace black MnO2 & caliche, trace fine to coarse sand, moist, very stiff	0
						7			
						8			
						9			
						10			
S	EX-3-11	8 12 17	12:59	70		11	CL	CLAY, olive gray 5Y 4/2 to dark grayish brown 2.5Y 4/2 with orange FeO2 stains, trace fine to coarse sand, very stiff	0
						12			
						13			
						14			
						15			
S	EX-3-15.5	12 50(6)	13:27	40		16	CL	CLAY, greenish gray to dark yellowish brown 10YR to dark grayish brown 2.5Y with orange FeO2 stains, trace fine sand, dry to moist, hard	45
						17			
						18			
						19			
						20			

Comments: Drilled to 25 feet bgs

STRATUS ENVIRONMENTAL, INC.

SOIL BORING LOG Boring No. EX-3 Sheet 2 of 2

Client: Former USA 57
Address: 10700 MacArthur Blvd
Oakland, CA
Project No.: 2007-0057-01
Logged By: Justin Crose

Date: 10/6/2005
Drilling Company: Woodward Drilling Co. rig type: Mobil B-61
Drilling Foreman: Amador
Method: HSA hole diam.: 10"

Sample Type	Sample No.	Blow Count	Sample Time	Sample Recov.	Well Construct.	Depth Scale	LITHO COLUMN	Descriptions of Materials and Conditions	PID (PPM)
S	EX-3-20.5	50(6)	13:51	40		21	CL	CLAY, brown 10YR 4/3, 5-15% fine to coarse sand, weakly cemented, dry, hard	
						22			
						23			
						24			
						25			
S	EX-3-25.5	50(6)	14:32	35		26	CL	CLAY to Mudstone, clay - dark yellowish brown 10YR 4/6 to brownish yellow 10YR 6/8, mudstone - brown 4/3, dry, hard	
						27			
						28			
						29			
						30			
						31			
						32			
						33			
						34			
						35			
						36			
						37			
						38			
						39			
						40			

STRATUS ENVIRONMENTAL, INC.

WELL DETAILS

PROJECT NUMBER: 2007-0057-01

PROJECT NAME: USA 57

LOCATION: 10700 MacArthur Blvd, Oakland, California

WELL PERMIT NO.: W2005-0946

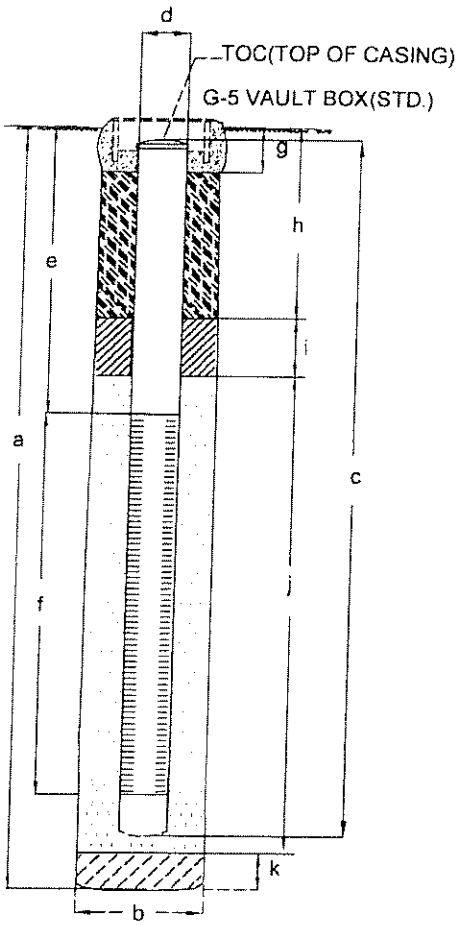
BORING/WELL NO.: EX-3

TOP OF CASING ELEV.: 78.87'

GROUND SURFACE ELEV.: 79.52'

DATUM: NAD 83

INSTALLATION DATE: October 6, 2005



BENTONITE

CEMENT

CONCRETE

SAND

PERFORATION

NOT TO SCALE

EXPLORATORY BORING

a. TOTAL DEPTH 25 ft.

b. DIAMETER 10 in.

DRILLING METHOD Hollow stem auger

WELL CONSTRUCTION

c. TOTAL CASING LENGTH 25 ft.

MATERIAL Schedule 40 PVC

d. DIAMETER 4 in.

e. DEPTH TO TOP PERFORATIONS 5 ft.

f. PERFORATED

INTERVAL FROM 5 TO 25 ft.

PERFORATION TYPE Slotted Screen

PERFORATION SIZE 0.02 in.

g. SURFACE SEAL 0 to 1.0 ft.

SEAL MATERIAL Concrete

h. BACKFILL 1.0 to 3.5 ft.

BACKFILL MATERIAL Neat Cement

i. SEAL 3.5 to 4.5 ft.

SEAL MATERIAL Bentonite

j. FILTER PACK 4.5 to 25 ft.

FILTER PACK MATERIAL #3 Sand

k. BOTTOM SEAL

SEAL MATERIAL N/A

PREPARED BY _____ DATE _____

REVIEWED BY _____ DATE _____

SOIL BORING LOG

Boring No. EX-4 **Sheet** 1 of 2

Client	Former USA 57	Date	10/6/2005
Address	10700 MacArthur Blvd	Drilling Company	Woodward Drilling Co. rig type: Mobil B-61
	Oakland, CA	Drilling Foreman	Amador
Project No.	2007-0057-01	Method	HSA hole diam.: 10"
Logged By:	Justin Crose		
Well Pack	sand: 4.5 ft. to 25 ft.	Well Construction	casing: PVC screen: 5 to 25 ft.
	bent.: 3.5 ft. to 4.5 ft.		casing diam.: 4" screen slot: 0.02"
	grout: 0.5 ft. to 3.5 ft.		

Sample Type	Sample No.	Blow Count	Sample Time	Sample Recov.	Well Construct.	Depth Scale	LITHO COLUMN	Descriptions of Materials and Conditions	PID (PPM)
						1		Drill on dirt	
						2		Top Soil, dry	
						3			
						4	SM	SILTY SAND, 80-85% fine sand, 15-20% silt, moist	231
						5	SW	SAND (3.7' to 5'), 95% fine to coarse sand, trace fine gravel, 5% fines, moist	237
S	EX-4-6	9 12 18	9:06	80		6	CL	CLAY, dark yellowish brown 10YR 4/4, trace black MnO2, trace fine sand to fine gravel, moist, very stiff	231
						7			
						8			
						9			
						10			
S	EX-4-11	8 8 10	9:18	80		11	CL	CLAY, dark grayish brown 2.5Y 4/2, moist, very stiff	>1000
						12			
						13			
						14			
						15			
S	EX-4-16.5	5 15 20	9:48	100		16	CL	CLAY, dark grayish brown 2.5Y 4/2, moist, hard	>1000
						17			
						18			
						19			
						20			

Comments: Drilled to 25 feet bgs

STRATUS ENVIRONMENTAL, INC.

SOIL BORING LOG Boring No. EX-4 Sheet 2 of 2

Client: Former USA 57
Address: 10700 MacArthur Blvd
Oakland, CA
Project No.: 2007-0057-01
Logged By: Justin Crose

Date: 10/6/2005
Drilling Company: Woodward Drilling Co. rig type: Mobil B-61
Drilling Foreman: Amador
Method: HSA hole diam.: 10"

Sample Type	Sample No.	Blow Count	Sample Time	Sample Recov.	Well Construct.	Depth Scale	LITHO COLUMN	Descriptions of Materials and Conditions	PID (PPM)
		19				21	CL	CLAY WITH GRAVEL, dark yellowish brown 10YR 4/4 to olive gray 5Y	
S	EX-4-21	50(6)	10:06	70				4/2, 5-25% gravel (lower % towards top of sample), orange FeO2 stains,	450
						22		damp to moist	
						23			
						24			
						25			
S	EX-4-25.5	50(6)	10:25	40			ML	SILT, light olive brown 2.5Y 5/4 to dark yellowish brown 10YR, weakly	91
						26		cemented, dry, hard	
						27			
						28			
						29			
						30			
						31			
						32			
						33			
						34			
						35			
						36			
						37			
						38			
						39			
						40			

STRATUS ENVIRONMENTAL, INC.

WELL DETAILS

PROJECT NUMBER: 2007-0057-01

PROJECT NAME: USA 57

LOCATION: 10700 MacArthur Blvd, Oakland, California

WELL PERMIT NO.: W2005-0947

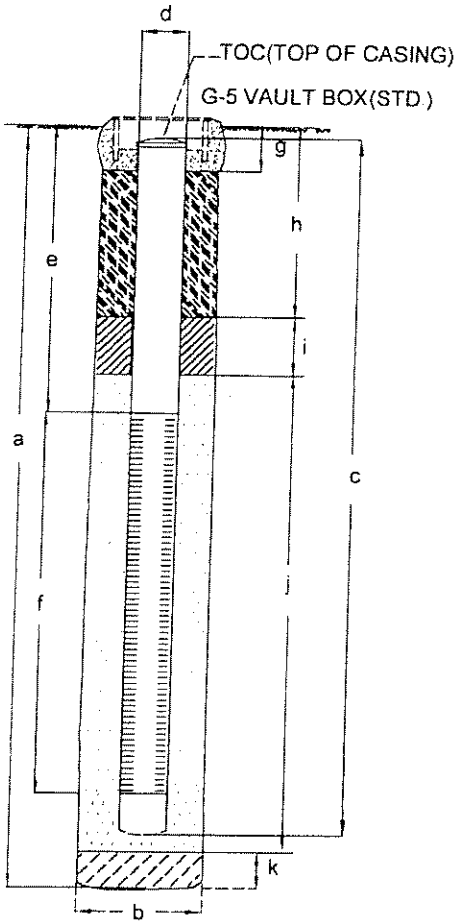
BORING/WELL NO.: EX-4

TOP OF CASING ELEV.: 77.96'

GROUND SURFACE ELEV.: 78.27'

DATUM: NAD 83

INSTALLATION DATE: October 6, 2005



BENTONITE

CONCRETE

CEMENT

SAND

PERFORATION

NOT TO SCALE

EXPLORATORY BORING

a. TOTAL DEPTH 25 ft.

b. DIAMETER 10 in.

DRILLING METHOD Hollow stem auger

WELL CONSTRUCTION

c. TOTAL CASING LENGTH 25 ft.

MATERIAL Schedule 40 PVC

d. DIAMETER 4 in.

e. DEPTH TO TOP PERFORATIONS 5 ft.

f. PERFORATED

INTERVAL FROM 5 TO 25 ft.

PERFORATION TYPE Slotted Screen

PERFORATION SIZE 0.02 in.

g. SURFACE SEAL 0 to 1.0 ft.

SEAL MATERIAL Concrete

h. BACKFILL 1.0 to 3.5 ft.

BACKFILL MATERIAL Neat Cement

i. SEAL 3.5 to 4.5 ft.

SEAL MATERIAL Bentonite

j. FILTER PACK 4.5 to 25 ft.

FILTER PACK MATERIAL #3 Sand

k. BOTTOM SEAL

SEAL MATERIAL N/A

PREPARED BY _____ DATE _____

REVIEWED BY _____ DATE _____

SOIL BORING LOG — Boring No. AS-1 — Sheet: 1 of 1

Client	Former USA Station No. 57	Date	August 23, 2007		
Address	10700 MacArthur Boulevard	Drilling Co.	Mitchell Drilling, Environmental	rig type: CME-75	
	Oakland, CA	Driller	Edward Mitchell, Jr.		
Project No.	2007-0057-01	Method	Hollow Stem Auger	Hole Diameter: 8 inches	
Logged By:	Allan Dudding	Sampler:	2 in. split spoon		
Well Pack	sand: 15.5 ft. to 20 ft.	Well Construction	Casing Material: Schedule 40 PVC	Screen Interval: 17.5 to 20 ft.	
	bent.: 13.5 ft. to 15.5 ft.		Casing Diameter: 1 in.	Screen Slot Size: 0.020 -in.	
	grout: 0 ft. to 13.5 ft.	Depth to GW:	▽ first encountered = NA	▼ Static =	

Sample Type	Sample No.	Blow Count	Sample Time	Sample Recov.	Well Details	Depth Scale	Lithologic Column	Descriptions of Materials and Conditions	PID (PPM)
						1		Installed in approximately 6" of concrete pavement. Borehole cleared with hand auger to 5 feet bgs.	
						2			
						5			
		11				6			
		15					CH		
S	AS-1-6'	17	1352	100%		7		Fat Clay, trace sand, CH, very dark grayish brown (2.5Y 3/2), high plasticity, medium grained sand, moist, very stiff to hard. ~95% clay, trace sand.	4.3
						8			
						9			
						10			
		11							
		17				11	CL		
S	AS-1-11'	23	1403	100%		12		Lean Clay, trace sand and gravel, CL, dark greenish gray (GLEY1 4/10Y), medium plasticity, fine to medium grained sand, fine grained gravel, moist, hard, hydrocarbon odor. ~95% clay, trace sand and gravel.	235.8
						13			
						14			
						15			
		8							
		16				16	CL		
S	AS-1-16'	26	1412	100%		17		Lean Clay, trace sand, CL, dark yellowish brown (10YR 4/4), medium plasticity fine to medium grained sand, moist, hard, hydrocarbon odor. ~95% clay, trace sand.	106.5
						18			
						19			
						20			
Insufficient		11					GP		
Recovery		50/6"	1428	20%		21		Poorly graded Gravel, GP, light olive brown (2.5Y 5/4), fine to medium grained, dry, dense, no odor, no staining.	13.1
						22			

Recovery
Sample

Comments: Boring advanced to 20 feet bgs, sampled to 21 feet bgs.

STRATUS ENVIRONMENTAL, INC.

WELL DETAILS

PROJECT NUMBER: 2007-0057-01

PROJECT NAME: Former USA Service Station No. 57

LOCATION: 10700 MacArthur Blvd, Oakland, California

WELL PERMIT NO.: W2007-0903

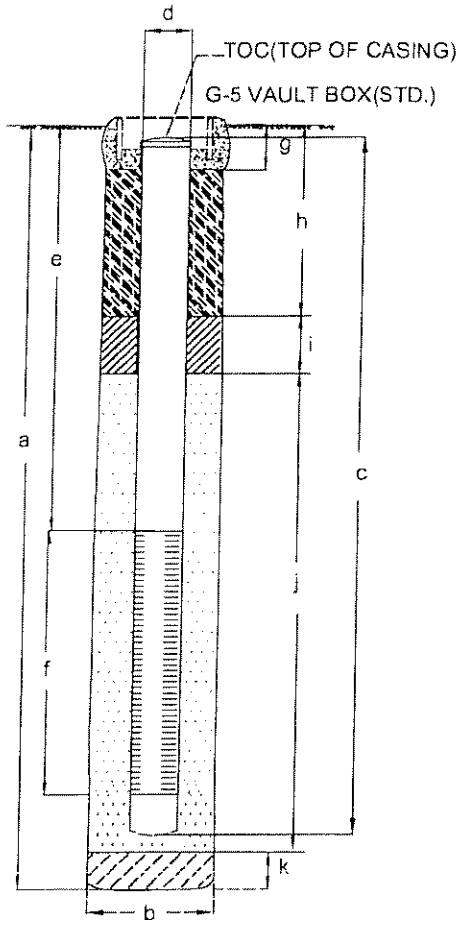
BORING/WELL NO.: AS-1

TOP OF CASING ELEV.: _____

GROUND SURFACE ELEV.: _____

DATUM: _____

INSTALLATION DATE: August 23, 2007



BENTONITE

CEMENT

CONCRETE

SAND

PERFORATION

NOT TO SCALE

EXPLORATORY BORING

a. TOTAL DEPTH 20 ft.

b. DIAMETER 8 in.

DRILLING METHOD Hollow Stem Auger

WELL CONSTRUCTION

c. TOTAL CASING LENGTH 20 ft.

MATERIAL Schedule 40 PVC

d. DIAMETER 1 in.

e. DEPTH TO TOP PERFORATIONS 17.5 ft.

f. PERFORATED

INTERVAL FROM 17.5 TO 20 ft.

PERFORATION TYPE Slotted Screen

PERFORATION SIZE 0.02 in.

g. SURFACE SEAL 0 to 1.0 ft.

SEAL MATERIAL Concrete

h. BACKFILL 1.0 to 13.5 ft.

BACKFILL MATERIAL Neat Cement

i. SEAL 13.5 to 15.5 ft

SEAL MATERIAL Bentonite

j. FILTER PACK 15.5 to 20 ft.

FILTER PACK MATERIAL #3 Sand

k. BOTTOM SEAL _____

SEAL MATERIAL N/A

PREPARED BY _____ DATE _____

REVIEWED BY _____ DATE _____

SOIL BORING LOG Boring No. AS-2 Sheet: 1 of 2

Client	Former USA Station No. 57	Date	August 23, 2007
Address	10700 MacArthur Boulevard	Drilling Co.	Mitchell Drilling, Environmental — rig type: CME-75
	Oakland, CA	Driller	Edward Mitchell, Jr.
Project No.	2007-0057-01	Method	Hollow Stem Auger — Hole Diameter: 8 inches
Logged By:	Allan Dudding	Sampler:	2 in. split spoon
Well Pack	sand: 15.5 ft. to 20 ft.	Well Construction	Casing Material: Schedule 40 PVC — Screen Interval: 17.5 to 20 ft.
	bent.: 13.5 ft. to 15.5 ft.		Casing Diameter: 1 in. — Screen Slot Size: 0.020 -in.
	grout: 0 ft. to 13.5 ft.	Depth to GW:	▽ first encountered = NA — ▼ Static =

Sample Type	Sample No.	Blow Count	Sample Time	Sample Recov.	Well Details	Depth Scale	Lithologic Column	Descriptions of Materials and Conditions	PID (PPM)
						1		Well installed on broken asphalt pavement. Borehole cleared using hand auger to 5 feet bgs.	
						2			
						3			
						4			
						5			
S	AS-2-5.5'	8 10 14	1112	50%		6	CL	Silty Clay, CL, dark greenish gray (GLEY1 4/10Y), low plasticity, moist, very stiff, no odor, no staining. 70% clay, 30% silt.	0
						7			
						8			
						9			
						10			
S	AS-2-11'	9 14 19	1118	100%		11	CL	Clay, CL, very dark grayish brown (2.5Y 3/2), medium plasticity, moist, hard. hydrocarbon odor, no staining.	9.8
						12			
						13			
						14			
						15			
S	AS-2-16'	14 20 25	1124	100%		16	CL	Silty Clay, CL, dark yellowish brown (10YR 4/4) with green mottling, low plasticity, moist, hard, no odor. 70% clay, 30% silt.	59.6
						17			
						18			
						19			
						20			

Recovery
Sample

Comments:

STRATUS ENVIRONMENTAL, INC.

SOIL BORING LOG Boring No. AS-2 Sheet: 2 of 2

Client	Former USA Station No. 57	Date	August 23, 2007
Address	10700 MacArthur Boulevard	Drilling Co.	Mitchell Drilling, Environmental rig type: CME-75
	Oakland, CA	Driller	Edward Mitchell, Jr.
Project No.	2007-0057-01	Method	Hollow Stem Auger Hole Diameter: 8 inches
Logged By:	Allan Dudding	Sampler:	2 in. split spoon

Sample Type	Sample No.	Blow Count	Sample Time	Sample Recov.	Well Details	Depth Scale	Lithologic Column	Descriptions of Materials and Conditions	PID (PPM)
		14 17				21	CL	Clay, trace sand, CL, dark yellowish brown (10YR 4/4), medium plasticity,	125.4
S	AS-2-21'	36	1132	100%		22		medium grained sand, moist, hard, hydrocarbon odor, no staining. ~95% clay, trace sand.	
						23			
						24			
						25			
		17 28				26	CL	Clay, trace sand, CL, dark yellowish brown (10YR 4/4), medium plasticity,	412
S	AS-2-26'	50/5"	1151	100%		27		medium to coarse grained sand, moist, hard, hydrocarbon odor, no staining. ~95% clay, trace sand.	
						28			
						29			
						30			
						31			
						32			
						33			
						34			
						35			
						36			
						37			
						38			
						39			
						40			

Recovery
Sample

Comments: Boring drilled to 25 feet bgs, sampled to 26.5 feet bgs. Well installed at 20 feet bgs above five feet of bentonite fill.

STRATUS ENVIRONMENTAL, INC.

WELL DETAILS

PROJECT NUMBER: 2007-0057-01

PROJECT NAME: Former USA Service Station No. 57

LOCATION: 10700 MacArthur Blvd, Oakland, California

WELL PERMIT NO.: W2007-0904

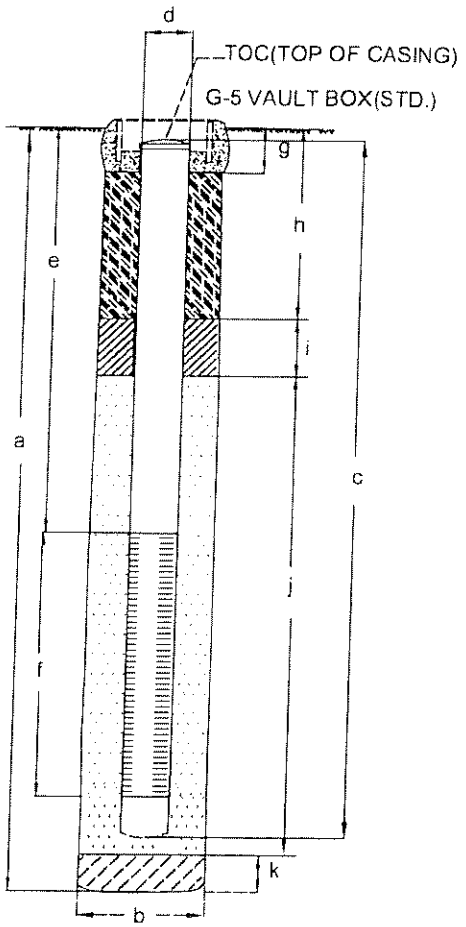
BORING/WELL NO.: AS-2

TOP OF CASING ELEV.:

GROUND SURFACE ELEV.:

DATUM:

INSTALLATION DATE: August 23, 2007



BENTONITE

CEMENT

CONCRETE

SAND

PERFORATION

NOT TO SCALE

EXPLORATORY BORING

a. TOTAL DEPTH 25 ft.

b. DIAMETER 8 in.

DRILLING METHOD Hollow Stem Auger

WELL CONSTRUCTION

c. TOTAL CASING LENGTH 20 ft.

MATERIAL Schedule 40 PVC

d. DIAMETER 1 in.

e. DEPTH TO TOP PERFORATIONS 17.5 ft.

f. PERFORATED

INTERVAL FROM 17.5 TO 20 ft.

PERFORATION TYPE Slotted Screen

PERFORATION SIZE 0.02 in.

g. SURFACE SEAL 0 to 1.0 ft.

SEAL MATERIAL Concrete

h. BACKFILL 1.0 to 13.5 ft.

BACKFILL MATERIAL Neat Cement

i. SEAL 13.5 to 15.5 ft.

SEAL MATERIAL Bentonite

j. FILTER PACK 15.5 to 20 ft.

FILTER PACK MATERIAL #3 Sand

k. BOTTOM SEAL 20 to 25 ft.

SEAL MATERIAL Bentonite

PREPARED BY _____ DATE _____

REVIEWED BY _____ DATE _____

APPENDIX B

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA

TABLE 1
GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY
Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
S-1	02/12/87						630	4.4	3.5	37	NA
	03/03/95	13.10	74.74	61.64	910	5,900	260	7.6	16	14	NA
	07/24/95	12.35		62.39	NA	NA	NA	NA	NA	NA	NA
	11/22/95	19.30	78.68	59.38	460	6,100	13	0.69	0.99	1.1	460*
	12/06/95	19.59		59.09	NA	NA	NA	NA	NA	NA	NA
	01/04/96	19.52		59.16	NA	NA	NA	NA	NA	NA	NA
	01/31/97	15.07		63.61	1,100	200	11	6	3	6	200*
	10/10/97	18.90		59.78	530	2,000	<0.5	2.1	<0.5	<2	230*
	01/20/98	16.79		61.89	1,800	200	<0.5	<0.5	1.5	10	87*
	04/28/98	8.37		70.31	130	7,300	1.9	3.2	<0.5	<0.5	310*
	07/31/98	11.61		67.07	310	2,000	0.54	4.6	3.8	0.82	280*
	06/10/99	14.35		64.33	660	150	0.99	<0.5	<0.5	2.4	80*[1]
	10/18/00	17.56		61.12	<50	330	<0.5	0.93	<0.5	<0.5	44
	03/12/02	16.29		62.39	500	<50	2.8	4.8	0.79	4.4	63
	11/19/02	19.53		59.15	190	NA	<0.50	<0.50	<0.50	<0.50	190
	01/09/03	18.14		60.54	510	NA	1.1	<0.50	0.52	<0.50	11
	04/14/03	18.04		60.64	300	NA	<1.0[2]	<1.0[2]	<1.0[2]	<1.0[2]	27
	07/21/03	20.31		58.37	300	NA	<0.50	<0.50	<0.50	<0.50	11
	10/09/03	19.46		59.22	390	NA	<0.50	<0.50	<0.50	<0.50	8.8
	01/15/04	18.21	79.66	61.45	200	NA	<0.50	<0.50	<0.50	<0.50	6.0
	04/08/04	19.29		60.37	140	NA	<0.50	<0.50	<0.50	<0.50	12
	08/10/04	18.86		60.80	110	NA	4.6	<0.50	<0.50	0.51	73
	11/11/04	19.81		59.85	160	NA	<0.50	<0.50	<0.50	<0.50	150
	01/19/05	18.12		61.54	440	NA	<0.50	<0.50	1.4	<0.50	140
	04/14/05	13.94		65.72	320	NA	<0.50	<0.50	<0.50	<0.50	120
	07/19/05	14.11		65.55	240	NA	6.1	<0.50	0.60	<0.50	60
	10/24/05	16.53		63.13	320	NA	5.0	<0.50	1.1	<0.50	37

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S-1	02/02/06	15.27		64.39	<50	NA	<0.50	<0.50	<0.50	<0.50	45
Cont.	04/27/06	9.59		70.07	<50	NA	<0.50	<0.50	<0.50	<0.50	7.7
	07/12/06	11.00		68.66	<50	NA	<0.50	<0.50	<0.50	<0.50	12
	10/17/06	14.54		65.12	<50	NA	<0.50	<0.50	<0.50	<0.50	1.6
	01/08/07	15.87		63.79	260	NA	4.6	<0.50	<0.50	<0.50	15
	04/09/07	16.06		63.60	300	NA	<0.50	<0.50	<0.50	<0.50	22
	04/23/07	16.31		63.35	NA	NA	NA	NA	NA	NA	NA
	07/23/07	17.86		61.80	110	NA	<0.50	<0.50	<0.50	<0.50	52
	10/15/07	19.22		60.44	<50	NA	<0.50	<0.50	<0.50	<0.50	50
	03/24/08	17.58		62.08	180	NA	<0.50	<0.50	<0.50	<0.50	29
	05/30/08	19.66		60.00	<100[2]	NA	<0.50	<0.50	<0.50	<0.50	43
	07/10/08	19.32		60.34	130	NA	<0.50	<0.50	<0.50	<0.50	4.1
	10/01/08	20.67		58.99	64	NA	<0.50	<0.50	<0.50	<0.50	70
	02/10/09	22.31		57.35	<50	NA	<0.50	<0.50	<0.50	<0.50	53
	05/05/09	20.90		58.76	330	NA	<0.50	<0.50	<0.50	<0.50	9.3
	11/16/09	22.28		57.38	91	NA	<0.50	<0.50	<0.50	<0.50	71

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Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
S-2	02/12/87		Sheen				3,400	3,800	1,300	11,000	NA
	03/03/95	15.39	76.86	61.47	24,000	6,000	1,900	440	600	2,500	NA
	07/24/95	14.47		62.39	NA	NA	NA	NA	NA	NA	NA
Sheen	11/22/95	21.52	80.93	59.41	NA	NA	NA	NA	NA	NA	NA
	12/06/95	21.78		59.15	NA	NA	NA	NA	NA	NA	NA
	01/04/96	21.75		59.18	NA	NA	NA	NA	NA	NA	NA
	01/31/97	17.25		63.68	NA	NA	NA	NA	NA	NA	NA
Sheen	10/10/97	21.21		59.72	13,000	<50	260	38	190	280	600*
Sheen	01/20/98	19.07		61.86	1,900	2,300	4.6	6.3	<0.5	4.6	190*
	04/28/98	10.47		70.46	22,000	<100	980	160	320	680	570*
	07/31/98	13.71		67.22	160,000	<50	950	290	550	1,700	550*
	11/02/98	17.31		63.62	14,000	<500	170	70	170	230	490*
	06/10/99	16.48		64.45	17,000	<50	650	230	<25	750	490*[1]
	10/18/00	19.70		61.23	4,400	<50	2	64	5.1	12	270
	03/12/02	18.56		62.37	5,100	660	62	44	52	78	430
	11/19/02	21.70		59.23	26,000	NA	1,400	180	520	340	750
	01/09/03	20.37		60.56	16,000	NA	120	32	76	214	270
	04/14/03	19.93		61.00	16,000	NA	160	76	210	290	400
	07/21/03	22.00		58.93	9,700	NA	270	90	200	277	410
	10/09/03	21.58		59.35	10,000	NA	39	9.2	52	26.5	180
	01/15/04	20.44	81.90	61.46	6,300	NA	21	<2.0 [3]	20	3.1	130
	04/08/04	17.15		64.75	13,000	NA	160	76	170	231	430
	08/10/04	20.98		60.92	10,000	NA	76	13	<5.0[3]	500	92
	11/11/04	21.95		59.95	20,000	NA	530	240	370	1,730	420
	01/19/05	20.33		61.57	17,000	NA	590	150	250	990	580
	04/14/05	16.17		65.73	20,000	NA	830	230	570	1,980	510
	07/19/05	16.25		65.65	970	NA	48	13	16	57	72
	10/24/05	18.07		63.83	1,200	NA	100	13	52	41	69

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S-2	02/02/06	17.26		64.64	2,000	NA	17	12	26	108	340
Cont.	04/27/06	11.55		70.35	130	NA	5.1	1.1	2.8	8.8	81
	07/12/06	12.98		68.92	140	NA	<0.50	<0.50	<0.50	0.77	180
	10/17/06	16.59		65.31	130	NA	0.98	<0.50	1.1	2.20	160
	01/08/07	18.21		63.69	69	NA	<0.50	<0.50	<0.50	<0.50	64
	04/09/07	18.29		63.61	360	NA	1.4	1.5	2.2	9.8	270
	07/23/07	20.00		61.90	<50	NA	<0.50	<0.50	<0.50	<0.50	7.7
	10/15/07	21.32		60.58	260	NA	53	0.92	<0.50	1.0	86
	03/24/08	19.78		62.12	5,500	NA	540	20	120	70	600
	05/30/08	20.78		61.12	8,700	NA	270	50	200	386	340
	07/10/08	21.45		60.45	8,000	NA	310	36	150	246	420
	10/01/08	22.71		59.19	4,100	NA	170	3.8	57	8	720
	02/10/09	24.43		57.47	9,700	NA	390	31.0	340	107.5	480
	05/05/09	23.12		58.78	10,000	NA	300	47	250	220	410
	11/16/09	24.44		57.46	6,200	NA	280	6.9	69	5.3	690

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MW-3	03/03/95	13.99	76.30	62.31	2,500	1,600	540	92	36	200	NA
	07/24/95	13.33		62.97	NA	NA	NA	NA	NA	NA	NA
	11/22/95	20.94	80.32	59.38	14,000	5,400	5,700	230	430	650	820*
	12/06/95	17.48		62.84	NA	NA	NA	NA	NA	NA	NA
	01/04/96	20.01		60.31	NA	NA	NA	NA	NA	NA	NA
	01/31/97	16.63		63.69	1,100	<50	130	8	5	5	NA
	10/10/97	20.62		59.70	3,400	1,100	830	4	100	<10	160*
	01/20/98	15.40		64.92	3,900	550	7.9	4.1	<0.5	3.7	<5.0*
	04/28/98	10.51		69.81	800	1,000	82	5.2	5.7	5.4	240*
	07/31/98	13.46		66.86	2,200	610	510	7.6	16	5.27	310*
	11/02/98	17.11		63.21	4,900	1,600	220	16	13	13.7	180*
	06/10/99	15.24		65.08	1,000	120	<0.5	<0.5	<0.5	1.1	120*[1]
	10/18/00	15.41		64.91	<50	<50	<0.5	<0.5	<0.5	<0.5	12
	04/08/04	13.70		66.62	<50	NA	<0.50	<0.50	<0.50	<0.50	19
	08/10/04	16.96		63.36	580	NA	19	<1.0[3]	<1.0[3]	3.3	300
	11/11/04	17.40		62.92	3,000	NA	810	<5.0[3]	43	<5.0[3]	690
	01/19/05	13.28		67.04	92	NA	18	<0.50	0.77	<0.50	17
	04/14/05	8.73		71.59	<50	NA	0.52	<0.50	<0.50	<0.50	11
	07/19/05	11.94		68.38	390	NA	82	2.3	1.8	9.2	200
	10/24/05	14.70	77.27	62.57	2,100	NA	460	6.9	7.7	11.9	300
	02/02/06	16.48		60.79	530	NA	11	<0.50	1.2	1.1	560
	04/27/06	7.85		69.42	<300[3]	NA	<1.5[3]	<1.5[3]	<1.5[3]	<1.5[3]	180
	07/12/06	10.08		67.19	250	NA	5.5	<1.0[3]	<1.0[3]	<1.0[3]	190
	10/17/06	12.80		64.47	93	NA	8.8	<0.50	<0.50	<0.50	100

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MW-3	01/08/07	21.68		55.59	200	NA	14	<0.50	0.89	0.95	85
Cont.	04/09/07	12.24		65.03	1,400	NA	380	6.6	22	12.5	600
	04/23/07	12.53		64.74	NA	NA	NA	NA	NA	NA	NA
	07/23/07	14.44		62.83	1,600	NA	420	<2.5[3]	27	<2.5[3]	630
	10/15/07	16.45		60.82	2,000	NA	470	2.7	23	<2.5[3]	610
	03/24/08	13.80		63.47	1,200	NA	230	1.9	9.9	1.2	820
	05/30/08	15.54		61.73	1,100	NA	250	<2.5[3]	14	<2.5[3]	610
	07/10/08	16.10		61.17	1,400	NA	170	<1.0	10	2.6	560
	10/01/08	17.60		59.67	800	NA	95	<1.0[3]	1.8	<1.0[3]	620
	02/10/09	18.46		58.81	1,200	NA	50	<1.0[3]	1.8	<1.0[3]	660
	05/05/09	17.00		60.27	830	NA	18	<1.0[3]	<1.0[3]	<1.0[3]	670
	11/16/09	19.33		57.94	1,900	NA	52	<1.0[3]	<1.0[3]	<1.0[3]	570

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MW-4	11/22/95	14.99	76.42	61.43	<50	200	<0.5	1.5	<0.5	1.7	6.4*
	12/06/95	11.21		65.21	NA	NA	NA	NA	NA	NA	NA
	01/04/96	14.62		61.80	NA	NA	NA	NA	NA	NA	NA
	01/31/97	8.18		68.24	<50	<50	<0.5	2	<0.5	2	11*
	10/10/97	14.14		62.28	<50	<50	<0.5	<0.5	<0.5	<2	<5.0*
	01/20/98	7.05		69.37	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	04/28/98	5.88		70.54	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	07/31/98	8.40		68.02	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	11/02/98	16.08		60.34	NA	NA	NA	NA	NA	NA	NA
	06/10/99	14.81		61.61	NA	NA	NA	NA	NA	NA	NA
	10/18/00	12.71		63.71	<50	<50	<0.5	0.59	0.82	0.53	<5.0*
	03/12/02	8.92		67.50	<50	<50	<0.5	0.61	0.72	2.5	1.8
	11/19/02	13.24		-13.24	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	01/09/03	11.00		-11.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	04/14/03	11.03		-11.03	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/21/03	13.10		-13.10	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/09/03	13.33		-13.33	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	01/15/04	12.14		-12.14	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	04/08/04	10.76		65.66	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	08/10/04	12.62		63.80	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	11/11/04	11.93		64.49	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	01/19/05	10.34		66.08	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	04/14/05	5.66	[4]	NM	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/19/05	7.55	[4]	NM	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/24/05	10.12	76.26	66.14	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50

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MW-4	02/02/06	6.99		69.27	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
Cont.	04/27/06	NM		NM			Well Not Monitored or Sampled - Covered				
	07/12/06	6.05		70.21	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/17/06	NM		NM			Well Not Monitored or Sampled - Covered				
	01/08/07	8.82		67.44	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	04/09/07	8.52		67.74	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/23/07	10.10		66.16	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/15/07	10.90		65.36	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	03/24/08	9.32		66.94	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	05/30/08	10.60		65.66	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/10/08	11.31		64.95	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/01/08	12.37		63.89	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	02/10/09	13.38		62.88	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	05/05/09	NM		NM			Well Not Monitored or Sampled - Covered				
	11/16/09	13.63		62.63	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50

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MW-5	11/22/95	19.56	80.52	60.96	<50	280	<0.5	1.8	<0.5	3	2.2*
	12/06/95	15.84		64.68	NA	NA	NA	NA	NA	NA	NA
	01/04/96	19.36		61.16	NA	NA	NA	NA	NA	NA	NA
	01/31/97	13.31		67.21	80	<50	<0.5	0.6	<0.5	2	6*
	10/10/97	17.80		62.72	<50	<50	<0.5	<0.5	<0.5	<2	<5*
	01/20/98	12.58		67.94	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	04/28/98	9.45		71.07	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	07/31/98	7.38		73.14	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	11/02/98	15.98		64.54	<50	<500	<0.5	<0.5	<0.5	<0.5	<5.0*
	06/10/99	14.60		65.92	NA	NA	NA	NA	NA	NA	NA
	10/18/00	17.77		62.75	<50	<50	<0.5	0.75	<0.5	0.79	28
	03/12/02	15.72		64.80	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	11/19/02	NM		NM				Well Damaged			
	01/09/03	NM		NM				Well Damaged			
	04/14/03	NM		NM				Well Damaged			
	07/21/03	NM		NM				Well Damaged			
	10/09/03	NM		NM				Well Damaged			
	01/15/04	NM		NM				Well Damaged			
	04/08/04	16.80		63.72	<100	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	08/10/04	18.58		61.94	89	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	11/11/04	NM		NM				Well Damaged			
	01/19/05	NM		NM				Well Damaged			
	04/14/05	10.57	[4]	NM	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/19/05	11.77	[4]	NM	<100[2]	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/24/05	14.29	80.78	66.49	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	02/02/06	NM		NM	Well Not Monitored or Sampled - Under Soil Pile						
	04/27/06	7.42		73.36	<100[2]	NA	<0.50	<0.50	<0.50	<0.50	<0.50

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Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
MW-5	07/12/06	NM		NM			Well Not Monitored or Sampled - Covered				
Cont.	10/17/06	NM		NM			Well Not Monitored or Sampled - Covered				
	01/08/07	NM		NM			Well Not Monitored or Sampled - Covered				
	04/09/07	NM		NM			Well Not Monitored or Sampled - Covered				
	04/23/07	11.90		68.88	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/23/07	13.98		66.80	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/15/07	14.97		65.81	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	03/24/08	12.77		68.01	<100[2]	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	05/30/08	14.76		66.02	<200[2]	NA	<1.0[2]	<1.0[2]	<1.0[2]	<1.0[2]	<1.0[2]
	07/10/08	15.74		65.04	<100[2]	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/01/08	16.90		63.88	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	02/10/09	18.12		62.66	<200[2]	NA	<1.0[2]	<1.0[2]	<1.0[2]	<1.0[2]	<1.0[2]
	05/05/09	16.25		64.53	<100[2]	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	11/16/09	18.28		62.50	<100[2]	NA	<0.50	<0.50	<0.50	<0.50	<0.50
MW-6	10/15/07	NM		NM				Well Destroyed			
	10/01/08	NM		NM				Well Destroyed			

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MW-7	11/22/95	19.38	78.86	59.48	<50	180	<0.5	0.57	<0.5	0.62	0.73*
	12/06/95	19.72		59.14	NA	NA	NA	NA	NA	NA	NA
	01/04/96	19.76		59.10	NA	NA	NA	NA	NA	NA	NA
	01/31/97	15.25		63.61	70	<50	0.7	1	<0.5	<1	8*
	10/10/97	19.03		59.83	<50	<50	<0.5	<0.5	<0.5	<2	15*
	01/20/98	17.11		61.75	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	04/28/98	8.22		70.64	<50	<50	<0.5	<0.5	<0.5	<0.5	9.3*
	07/31/98	11.53		67.33	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	11/02/98	15.15		63.71	NA	NA	NA	NA	NA	NA	NA
	06/10/99	14.23		64.63	NA	NA	NA	NA	NA	NA	NA
	10/18/00	17.59		61.27	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	03/12/02	16.54		62.32	<50	<50	<0.5	<0.5	<0.5	<0.5	2.9
	11/19/02	19.59		-19.59	<50	NA	<0.50	<0.50	<0.50	<0.50	3.8
	01/09/03	18.38		-18.38	<50	NA	<0.50	<0.50	<0.50	<0.50	2.7
	04/14/03	18.17		-18.17	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/21/03	20.29		-20.29	<50	NA	<0.50	<0.50	<0.50	<0.50	1.8
	10/09/03	19.48		-19.48	<50	NA	<0.50	<0.50	<0.50	<0.50	2.9
	01/15/04	18.45	79.81	61.36	<50	NA	<0.50	<0.50	<0.50	<0.50	2.6
	04/08/04	17.28		62.53	<50	NA	<0.50	<0.50	<0.50	<0.50	0.81
	08/10/04	18.85		60.96	<50	NA	<0.50	<0.50	<0.50	<0.50	2.1
	11/11/04	19.85		59.96	<50	NA	<0.50	<0.50	<0.50	<0.50	1.0
	01/19/05	19.59		60.22	<50	NA	<0.50	<0.50	<0.50	<0.50	1.5
	04/14/05	14.17		65.64	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/19/05	14.16		65.65	<50	NA	<0.50	<0.50	<0.50	<0.50	1.9
	10/24/05	16.65		63.16	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50

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Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
MW-7	02/02/06	15.39		64.42	<50	NA	<0.50	<0.50	<0.50	<0.50	1.3
Cont.	04/27/06	8.51		71.30	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/12/06	9.94		69.87	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/17/06	13.46		66.35	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	01/08/07	15.03		64.78	<50	NA	<0.50	<0.50	<0.50	<0.50	0.99
	04/09/07	15.27		64.54	<50	NA	<0.50	<0.50	<0.50	<0.50	0.54
	07/23/07	16.96		62.85	<50	NA	<0.50	<0.50	<0.50	<0.50	1.7
	10/15/07	18.29		61.52	750	NA	<0.50	<0.50	<0.50	<0.50	0.81
	03/24/08	16.72		63.09	<50	NA	<0.50	<0.50	<0.50	<0.50	0.85
	05/30/08	17.81		62.00	<50	NA	<0.50	<0.50	<0.50	<0.50	0.56
	07/10/08	18.48		61.33	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/01/08	19.71		60.10	<50	NA	<0.50	<0.50	<0.50	<0.50	0.66
	02/10/09	21.41		58.40	<50	NA	<0.50	<0.50	<0.50	<0.50	0.67
	05/05/09	20.07		59.74	<50	NA	<0.50	<0.50	<0.50	<0.50	1.2
	11/16/09	21.40		58.41	<50	NA	<0.50	<0.50	<0.50	<0.50	1.1

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Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
MW-8	11/22/95	33.33	79.55	46.22	<50	360	<0.5	1.3	<0.5	2.1	2.1*
	12/06/95	17.57		61.98	NA	NA	NA	NA	NA	NA	NA
	01/04/96	20.08		59.47	NA	NA	NA	NA	NA	NA	NA
	01/31/97	18.72		60.83	80	<50	0.6	1	<0.5	1	8*
	10/10/97	20.26		59.29	50	<50	<0.5	<0.5	<0.5	<2	<5*
	01/20/98	15.91		63.64	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	04/28/98	10.39		69.16	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	07/31/98	12.93		66.62	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	11/02/98	16.90		62.65	<50	<500	<0.5	<0.5	<0.5	<0.5	<5.0*
	06/10/99	14.98		64.57	NA	NA	NA	NA	NA	NA	NA
	10/18/00	16.27		63.28	<50	<50	<0.5	<0.5	1.1	6.3	8.6*
	03/12/02	14.56		64.99	<50	<50	<0.5	0.63	0.55	1.7	0.94
	11/19/02	21.14		-21.14	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	01/09/03	17.90		-17.90	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	04/14/03	17.84		-17.84	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/21/03	19.79		-19.79	<100[2]	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/09/03	21.02		-21.02	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	01/15/04	18.10	80.50	62.40	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	04/08/04	17.51		62.99	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	08/10/04	20.76		59.74	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	11/11/04	21.38		59.12	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	01/19/05	17.20		63.30	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	04/14/05	12.68		67.82	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/19/05	15.78		64.72	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/24/05	18.68		61.82	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50

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Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
MW-8	02/02/06	14.57		65.93	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
Cont.	04/27/06	10.48		70.02	<100[2]	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/12/06	13.08		67.42	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/17/06	15.96		64.54	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	01/08/07	16.70		63.80	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	04/09/07	16.25		64.25	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/23/07	18.66		61.84	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/15/07	20.36		60.14	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	03/24/08	17.81		62.69	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	05/30/08	19.78		60.72	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/10/08	20.32		60.18	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	10/01/08	21.81		58.69	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	02/10/09	22.26		58.24	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	05/05/09	20.98		59.52	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	11/16/09	23.28		57.22	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50

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EX-1	10/24/05	14.37	77.72	63.35	5,000	NA	140	8.4	20	195	360
	02/02/06	1.68		76.04	3,000	NA	3.6	<0.50	14	55.5	0.63
	04/27/06	1.76		75.96	130	NA	0.98	<0.50	<0.50	2.42	<0.50
	07/12/06	6.88		70.84	2,600	NA	760	15	34	104	200
	10/17/06	9.79		67.93	3,300	NA	810	<5.0[3]	32	68	170
	01/08/07	5.47		72.25	910	NA	9.1	<0.50	2.7	5.9	1.6
	04/09/07	4.88		72.84	140	NA	1.3	<0.50	1.2	0.93	<0.50
	07/23/07	12.17		65.55	220	NA	7.4	<0.50	1.7	<0.50	0.55
	10/15/07	NM		NM				Not Sampled			
	03/24/08	5.17		72.55	120	NA	9.1	<0.50	1.6	0.96	<0.50
	05/30/08	11.18		66.54	230	NA	11	<0.50	2.2	0.54	<0.50
	07/10/08	12.27		65.45	1,100	NA	16	<0.50	4.9	13.5	<0.50
	10/01/08	14.46		63.26	780	NA	15	<0.50	4.3	2.3	0.83
	02/10/09	15.90		61.82	1,500	NA	40	<1.0[3]	11	9.1	2.0
	05/05/09	12.98		64.74	1,800	NA	66	0.77	17	8.03	3.1
	11/16/09	16.33		61.39	3,000	NA	190	<1.5[3]	29	7.5	6.6

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EX-2	10/24/05	16.00	76.96	60.96	42,000	NA	13,000	1,300	1,300	2,580	410
	02/02/06	8.18		68.78	28,000	NA	9,000	1,300	1,100	3,340	200
	04/27/06	5.22		71.74	24,000	NA	4,000	1,800	650	3,900	86
	07/12/06	7.32		69.64	22,000	NA	6,000	1,300	810	3,280	190
	10/17/06	9.22		67.74	31,000	NA	10,000	1,800	1,200	3,400	230
	01/08/07	10.35		66.61	14,000	NA	4,100	440	440	1,140	90
	04/09/07	9.67		67.29	620	NA	160	17	24	58	6.0
	07/23/07	11.46		65.50	610	NA	150	7.5	29	38	5.2
	10/15/07	NM		NM				Not Sampled			
	03/24/08	9.98		66.98	4,900	NA	2,500	210	130	390	29
	05/30/08	11.36		65.60	11,000	NA	3,300	330	380	1,100	<25[3]
	07/10/08	11.85		65.11	17,000	NA	4,200	550	490	1,780	<25[3]
	10/01/08	13.57		63.39	22,000	NA	5,900	510	960	3,400	<50[3]
	02/10/09	14.50		62.46	11,000	NA	5,400	93	310	421	41
	05/05/09	12.63		64.33	8,400	NA	2,600	80	390	470	<15[3]
	11/16/09	15.24		61.72	12,000	NA	4,200	72	400	582	<25[3]

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Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
EX-3	10/24/05	14.85	78.87	63.02	20,000	NA	220	21	660	3,110	<10[3]
	02/02/06	NM		NM	Well Not Monitored or Sampled - Under Soil Pile						
	04/27/06	NM		NM	Well Not Monitored or Sampled - Covered						
	07/12/06	9.01		68.86	5,700	NA	79	19	120	657	<2.5[3]
	10/17/06	NM		NM	Well Not Monitored or Sampled - Covered						
	01/08/07	12.31		66.56	970	NA	8.3	0.81	19	19.8	<0.50
	04/09/07	10.78		68.09	700	NA	8.9	<0.50	11	6.5	<0.50
	07/23/07	12.82		66.05	1,500	NA	14	<0.50	21	8.9	<0.50
	10/15/07	NM		NM	Not Sampled						
	03/24/08	NM		NM	Well Not Monitored or Sampled - Covered						
	05/30/08	14.10		64.77	280	NA	0.99	<0.50	0.97	1.35	<0.50
	07/10/08	14.86		64.01	340	NA	1.5	<0.50	1.6	<0.50	<0.50
	10/01/08	16.38		62.49	330	NA	1.1	<0.50	<0.50	<0.50	<0.50
	02/10/09	NM		NM	Well Not Monitored or Sampled - Covered						
	05/05/09	NM		NM	Well Not Monitored or Sampled - Covered						
	11/16/09	NM		NM	Well Not Monitored or Sampled - Covered						

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Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
EX-4	10/24/05	14.93	77.96	63.03	1,900	NA	390	69	8.8	90	11
	02/02/06	NM		NM	Well Not Monitored or Sampled - Under Soil Pile						
	04/27/06	NM		NM	Well Not Monitored or Sampled - Covered						
	07/12/06	7.37		70.59	6,400	NA	1,400	400	120	1,220	35
	10/17/06	NM		NM	Well Not Monitored or Sampled - Covered						
	01/08/07	12.92		65.04	3,500	NA	840	51	22	162	25
	04/09/07	12.43		65.53	4,600	NA	730	78	83	410	6.5
	07/23/07	14.20		63.76	7,200	NA	2,600	180	100	560	29
	10/15/07	NM		NM	Not Sampled						
	03/24/08	12.14		65.82	230	NA	29	<0.50	1.8	5.1	0.61
	05/30/08	14.10		63.86	360	NA	110	<1.0[3]	5.0	2.8	3.2
	07/10/08	15.16		62.80	500	NA	150	<1.0[3]	2.6	6.3	3.0
	10/01/08	16.41		61.55	260	NA	96	<1.0[3]	1.5	<1.0[3]	5.2
	02/10/09	18.40		59.56	330	NA	130	<0.50	2.5	1.2	11
	05/05/09	16.74		61.22	440	NA	190	<1.0[3]	2.6	5.0	10
	11/16/09	18.40		59.56	130	NA	32	<0.50	<0.50	<0.50	12

TABLE 1
GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY
Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	GRO[5] (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)

Note:

* = MTBE analyzed using EPA Method 8020/8021B

MTBE = Methyl tert-butyl ether

TPHD = Total petroleum hydrocarbons as diesel

GRO = Gasoline Range Organics C4-C13

GRO analyzed using EPA Method 8015B and the remaining analytes using EPA Method 8260B

msl = Mean sea level

µg/L = micrograms per liter

NA = Not analyzed

NM = Not measured

[1] Laboratory indicates the chromatogram does not match the diesel hydrocarbon range pattern.

[2] Reporting limits were increased due to sample foaming.

[3] Reporting limits were increased due to high concentrations of target analytes.

[4] Casing elevation invalid - well casing modified (cut) on April 12, 2005.

[5] Reported as total petroleum hydrocarbons as gasoline (TPHG C3-C14+) prior to second quarter 2006.

Monitoring wells surveyed by Morrow Surveying on February 10, 2004, and again on November 29, 2005.

Data prior to November 19, 2002 provided by GHH Engineering.

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
FOR OXYGENATES AND ADDITIONAL COMPOUNDS
Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
S-1	11/19/02	190	<10	<1.0	<1.0	<1.0	NA	NA	NA	NA
	01/09/03	11	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	04/14/03	27	<20[2]	<2.0[2]	<2.0[2]	<2.0[2]	NA	NA	NA	NA
	07/21/03	11	<10[2]	<1.0	<1.0	<1.0	NA	NA	NA	NA
	10/09/03	8.8	6.4	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	01/15/04	6.0	10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	04/08/04	12	8.5	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	08/10/04	73	28	<1.0	<1.0	<1.0	16	<2.0	<5,000	<5,000
	11/11/04	150	14	<1.0	<1.0	<1.0	7.3	<2.0	<5,000	<5,000
	01/19/05	140	14	<1.0	<1.0	<1.0	3.8	<2.0	<5,000	<5,000
	04/14/05	120	10	<1.0	<1.0	<1.0	1.4	<2.0	<5,000	<5,000
	07/19/05	60	11	<1.0	<1.0	<1.0	9.6	<2.0	<5,000	<5,000
	10/24/05	37	<10	<1.0	<1.0	<1.0	2.2	<2.0	<5,000	<5,000
	02/02/06	45	<10	<1.0	<1.0	<1.0	1.2	<2.0	<5,000	<5,000
	04/27/06	7.7	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/12/06	12	<10	<1.0	<1.0	<1.0	7.9	<2.0	<5,000	<5,000
	10/17/06	1.6	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/08/07	15	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/09/07	22	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/23/07	52	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	10/15/07	50	<10	<1.0	<1.0	<1.0	1.8	<2.0	NA	NA
	03/24/08	29	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	05/30/08	43	13	<1.0	<1.0	<1.0	<1.0	<4.0[2]	NA	NA
	07/10/08	4.1	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	10/01/08	70	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	02/10/09	53	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	05/05/09	9.3	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	11/16/09	71	10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
FOR OXYGENATES AND ADDITIONAL COMPOUNDS
Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
S-2	11/19/02	750	<200[1]	<20[1]	<20[1]	<20[1]	NA	NA	NA	NA
	01/09/03	270	<100[1]	<10[1]	<10[1]	<10[1]	NA	NA	NA	NA
	04/14/03	400	95	<5.0[1]	<5.0[1]	<5.0[1]	NA	NA	NA	NA
	07/21/03	410	110	<5.0[1]	<5.0[1]	<5.0[1]	NA	NA	NA	NA
	10/09/03	180	57	<5.0[1]	<5.0[1]	<5.0[1]	<5.0[1]	<20[1]	NA	NA
	01/15/04	130	48	<4.0[1]	<4.0[1]	<4.0[1]	<4.0[1]	<16[1]	NA	NA
	04/08/04	430	130	<5.0[1]	<5.0[1]	<5.0[1]	<5.0[1]	<20[1]	<5,000	<5,000
	08/10/04	92	<100[1]	<10[1]	<10[1]	<10[1]	74	<40[1]	<5,000	<5,000
	11/11/04	420	<200[1]	<20[1]	<20[1]	<20[1]	<20[1]	<80[1]	<5,000	<5,000
	01/19/05	580	200	<5.0[1]	<5.0[1]	<5.0[1]	8.2	<20[1]	<5,000	<5,000
	04/14/05	510	150	<10[1]	<10[1]	<10[1]	<10[1]	<40[1]	<5,000	<5,000
	07/19/05	72	37	<1.0	<1.0	<1.0	38	<2.0	<5,000	<5,000
	10/24/05	69	33	<1.0	<1.0	<1.0	35	<4.0[1]	<5,000	<5,000
	02/02/06	340	150	<1.0	<1.0	<1.0	3.2	<4.0[1]	<5,000	<5,000
	04/27/06	81	<10	<1.0	<1.0	<1.0	1.3	<2.0	<5,000	<5,000
	07/12/06	180	42	<1.0	<1.0	<1.0	5.8	<2.0	<5,000	<5,000
	10/17/06	160	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/08/07	64	<10	<1.0	<1.0	<1.0	2.6	<2.0	<5,000	<5,000
	04/09/07	270	32	<1.0	<1.0	<1.0	1.3	<2.0	<5,000	<5,000
	07/23/07	7.7	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	10/15/07	86	22	<1.0	<1.0	<1.0	3.5	<2.0	NA	NA
	03/24/08	600	180	<5.0[1]	<5.0[1]	<5.0[1]	<5.0[1]	<20[1]	NA	NA
	05/30/08	340	220	<10[1]	<10[1]	<10[1]	<10[1]	<40[1]	NA	NA
	07/10/08	420	150	<10[1]	<10[1]	<10[1]	<10[1]	<40[1]	NA	NA
	10/01/08	720	300	<5.0[1]	<5.0[1]	<5.0[1]	<5.0[1]	<20[1]	NA	NA
	02/10/09	480	140	<5.0[1]	<5.0[1]	<5.0[1]	<5.0[1]	<20[1]	NA	NA
	05/05/09	410	99	<5.0[1]	<5.0[1]	<5.0[1]	<5.0[1]	<20[1]	NA	NA
	11/16/09	690	210	<5.0[1]	<5.0[1]	<5.0[1]	<5.0[1]	<10[1]	NA	NA

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
FOR OXYGENATES AND ADDITIONAL COMPOUNDS
Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
MW-3	04/08/04	19	7.6	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	08/10/04	300	2,000	2.2	<2.0[1]	<2.0[1]	270	<8.0[1]	<5,000	<5,000
	11/11/04	690	1,400	<10[1]	<10[1]	<10[1]	140	<40[1]	<5,000	<5,000
	01/19/05	17	19	<1.0	<1.0	<1.0	1.4	<2.0	<5,000	<5,000
	04/14/05	11	25	<1.0	<1.0	<1.0	6.2	<2.0	<5,000	<5,000
	07/19/05	200	1,000	<2.0[1]	<2.0[1]	<2.0[1]	240	<8.0[1]	<5,000	<5,000
	10/24/05	300	750	<5.0[1]	<5.0[1]	<5.0[1]	210	<20[1]	<5,000	<5,000
	02/02/06	560	1,300	2.7	<1.0	<1.0	98	<4.0[1]	<5,000	<5,000
	04/27/06	180	330	<3.0[1]	<3.0[1]	<3.0[1]	220	<12[1]	<5,000	<5,000
	07/12/06	190	24	<2.0[1]	<2.0[1]	<2.0[1]	210	<8.0[1]	<5,000	<5,000
	10/17/06	100	50	<1.0	<1.0	<1.0	21	<2.0	<5,000	<5,000
	01/08/07	85	30	<1.0	<1.0	<1.0	22	<2.0	<5,000	<5,000
	04/09/07	600	510	<5.0[1]	<5.0[1]	<5.0[1]	67	<20[1]	<5,000	<5,000
	07/23/07	630	920	<5.0[1]	<5.0[1]	<5.0[1]	99	<20[1]	NA	NA
	10/15/07	610	840	<5.0[1]	<5.0[1]	<5.0[1]	110	<20[1]	NA	NA
	03/24/08	820	840	3.2	<2.0[1]	<2.0[1]	63	<8.0[1]	NA	NA
	05/30/08	610	880	<5.0[1]	<5.0[1]	<5.0[1]	68	<20[1]	NA	NA
	07/10/08	560	570	3.2	<2.0[1]	<2.0[1]	30	<8.0[1]	NA	NA
	10/01/08	620	1,100	3.5	<2.0[1]	<2.0[1]	94	<8.0[1]	NA	NA
	02/10/09	660	820	4.0	<2.0[1]	<2.0[1]	38	<8.0[1]	NA	NA
	05/05/09	670	760	4.2	<2.0[1]	<2.0[1]	19	<8.0[1]	NA	NA
	11/16/09	570	660	4.1	<2.0[1]	<2.0[1]	2.7	<4.0[1]	NA	NA

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FOR OXYGENATES AND ADDITIONAL COMPOUNDS
Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
MW-4	11/19/02	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	01/09/03	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	04/14/03	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	07/21/03	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	10/09/03	<0.50	<5.0	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	01/15/04	<0.50	7.8	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	04/08/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	08/10/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	11/11/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/19/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/14/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/19/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/24/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	02/02/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/27/06	Well Not Monitored or Sampled - Covered								
	07/12/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/17/06	Well Not Monitored or Sampled - Covered								
	01/08/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/09/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/23/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	10/15/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	03/24/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	05/30/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	07/10/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	10/01/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	02/10/09	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	05/05/09	Well Not Monitored or Sampled - Covered								
	11/16/09	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
FOR OXYGENATES AND ADDITIONAL COMPOUNDS
Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
MW-5	11/19/02					Well Damaged				
	01/09/03					Well Damaged				
	04/14/03					Well Damaged				
	07/21/03					Well Damaged				
	10/09/03					Well Damaged				
	01/15/04					Well Damaged				
	04/08/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<4.0[2]	<5,000	<5,000
	08/10/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	11/11/04					Well Damaged				
	01/19/05					Well Damaged				
	04/14/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/19/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<4.0[2]	<5,000	<5,000
	10/24/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	02/02/06				Well Not Monitored or Sampled - Under Soil Pile					
	04/27/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<4.0[2]	<5,000	<5,000
	07/12/06				Well Not Monitored or Sampled - Covered					
	10/17/06				Well Not Monitored or Sampled - Covered					
	01/08/07				Well Not Monitored or Sampled - Covered					
	04/09/07				Well Not Monitored or Sampled - Covered					
	04/23/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	07/23/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	10/15/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	03/24/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<4.0[2]	NA	NA
	05/30/08	<1.0[2]	<20[2]	<2.0[2]	<2.0[2]	<2.0[2]	<2.0[2]	<8.0[2]	NA	NA
	07/10/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<4.0[2]	NA	NA
	10/01/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	02/10/09	<1.0[2]	<20[2]	<2.0[2]	<2.0[2]	<2.0[2]	<2.0[2]	<8.0[2]	NA	NA
	05/05/09	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<4.0	NA	NA
	11/16/09	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA

TABLE 2
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FOR OXYGENATES AND ADDITIONAL COMPOUNDS
Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
MW-6	10/15/07					Well Destroyed				
	10/01/08					Well Destroyed				
MW-7	11/19/02	3.8	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	01/09/03	2.7	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	04/14/03	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	07/21/03	1.8	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	10/09/03	2.9	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	01/15/04	2.6	7.9	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	04/08/04	0.81	9.0	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	08/10/04	2.1	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	11/11/04	1.0	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/19/05	1.5	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/14/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/19/05	1.9	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/24/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	02/02/06	1.3	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/27/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/12/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/17/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/08/07	0.99	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/09/07	0.54	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/23/07	1.7	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/15/07	0.81	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	03/24/08	0.85	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	05/30/08	0.56	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	07/10/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	10/01/08	0.66	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	02/10/09	0.67	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	05/05/09	1.2	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	11/16/09	1.1	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA

TABLE 2
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FOR OXYGENATES AND ADDITIONAL COMPOUNDS
Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
MW-8	11/19/02	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	01/09/03	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	04/14/03	<0.50	<5.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
	07/21/03	<0.50	<10[2]	<1.0	<1.0	<1.0	NA	NA	NA	NA
	10/09/03	<0.50	<5.0	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	01/15/04	<0.50	9.9	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	04/08/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	08/10/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	11/11/04	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/19/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/14/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/19/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/24/05	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	02/02/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/27/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<4.0[2]	<5,000	<5,000
	07/12/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	10/17/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	01/08/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/09/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/23/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	10/15/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	03/24/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	05/30/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	07/10/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	10/01/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	02/10/09	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	05/05/09	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	11/16/09	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
FOR OXYGENATES AND ADDITIONAL COMPOUNDS
Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
EX-1	10/24/05	360	120	<1.0	<1.0	<1.0	<1.0	<4.0[1]	<5,000	<5,000
	02/02/06	0.63	<10	<1.0	<1.0	<1.0	<1.0	<4.0[1]	<5,000	<5,000
	04/27/06	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/12/06	200	110	<10[1]	<10[1]	<10[1]	<10[1]	<40[1]	<5,000	<5,000
	10/17/06	170	<100[1]	<10[1]	<10[1]	<10[1]	30	<40[1]	<5,000	<5,000
	01/08/07	1.6	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	04/09/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/23/07	0.55	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	10/15/07					Not Sampled				
	03/24/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	05/30/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	07/10/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	10/01/08	0.83	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	02/16/09	2.0	<20[1]	<2.0[1]	<2.0[1]	<2.0[1]	<2.0[1]	<8.0[1]	NA	NA
	05/05/09	3.1	<10	<1.0	<1.0	<1.0	<1.0	<4.0[1]	NA	NA
	11/16/09	6.6	<30[1]	<3.0[1]	<3.0[1]	<3.0[1]	<3.0[1]	<6.0[1]	NA	NA

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
FOR OXYGENATES AND ADDITIONAL COMPOUNDS
Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
EX-2	10/24/05	410	<2,000[1]	<200[1]	<200[1]	<200[1]	<200[1]	<800[1]	<5,000	<5,000
	02/02/06	200	<1,000[1]	<100[1]	<100[1]	<100[1]	<100[1]	<400[1]	<5,000	<5,000
	04/27/06	86	<500[1]	<50[1]	<50[1]	<50[1]	<50[1]	<200[1]	<5,000	<5,000
	07/12/06	190	<500[1]	<50[1]	<50[1]	<50[1]	<50[1]	<200[1]	<5,000	<5,000
	10/17/06	230	<1,000[1]	<100[1]	<100[1]	<100[1]	400	<400[1]	<5,000	<5,000
	01/08/07	90	<400[1]	<40[1]	<40[1]	<40[1]	<40[1]	<160[1]	<5,000	<5,000
	04/09/07	6.0	<20[1]	<2.0[1]	<2.0[1]	<2.0[1]	<2.0[1]	<8.0[1]	<5,000	<5,000
	07/23/07	5.2	<10	<1.0	<1.0	<1.0	<1.0	<4.0[1]	NA	NA
	10/15/07					Not Sampled				
	03/24/08	29	<200[1]	<20[1]	<20[1]	<20[1]	<20[1]	<80[1]	NA	NA
	05/30/08	<25[1]	<500[1]	<50[1]	<50[1]	<50[1]	<50[1]	<200[1]	NA	NA
	07/10/08	<25[1]	<500[1]	<50[1]	<50[1]	<50[1]	<50[1]	<200[1]	NA	NA
	10/01/08	<50[1]	<1,000[1]	<100[1]	<100[1]	<100[1]	<100[1]	<400[1]	NA	NA
	02/10/09	41	<500[1]	<50[1]	<50[1]	<50[1]	<50[1]	<200[1]	NA	NA
	05/05/09	<15[1]	<300[1]	<30[1]	<30[1]	<30[1]	<30[1]	<120[1]	NA	NA
	11/16/09	<25[1]	<500[1]	<50[1]	<50[1]	<50[1]	<50[1]	<100[1]	NA	NA

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
FOR OXYGENATES AND ADDITIONAL COMPOUNDS

Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
EX-3	10/24/05	<10[1]	<200[1]	<20[1]	<20[1]	<20[1]	<20[1]	<80[1]	<5,000	<5,000
	02/02/06	Well Not Monitored or Sampled - Under Soil Pile								
	04/27/06	Well Not Monitored or Sampled - Covered								
	07/12/06	<2.5[1]	<50[1]	<5.0[1]	<5.0[1]	<5.0[1]	<5.0[1]	<20[1]	<5,000	<5,000
	10/17/06	Well Not Monitored or Sampled - Covered								
	01/08/07	<0.50	12	<1.0	<1.0	<1.0	1.1	<2.0	<5,000	<5,000
	04/09/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	<5,000	<5,000
	07/23/07	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	10/15/07	Not Sampled								
	03/24/08	Well Not Monitored or Sampled - Covered								
	05/30/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<4.0[2]	NA	NA
	07/10/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<4.0[2]	NA	NA
	10/01/08	<0.50	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	02/10/09	Well Not Monitored or Sampled - Covered								
	05/05/09	Well Not Monitored or Sampled - Covered								
	11/16/09	Well Not Monitored or Sampled - Covered								

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
FOR OXYGENATES AND ADDITIONAL COMPOUNDS
Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)
EX-4	10/24/05	11	51	<5.0[1]	<5.0[1]	<5.0[1]	<5.0[1]	<20[1]	<5,000	<5,000
	02/02/06	Well Not Monitored or Sampled - Under Soil Pile								
	04/27/06	Well Not Monitored or Sampled - Covered								
	07/12/06	35	<200[1]	<10[1]	<10[1]	<10[1]	<10[1]	<40[1]	<5,000	<5,000
	10/17/06	Well Not Monitored or Sampled - Covered								
	01/08/07	25	<100[1]	<10[1]	<10[1]	<10[1]	<10[1]	<40[1]	<5,000	<5,000
	04/09/07	6.5	<100[1]	<10[1]	<10[1]	<10[1]	<10[1]	<40[1]	<5,000	<5,000
	07/23/07	29	<200[1]	<20[1]	<20[1]	<20[1]	<20[1]	<80[1]	NA	NA
	10/15/07	Not Sampled								
	03/24/08	0.61	<10	<1.0	<1.0	<1.0	<1.0	<2.0	NA	NA
	05/30/08	3.2	<20[1]	<2.0[1]	<2.0[1]	<2.0[1]	<2.0[1]	<8.0[1]	NA	NA
	07/10/08	3.0	<20[1]	<2.0[1]	<2.0[1]	<2.0[1]	<2.0[1]	<8.0[1]	NA	NA
	10/01/08	5.2	25	<2.0[1]	<2.0[1]	<2.0[1]	<2.0[1]	<8.0[1]	NA	NA
	02/10/09	11	27	<1.0	<1.0	<1.0	2.0	<4.0[1]	NA	NA
	05/05/09	10	28	<2.0[1]	<2.0[1]	<2.0[1]	<2.0[1]	<8.0[1]	NA	NA
	11/16/09	12	31	<1.0	<1.0	<1.0	1.1	<2.0	NA	NA

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
FOR OXYGENATES AND ADDITIONAL COMPOUNDS

Former USA Service Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Methanol (µg/L)	Ethanol (µg/L)

Note:
Oxygenates analyzed using EPA Method 8260B
µg/L = micrograms per liter
NA = Not analyzed

[1] Reporting limits were increased due to high concentrations of target analytes
[2] Reporting limits were increased due to sample foaming

MTBE = Methyl tertiary butyl ether
TBA = Tertiary butyl alcohol
DIPE = Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
1,2-DCA = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane

APPENDIX C

HISTORICAL SOIL ANALYTICAL DATA

ITAS/Santa Clara to Pacific Environmental Group, Inc.
ATTN: Susan Willhite

February 28, 1987

TABLE OF RESULTS

ND = None Detected

Laboratory Number	Sample Identification		Date Received	Total Hydrocarbons (Parts per Million, dry soil basis)
	Project 100-22.01, Oakland			
S7-02-076-01	A	13.5-15'	2/17/87	16.
S7-02-076-02	B	18.5-20'	2/17/87	4.
S7-02-076-03	C	18.5-20'	2/17/87	ND.
S7-02-076-04	D	9-10.5'	2/17/87	2.
S7-02-076-05	S-1	19-20.5'	2/17/87	42.
S7-02-076-06	S-1	19-20.5'	2/17/87	16.
S7-02-076-07	S-2	24-25.5'	2/17/87	600.
S7-02-076-09	Fill Box		2/17/87	410.
			Detection Limit	2.

TABLE 4

SOIL ANALYTICAL DATA
FORMER USA STATION #57
10700 MacARTHUR BOULEVARD
OAKLAND, CALIFORNIA

Well ID	Date	Depth (feet)	TPH G (ppm)	TPH D (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylene (ppm)
S-1	02/12/87	20.5	42	-	-	-	-	-
		20.5	16	-	-	-	-	-
S-2	02/12/87	24.5	600	-	-	-	-	-
B-1	02/28/95	5.5	ND	-	ND	ND	ND	ND
		9.5	44	-	0.12	ND	0.14	0.4
		13.0	540	55	2.6	10	7.5	48
		20.0	ND	-	0.012	0.016	ND	0.029
		25.0	3.9	-	0.048	0.14	0.062	0.37
		31.0	ND	-	ND	0.011	0.0057	0.045
		35.0	ND	-	0.014	0.018	0.012	0.079
		40.5	ND	ND	ND	ND	ND	ND
B-2	03/01/95	5.0	ND	-	ND	ND	ND	ND
		10.5	ND	-	ND	ND	ND	ND
		16.0	16	-	0.057	0.028	0.029	1.2
		21.0	110	-	0.96	0.41	0.33	1.5
		26.0	240	22	0.76	1.4	0.85	1.9
B-3	03/01/95	11.0	ND	-	ND	ND	ND	ND
		15.5	10	-	0.044	0.11	0.079	0.63
		20.5	15	1.3	0.041	0.37	0.15	1.1
B-4	03/02/95	3.0	ND	-	ND	ND	ND	ND
		6.0	ND	-	ND	ND	ND	ND
		12.0	ND	ND	ND	ND	ND	ND
B-5	03/02/95	5.5	ND	-	ND	ND	ND	ND
		12.0	ND	ND	ND	ND	ND	ND
B-6	03/02/95	4.0	33	5.3	0.093	0.065	0.33	2.0
		5.5	2.6	-	0.062	ND	0.030	0.047
		12.0	ND	-	ND	ND	ND	0.022

TABLE 4 (Continued)

SOIL ANALYTICAL DATA
FORMER USA STATION #57
10700 MacARTHUR BOULEVARD
OAKLAND, CALIFORNIA

Well ID	Date	Depth (feet)	TPH G (ppm)	TPH D (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylene (ppm)
B-7	03/02/95	3.5	ND	ND	ND	ND	ND	ND
		5.0	ND	-	ND	ND	ND	ND
		12.0	ND	-	ND	ND	ND	ND
B-8	03/02/95	3.0	17	-	0.012	0.021	0.12	0.16
		5.5	ND	ND	0.019	ND	0.050	ND
		12.0	2.0	-	0.042	ND	ND	0.016
MW-3	02/28/95	5.5	ND	-	ND	ND	ND	ND
		11.5	1.9	-	0.026	0.011	0.0061	0.019
		13.5	240	12	0.41	0.64	2.0	5.4
		15.5	110	-	0.37	3.8	1.5	10
		21.5	3.0	-	0.26	0.24	0.059	0.50
		24.5	ND	-	0.030	0.0069	0.0056	0.016
		29.5	ND	-	ND	0.0054	ND	0.0092
		39.5	ND	-	ND	ND	ND	ND
MW-4	11/21/95	10.0	ND	5.0	ND	ND	ND	ND
MW-5	11/21/95	10.0	ND	5.2	ND	ND	ND	ND
		15.0	ND	4.2	ND	ND	ND	ND
MW-6	11/21/95	10.0	ND	4.4	ND	ND	ND	ND
MW-7	11/21/95	10.0	ND	4.7	ND	ND	ND	ND
		15.0	ND	4.3	ND	ND	ND	ND
		20.0	25	8.7	0.071	0.11	0.043	0.1
MW-8	11/21/95	10.0	ND	5.5	ND	ND	ND	ND
		15.0	ND	5.1	ND	ND	ND	ND
		20.0	ND	4.5	ND	ND	ND	ND

TPH G — Total petroleum hydrocarbons in the gasoline range
TPH D — Total petroleum hydrocarbons in the diesel range
ppm — Parts per million
ND — Not detected at the method detection limit
\- — Not measured/not analyzed
Boring locations are presented in Alton Geo Sciences' "Supplementary Site Assessment Report " which are included in Appendix C.

TABLE 5

SOIL ANALYTICAL DATA - TANK REMOVAL
FORMER USA STATION #57
10700 MacARTHUR BOULEVARD
OAKLAND, CALIFORNIA

Sample Location	Sample ID	Date	Depth (feet)	TPH G (ppm)	TPH D (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylene (ppm)	TTLC Lead (ppm)
Product Trench	PI-E-3.5	07/19/94	3.5	ND(0.2)	ND(1.0)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	7
	PI-2	07/19/94	3.5	4,500	ND(50)	ND(1.0)	6	60	440	4
	PI-3	07/19/94	3.5	ND(0.2)	ND(1.0)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	5
	PI-4	07/19/94	4	ND(0.2)	ND(1.0)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	6
	PI-5	07/19/94	3.5	ND(1.0)	ND(1.0)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	7
	PI2-0	09/19/94	9	15	-	0.02	0.04	0.07	0.19	-
Tank Field	TP1	07/19/94	12.5	-	60	ND(0.005)	0.015	0.007	0.008	-
	TP2	07/19/94	12.5	-	230	ND(1.0)	0.79	2.2	0.7	-
	TP3	07/19/94	13	94	-	0.18	0.25	1	5.9	3
	TP4	07/19/94	13	1400	-	1.9	3.5	12	150	4
	TP5	07/19/94	13	300	-	ND(0.5)	0.74	4.8	20	3
	TP6	07/19/94	13	0.7	-	ND(0.005)	ND(0.005)	0.006	ND(0.005)	3
	TP7	07/19/94	13	ND(0.2)	-	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	3
Tank Cavity	TC-1	08/19/94	16	ND(0.2)	-	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	-
	TC-2	08/19/94	16	93	-	ND(1.0)	0.28	0.63	3.1	-
	TC-3	08/19/94	17.5	2.4	1	0.008	0.02	0.02	0.11	-
	TC-4	08/19/94	15.5	0.7	2	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	-
	TC-5	08/19/94	17	190	-	0.17	0.38	0.99	7.9	-
	TC-6	08/19/94	18	ND(0.2)	-	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	-
	SM-1	08/19/94	19.5	0.4	-	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	-
	TC2-1	09/27/94	417 17	ND(0.2)	-	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	-
	TC2-2	09/27/94	13	13	-	0.06	0.019	0.026	ND(0.005)	-
	TC2-3	09/27/94	16	ND(0.2)	-	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	-
	TC2-4	09/27/94	13	ND(0.2)	-	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	-
	TC2-5	09/27/94	12	100	200	0.13	0.12	0.1	0.26	-
	TC2-7	09/27/94	13	6.3	37	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	-
	TC2-8	09/27/94	13	ND(1.0)	16	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	-
	TC2-9	09/27/94	19	0.4	-	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	-
	TC2-11	09/27/94	13	2200	-	9.6	21	40	260	-
	TC2-12	09/27/94	12	130	-	0.33	0.29	0.66	7.9	-
	TC2-13	09/27/94	20	620	-	1.1	4.9	6.4	66	-
	TC2-14	09/27/94	11	92	-	0.096	0.1	0.17	1.7	-
	TC2-15	09/27/94	17	ND(0.2)	-	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	-
	TC2-16	09/27/94	14	ND(1.0)	-	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	-
(Alton)	TC3-3	10/94	12-13	300	330	-	-	-	-	-
(Alton)	TC3-4	10/94	12-13	510	ND	-	-	-	-	-
(Alton)	TCE-5	10/94	12-13	2400	ND	-	-	-	-	-
(Alton)	TC3-6	10/94	12-13	940	ND	-	-	-	-	-
Dispenser Island	DI-1	09/27/94	3.5	720	-	0.19	2	9	53	-
	DI-2	09/27/94	3.5	280	-	0.12	0.8	4.6	33	-
	DI-3	09/27/94	3	ND(0.2)	-	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	-
	DI-4	09/27/94	3	590	-	0.7	2.5	13	81	-
	DI-5	09/27/94	3.5	570	-	0.1	1.5	2.7	17	-
	DI-6	09/27/94	3.5	1800	-	0.72	5.2	31	180	-

SOIL SAMPLES BY WESTERN GEO-ENGINEERS UNLESS OTHERWISE NOTED

TPH G	Total petroleum hydrocarbons in the gasoline range
TPH D	Total petroleum hydrocarbons in the diesel range
ppm	Parts per million
ND	Not detected at the method detection limit
-	Not measured/not analyzed

WEGE: TABLE 1

USA PETROLEUM CORPORATION
10700 MACARTHUR BLVD.,
OAKLAND, CALIFORNIA

SOIL SAMPLE LABORATORY RESULTS

SAMPLE LOCATION	SAMPLE ID	DATE SAMPLED	DEPTH SAMPLED IN FEET	SAMPLING COMPANY	LAB	TPH,G ppm	TPH,D ppm	BENZENE ppm	TOLUENE ppm	ETHYL BENZENE ppm	XYLENE ppm	TTLC LEAD ppm	STLC LEAD PPM	PNA's by M8270 ppm	VOL.ORGAN by 8240 ** ppm
P_L TRNCH	PI-E	3.5 07/19/94	3.5	WEGE	AEN	<0.2	<1.0	<.005	<.005	<.005	<.005	7			
P_L TRNCH	PI-2	07/19/94	3.5	WEGE	AEN	4500	<50	<1.0	6	60	440	4			
P_L TRNCH	PI-3	07/19/94	3.5	WEGE	AEN	<0.2	<1.0	<.005	<.005	<.005	<.005	5			
P_L TRNCH	PI-4	07/19/94	4	WEGE	AEN	<0.2	<1.0	<.005	<.005	<.005	<.005	6			
P_L TRNCH	PI-5	07/19/94	3.5	WEGE	AEN	<1.0	<1.0	<.005	<.005	<.005	<.005	7			
TNK FIELD	TP1	07/19/94	12.5	WEGE	AEN		60	<.005	0.015	0.007	0.008			<0.2	
TNK FIELD	TP2	07/19/94	12.5	WEGE	AEN		230	<1.0	0.79	2.2	0.7			* 0.77	ND
TNK FIELD	TP3	07/19/94	13	WEGE	AEN	94		0.18	0.25	1	5.9	3			
TNK FIELD	TP4	07/19/94	13	WEGE	AEN	1400		1.9	3.5	12	150	4			
TNK FIELD	TP5	07/19/94	13	WEGE	AEN	300		<.5	0.74	4.8	20	3			ND
TNK FIELD	TP6	07/19/94	13	WEGE	AEN	0.7		<.005	<.005	0.006	<.005	3			
TNK FIELD	TP7	07/19/94	13	WEGE	AEN	<0.2		<.005	<.005	<.005	<.005	3			
TNK CAVTY	TC-1	08/19/94	16	WEGE	AEN	<0.2		<.005	<.005	<.005	<.005				
TNK CAVTY	TC-2	08/19/94	16	WEGE	AEN	93		<0.01	0.28	0.63	3.1				
TNK CAVTY	TC-3	08/19/94	17.5	WEGE	AEN	2.4	1	0.008	0.02	0.02	0.11				
TNK CAVTY	TC-4	08/19/94	15.5	WEGE	AEN	0.7	2	<.005	<.005	<.005	<.005				
TNK CAVTY	TC-5	08/19/94	17	WEGE	AEN	190		0.17	0.38	0.99	7.9				
TNK CAVTY	TC-6	08/19/94	18	WEGE	AEN	<0.2		<.005	<.005	<.005	<.005				
TNK CAVTY	SM-1	08/18/94	19.5	WEGE	AEN	0.4		<.005	<.005	<.005	<.005				
TNK CAVTY	TC2-1	09/27/94	17	WEGE	AEN	<0.2		<.005	<.005	<.005	<.005				
TNK CAVTY	TC2-2	09/27/94	13	WEGE	AEN	13		0.06	0.019	0.026	<.005				
TNK CAVTY	TC2-3	09/27/94	16	WEGE	AEN	<0.2		<.005	<.005	<.005	<.005				
TNK CAVTY	TC2-4	09/27/94	13	WEGE	AEN	<0.2		<.005	<.005	<.005	<.005				
TNK CAVTY	TC2-5	09/27/94	12	WEGE	AEN	100	200	0.13	0.12	0.1	0.25				
TNK CAVTY	TC2-7	09/27/94	13	WEGE	AEN	6.3	37	<.005	<.005	<.005	<.005				
TNK CAVTY	TC2-8	09/27/94	13	WEGE	AEN	<1.0	16	<.005	<.005	<.005	<.005				
TNK CAVTY	TC2-9	09/27/94	19	WEGE	AEN	0.4		<.005	<.005	<.005	<.005				
TNK CAVTY	TC2-11	09/27/94	13	WEGE	AEN	2200		9.6	21	40	260				
TNK CAVTY	TC2-12	09/27/94	12	WEGE	AEN	130		0.33	0.29	0.66	7.9				
TNK CAVTY	TC2-13	09/27/94	20	WEGE	AEN	620		1.1	4.9	6.4	66				
TNK CAVTY	TC2-14	09/27/94	11	WEGE	AEN	92		0.096	0.1	0.17	1.7				
TNK CAVTY	TC2-15	09/27/94	17	WEGE	AEN	<0.2		<.005	<.005	<.005	<.005				
TNK CAVTY	TC2-16	09/27/94	14	WEGE	AEN	<1.0		<.005	<.005	<.005	<.005				
DISP ISL	DI-1	08/19/94	3.5	WEGE	AEN	720		0.19	2	9	53				
DISP ISL	DI-2	08/19/94	3.5	WEGE	AEN	280		0.12	0.8	4.6	33				
DISP ISL	DI-3	08/19/94	3	WEGE	AEN	<0.2		<.005	<.005	<.005	<.005				

TABLE 2
SOIL ANALYTICAL RESULTS
FORMER USA GASOLINE STATION 57
10700 MACARTHUR BOULEVARD, OAKLAND, CA

Sample ID	Sample Depth (feet bgs)	Date Collected	TPHG (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl-benzene (mg/Kg)	Total Xylenes (mg/Kg)	MTBE (mg/Kg)	TBA (mg/Kg)	DIPE (mg/Kg)	ETBE (mg/Kg)	TAME (mg/Kg)	1,2-DCA (mg/Kg)
Boring EX-1													
EX-1-11	11	10/6/05	**23**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.50	<0.020	<0.020	<0.020	<0.020
EX-1-16	16	10/6/05	**100**	<0.020*	<0.020*	<0.020*	**0.034**	<0.020*	<2.0*	<0.040*	<0.040*	<0.040*	<0.040*
EX-1-21	21	10/6/05	**120**	**0.018**	<0.010*	**0.34**	**0.79**	**0.033**	<1.0*	<0.020	<0.020	<0.020	<0.020
Boring EX-2													
EX-2-11	11	10/7/05	**6**	<0.005	<0.005	<0.005	**0.0113**	<0.005	<0.50	<0.020	<0.020	<0.020	<0.020
Boring EX-3													
EX-3-11	11	10/6/05	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.50	<0.020	<0.020	<0.020	<0.020
EX-3-15.5	15.5	10/6/05	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.50	<0.020	<0.020	<0.020	<0.020
EX-3-20.5	20.5	10/6/05	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.50	<0.020	<0.020	<0.020	<0.020
Boring EX-4													
EX-4-6	6	10/6/05	**1.4**	**0.020**	<0.005	**0.013**	<0.005	<0.005	<0.50	<0.020	<0.020	<0.020	<0.020
EX-4-11	11	10/6/05	**26**	**0.064**	**0.015**	**0.067**	**0.56**	<0.005	<0.50	<0.020	<0.020	<0.020	<0.020
EX-4-16.5	16.5	10/6/05	**510**	**1.1**	**3.6**	**2.2**	**43**	<0.20*	<20*	<0.40*	<0.40*	<0.40*	<0.40*
EX-4-21	21	10/6/05	<1.0	**0.068**	<0.005	**0.013**	**0.029**	<0.005	<0.50	<0.020	<0.020	<0.020	<0.020
EX-4-25.5	25.5	10/6/05	**18**	<0.005	<0.005	**0.008**	**0.178**	<0.005	<0.50	<0.020	<0.020	<0.020	<0.020

TABLE 2
SOIL ANALYTICAL RESULTS
FORMER USA GASOLINE STATION 57
10700 MACARTHUR BOULEVARD, OAKLAND, CA

Sample ID	Sample Depth (feet bgs)	Date Collected	TPHG (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl-benzene (mg/Kg)	Total Xylenes (mg/Kg)	MTBE (mg/Kg)	TBA (mg/Kg)	DIPE (mg/Kg)	ETBE (mg/Kg)	TAME (mg/Kg)	1,2-DCA (mg/Kg)

Explanation

TPHG = Total petroleum hydrocarbons as gasoline
BTEX = Benzene, toluene, ethylbenzene, and xylenes
MTBE = Methyl tertiary butyl ether
TBA=Tertiary butyl alcohol
DIPE =Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
1,2-DCA=1,2-Dichloroethane
bgs = below ground surface
mg/Kg = milligrams per kilogram
* = Reporting limits increased due to high concentrations of target analytes

Analytical Methods

TPHG analyzed using EPA Method SW8015B/DHS LUFT Manual
BTEX, MTBE, TBA, DIPE, ETBE, TAME, and 1,2-DCA analyzed using EPA Method SW8260B

Analytical Laboratory

Alpha Analytical, Inc. (ELAP #2019)

TABLE 2
SOIL ANALYTICAL RESULTS
FORMER USA GASOLINE STATION 57
10700 MACARTHUR BOULEVARD, OAKLAND, CA

Sample ID	Sample Depth (feet bgs)	Date Collected	GRO (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl-benzene (mg/Kg)	Total Xylenes (mg/Kg)	MTBE (mg/Kg)	TBA (mg/Kg)	DIPE (mg/Kg)	ETBE (mg/Kg)	TAME (mg/Kg)
Boring AS-1												
AS-1-11 Ft.	11	8/23/07	**80**	<0.02*	<0.02*	**0.057**	**0.041**	<0.02*	<2.0*	<0.04*	<0.04*	<0.04*
AS-1-16 Ft.	16	8/23/07	**500**	<0.2*	<0.2*	**8.8**	**1.72**	<0.2*	<20*	<0.4*	<0.4*	<0.4*
Boring AS-2												
AS-2-16 Ft.	16	8/23/07	**1.6**	**0.0058**	<0.005	<0.005	<0.005	<0.005	<0.50	<0.020	<0.020	<0.020
AS-2-21 Ft.	21	8/23/07	**19**	**0.67**	**0.018**	**0.43**	**1.31**	<0.01*	<1.0*	<0.02*	<0.02*	<0.02*
AS-2-26 Ft.	26	8/23/07	**1.3**	**0.16**	<0.005	**0.029**	**0.031**	<0.005	<0.50	<0.020	<0.020	<0.020

Explanation
GRO = Gasoline range organics
BTEX = Benzene, toluene, ethylbenzene, and xylenes
MTBE = Methyl tertiary butyl ether
TBA=Tertiary butyl alcohol
DIPE =Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
bgs = below ground surface
mg/Kg = milligrams per kilogram
* = Reporting limits increased due to high concentrations of target analytes

Analytical Methods
GRO analyzed using EPA Method SW8015B/DHS LUFT Manual
BTEX, MTBE, TBA, DIPE, ETBE, and TAME analyzed using EPA Method SW8260B

Analytical Laboratory
Alpha Analytical, Inc. (ELAP #2019)

APPENDIX D

OCTOBER 2009 SOIL GAS SURVEY DATA AND VAPOR INTRUSION HUMAN HEALTH RISK ASSESSMENT REPORT

TABLE 1
SOIL GAS ANALYTICAL RESULTS
Former USA Station No. 57
10700 MacArthur Boulevard, Oakland, California

Sample ID	Sample Depth (feet bgs)	Date	TPHg ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	Toluene ($\mu g/m^3$)	Ethylbenzene ($\mu g/m^3$)	Total Xylenes ($\mu g/m^3$)	MTBE ($\mu g/m^3$)	Naphthalene ($\mu g/m^3$)	1,1-DFA ($\mu g/m^3$)
Environmental Screening Level (ESL)[1] (commercial property)			**29,000**	**280**	**180,000**	**3,300**	**58,000**	**31,000**	**240**	-------
SV-1A	4	10/21/09	8,000[3]	<4.1	<4.9	<5.6	<5.6	<4.7	<27	<14
SV-1B	9	10/22/09	1,100	<4.0	<4.7	<5.4	<5.4	<4.5	<26	<13
SV-1B (dup)[2]	---	---	1,100	<4.0	<4.7	<5.4	<5.4	<4.5	<26	<13
SV-2A	4	10/21/09	4,900[3]	<3.7	<4.4	<5.0	<5.0	<4.2	<24	<12
SV-2B	9	10/21/09	21,000	69	130	48	126	<12	<69	<36
SV-3A	4	10/21/09	11,000[3]	30	20	7.6	32	<4.3	<25	<13
SV-3B	9	10/21/09	20,000	96	240	38	111	<18	<100	<53
SV-3B (dup)[2]	---	---	21,000	97	230	38	109	<18	<100	<53
SV-4A	4	10/21/09	140[3]	<3.8	<4.4	<5.1	5.4	<4.2	<25	<13
SV-4B	9	10/22/09	16,000	250	1,200	51	158	170	<27	<14
SV-5A	4	10/21/09	**99,000**[3]	110	2,900	160	440	3,700	<140	<71
SV-5B	9	10/22/09	**7,400,000**	**7,800**	8,300	**39,000**	6,000	5,100	<2,400	<1,200
SV-6A	4	10/21/09	---------- *insufficient airflow through subsurface strata to enable collection of soil gas sample* ----------							
SV-6B	9	10/21/09	**8,000,000**	**5,600**	<25,000	<29,000	<29,000	12,000	<140,000	<73,000
SV-7A	4	10/21/09	11,000[3]	13	140	20	91	<4.3	<25	<13
SV-7B	9	10/22/09	**70,000**	58	500	83	290	<19	<110	<58
SV-8A	4	10/12/09	7,800	46	960	110	308	<4.3	<25	<13
SV-8B	9	10/22/09	12,000	**290**	160	29	93	<16	<91	<47[4]
SV-9A	4	10/12/09	3,300	100	85	10	28.9	<4.3	<25	<13
SV-9B	9	10/22/09	7,000	11	62	14	43	38	<47	<24[4]
SV-10A	4	10/21/09	**260,000**[3]	<4.2	19	30	610	<4.8	77	<14
SV-10B	9	10/22/09	**100,000**	<4.0	6.9	<5.4	53	<4.5	<26	<24[4]

TABLE 1
SOIL GAS ANALYTICAL RESULTS
Former USA Station No. 57
10700 MacArthur Boulevard, Oakland, California

Sample ID	Sample Depth (feet bgs)	Date	TPHg ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	Toluene ($\mu g/m^3$)	Ethylbenzene ($\mu g/m^3$)	Total Xylenes ($\mu g/m^3$)	MTBE ($\mu g/m^3$)	Naphthalene ($\mu g/m^3$)	1,1-DFA ($\mu g/m^3$)
Environmental Screening Level (ESL)[1] (commercial property)			**29,000**	**280**	**180,000**	**3,300**	**58,000**	**31,000**	**240**	-------
SV-11A	4	10/21/09	26,000[3]	<3.8	5.8	<5.1	18.2	<4.3	45	<13
SV-11B	9	10/22/09	**40,000**	58	88	30	191	42	<26	<13[4]
SV-12A	4	10/21/09	5,500[3]	180	540	140	450	<4.4	<26	<13
SV-12B	9	10/22/09	4,900	120	350	55	166	14	<25	<13[4]
SV-13A	4	10/21/09	**210,000**[3]	20	49	22	141	<5.0	<29	<15
SV-13B	9	10/22/09	**38,000**	32	520	230	1,250	<4.9	<28	<15[4]
SV-14A	4	10/12/09	1,000	31	14	5.6	23.2	<4.6	<26	14
SV-14B	9	10/22/09	**56,000**	**430**	250	70	123	<22	<130	<65
SV-15A	4	10/12/09	390	4.9	6.5	<5.2	<5.2	<4.4	<25	<13
SV-15A (dup)[2]	---	---	330	4.8	6.4	<5.2	<5.2	<4.4	<25	<13
SV-15B	9	10/22/09	7,900	38	52	15	51	<4.5	<26	<13
SV-16A	4	10/12/09	110	<3.8	<4.5	<5.2	<5.2	<4.3	<25	16
SV-16B	9	10/22/09	780	<3.9	<4.6	<5.2	<5.2	<4.4	<25	<13
SV-17A	4	10/12/09	1,700	160	60	5.5	26.5	<4.3	<25	<13
SV-17B	9	10/22/09	**52,000**	**330**	330	49	280	<22	<130	<65
SV-18A	4	10/12/09	3,500	53	350	170	450	<4.4	<25	<13
SV-18B	9	10/22/09	7,600	250	440	96	211	<4.5	<26	<13
SV-19A	4	10/12/09	27,000	**360**	500	83	380	<7.5	<44	<22
SV-19B	9	10/21/09	**30,000**	37	160	42	144	<7.6	<44	<23
SV-20A	4	10/12/09	11,000	77	560	140	351	<4.3	<25	<13
SV-20B	9	10/21/09	25,000	180	250	47	192	<4.5	<26	<13

TABLE 1
SOIL GAS ANALYTICAL RESULTS
Former USA Station No. 57
10700 MacArthur Boulevard, Oakland, California

Sample ID	Sample Depth (feet bgs)	Date	TPHg ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	Toluene ($\mu g/m^3$)	Ethylbenzene ($\mu g/m^3$)	Total Xylenes ($\mu g/m^3$)	MTBE ($\mu g/m^3$)	Naphthalene ($\mu g/m^3$)	1,1-DFA ($\mu g/m^3$)

Legend:
TPHg = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tertiary butyl ether
1,1-DFA = 1,1-difluoroethane
ug/m^3 = micrograms per cubic meter

Analytical Laboratory
Air Toxics, LTD. (NELAP 02110CA)

Analytical Methods
TPHg by Modified EPA Method TO-3
BTEX, MTBE, Naphthalene, and 1,1-DFA by Modified EPA Method TO-15

Notes:

[1] = *RWQCB-SF Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final – November 2007 (revised May 2008)*; Table E-2, Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion Concerns (lowest commercial established risk value)

[2] = Duplicate sample analyzed by laboratory for quality control (QC) purposes
[3] = Estimated value due to bias in the continuing calibration verification
[4] = Non-detected compound associated with low bias in the continuing calibration verification
BOLD font indicates analyte exceeds corresponding ESL

ENVIRONMENTAL

Vapor Intrusion Human Health Risk Assessment
Former USA Service Station No. 57
10700 MacArthur Boulevard
Oakland, California

November 24, 2009

Prepared for:
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Rubik Project No.
20098

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TABLES

1.0 INTRODUCTION

Rubik Environmental, Incorporated (Rubik) conducted a vapor intrusion human health risk assessment (HHRA) for Stratus Environmental, Incorporated (Stratus) for the Former USA Service Station No. 57 (site) located at 10700 MacArthur Boulevard in Oakland, California (Figure 1). The HHRA was conducted to determine the vapor intrusion risks to commercial receptors based on the hydrocarbon concentrations in samples collected at the site in October 2009 at depths of four feet below the ground surface (bgs) and nine feet bgs. The hydrocarbon concentrations in the shallow samples were used to estimate risks to commercial receptors if the site were developed in its current state. The concentrations in the 9-foot samples were used to predict the vapor intrusion risks that could result in the future if the top 5 feet of soil was removed from the site.

2.0 SITE BACKGROUND

The site is located in a mixed commercial and residential area of Oakland on the southeast corner of the Foothill Square Parking lot at the intersection of Foothill Boulevard to the east and 108th Avenue to the south. The service station that formerly occupied the site was closed in 1994 and the underground storage tanks (USTs), dispensers and associated product piping were removed. The site is currently vacant. Interstate 580 is located east of Foothill Boulevard, approximately 500 feet east of the site. The adjacent property to the north and west of the site is occupied by the Foothill Square Shopping Center and the associated paved parking lot. Property to the south of 108th Avenue is occupied by residences. The site is currently scheduled to be developed with an approximate 72,000 square feet commercial building (Stratus, 2009). As noted, the plan for the future development is to remove the top 5 feet of soil prior to constructing the building.

3.0 POTENTIAL RECEPTORS

The current potential receptors for the site are both residential and commercial passersbys who would have little to no chance for exposure due to the limited amount of time on site and the lack of a structure in which the vapors could accumulate. The potential future receptors based on the site location and plans for development provided by Stratus, are construction workers, commercial workers and patrons of the business that will be constructed. Of these, commercial workers have the greatest risk of exposure due to the extended amount of time spent onsite. Therefore, this HHRA was conducted for commercial receptors to provide a conservative assessment of risk for all receptors.

4.0 ACCEPTABLE RISK LIMITS

Per the United States Environmental Protection Agency (US EPA, 1991), the acceptable multi-chemical and multi-pathway excess cancer risks (ECRs) range is from one in ten thousand (1.0E-04) to one in a million (1.0E-06), with 1.0E-06 being the point of departure; and the acceptable multi-pathway noncarcinogenic hazard quotient (HQ) for a single chemical or

multi-chemical and multi-pathway hazard index (HI) for all chemicals is 1.0 (the HI is calculated by summing the chemical-specific and/or pathway-specific HQs).

In California, under the Proposition 65 program, the "no significant risk levels" represent the daily intake level calculated to result in a cancer risk not exceeding one excess case of cancer in 100,000 individuals (1.0E-05) exposed over a 70-year lifetime (Cal-EPA, 1994a). As such, the California Environmental Protection Agency (Cal-EPA) uses a target ECR of 1.0E-05 for individual carcinogenic chemicals to warn the public of potential carcinogens in every day products. A cumulative ECR of 1 E-04 must not be exceeded by the exposed populations, including sensitive receptors. Typically, target risk levels and hazard quotients of 1E-06 and 1.0 are used for residential receptors and 1E-05 and 1.0 are used for commercial receptors.

5.0 CHEMICALS OF CONCERN

The chemicals of concern (COCs) include all hydrocarbons that were detected in at least one of the soil gas samples collected from four or nine feet bgs and consist of total petroleum hydrocarbons in the gasoline range (TPHg), benzene, toluene, ethylbenzene and xylenes (BTEX), methyl tertiary butyl ether (MTBE) and naphthalene. A summary of the analytical results for the soil gas samples is presented in Table 1.

6.0 EXPOSURE POINT CONCENTRATIONS

Exposure point concentrations (EPCs) are representative chemical concentrations used to estimate risks at a site. The US EPA recommends using the mean concentration as the EPC for each COC to represent a reasonable estimate of the concentration likely to be contacted over time (US EPA, 1989). When data from greater than 10 samples is available, the uncertainty associated with estimating the true mean concentration can be reduced using the 95 percent upper confidence limit (95% UCL) (US EPA, 1992 and 2002). To provide a conservative estimate of vapor intrusion risk for future buildings, the California Environmental Protection Agency (Cal-EPA) Department of Toxic Substances Control (DTSC) recommends using the maximum soil vapor concentrations as the EPCs for screening purposes (Cal-EPA, 2005b).

The hydrocarbon concentrations were relatively consistent across site with the exception samples collected near the former dispenser islands (samples SV-5 and SV-6), which contained hydrocarbon concentrations up to three orders of magnitude greater than concentrations measured elsewhere at the site. These elevated concentrations were identified as outliers in an analysis performed with the Pro-UCL statistical software (USEPA, 2009). When the elevated concentrations were included attempts to calculate the 95% UCL, that data did not follow a discernible distribution for the majority of the chemicals. Therefore, the maximum and mean concentrations were used to estimate the vapor intrusion risks in this HHRA. When the analytical reporting limit (RL) for a COC exceeded detected concentrations, the RL was used as the maximum EPC. Likewise, when no concentration was detected the RL was used to calculate the mean EPC.

The soil gas EPCs for the samples collected at 4 feet bgs and 9 feet bgs are presented in Tables 2 and 3, respectively.

6.1 Evaluation of TPH as a Mixture

TPH is a broad term used to describe several hundred chemical compounds contained within a mixture of petroleum hydrocarbons with widely varying physical, chemical and toxicological properties, many of which have not been defined (USEPA, 1986). Gasoline or TPHg is defined as a petroleum mixture characterized by a predominance of branched alkanes and aromatic hydrocarbons with carbon ranges of C_6 to C_{12} and lesser amounts of straight-chain alkanes, alkenes and cycloalkanes of the same carbon range (California Regional Water Quality Control Board- San Francisco Region [CRWQCB-SFR], 2008).

Due to the complexity of TPH as a mixture, the HHRA was conducted using the indicator/surrogate approach, which is consistent with what has been used by the Massachusetts Department of Environmental Protection (MADEP, 1994, 1996, and 1997), the Washington State Department of Ecology Cleanup Program (WDECP, 2001) and the Indiana Department of Environmental Management (IDEM, 2006) and the $Risc_4$ risk software (Spence, et al. 2001).

In order to estimate health risks for TPHg, the TPH Criteria Working Group (TPHCWG; 1997) recommended using the following fractions with surrogate reference doses/concentrations (RfDs/RfCs): C_5-C_8 aliphatics, C_9-C_{16} aliphatics, C_7-C_8 aromatics, C_9-C_{12} aromatics, and C_{13}-C_{16} aromatics. Due to the age of the release at the site, the TPH is considered to be weathered, which means that the lighter, more easily degraded constituents are no longer present. Therefore, the noncarcinogenic effects of the TPH were quantified using the concentrations of the aliphatic and aromatic fractions of weathered TPHg developed by the WDECP (2001). The TPHg EPCs are presented in Table 4.

7.0 VAPOR INTRUSION MODELING

The Department of Toxic Substances Control (DTSC) version of the Johnson and Ettinger (J & E) Soil Gas Vapor Intrusion model (Cal-EPA, 2009) was used to estimate the excess cancer risk (ECR) and hazard quotient (HQ) for commercial receptors using the following parameters:

- Depth below grade to bottom of enclosed space floor: 15 centimeters (cm), default for structures without basements (Cal-EPA, 2005b).

- Soil vapor sampling depth below grade: 121.92 cm (4 feet), site-specific sampling depth of the shallow soil vapor samples. This depth was used for analysis of the samples collected at 4 feet bgs to evaluate risks if no soil was removed prior to development of the site, and for the samples collected at nine feet bgs in the event that up to five feet of soil would be removed prior to constructing the proposed building.

- Average soil temperature: 16.67°C (62°F), site-specific for the Oakland, California area (Figure A-1, Cal-EPA, 2005b).

- Soil Thickness: 121.92 cm (4 feet), site-specific based on soil gas sample collection depth and the potential to excavate up to 5 feet of soil for prior to site development.

- SCS soil type: Clay. Site specific based a review of boring and the geologic cross sections and discussions with Stratus geologists.

- Soil dry bulk density: 1.43 grams per cubic centimeter (g/cm^3), model default value for clay (Cal-EPA, 2009).

- Soil total porosity: 0.459 cubic centimeters per cubic centimeter (cm^3/cm^3), model default value for clay (Cal-EPA, 2009).

- Soil water-filled porosity: 0.402 cm^3/cm^3, based on soil type and historical precipitation measurements. See discussion below and in Table 5 (USEPA, 1985, 1996, and 2004b).

- Average vapor flow rate into building (Q_{soil}): 5 liters per minute (L/m), model default value (Cal-EPA, 2005b). This resulted in a $Q_{soil}/Q_{building}$ ratio of 2.46E-03, which is within the reasonable range of 0.0001 to 0.01 (American Petroleum Institute [API], 2002).

- Averaging time for carcinogens: 70 years (Cal-EPA, 2005c);

- Averaging time for non-carcinogens: 25 years for commercial scenario (Cal-EPA, 2005b and 2005d);

- Exposure duration: 25 years for commercial scenario (Cal-EPA, 2005b and 2005d)

- Exposure frequency: 250 days/year for commercial scenario (Cal-EPA, 2005b and 2005d);

- Toxicity values and physical properties for all COCs except TPHg: model default values (Cal-EPA, 2009);

- Toxicity values and physical properties for TPHg: Agency for Toxic Substances and Diseases Registry (ATSDR, 1995 and 1999). TPH Criteria Working Group (TPHCWG, 1997a and 1997b).

7.1.1.1 Soil Water-Filled Porosity

Soil water-filled porosity is a strong contributor to the potential volatilization of chemicals from the subsurface. Therefore, to provide an accurate assessment of risk, it is recommended that site-specific data for this parameter be used (US EPA, 2004b). Although soil water-filled porosity of discrete soil samples can be measured, the US EPA cautions that these measurements should not be used in risk assessments because they are too affected by

antecedent rainfall or dry season events and may not represent annual average conditions (US EPA, 1996 and 2004b). The US EPA recommends that the site-specific yearly average infiltration rate should be used to estimate the soil water-filled porosity at a site for fate and transport modeling (US EPA, 1996).

The soil water-filled porosity calculations, parameters and results are presented in Table 5.

7.1.1.2 Modeling Results

The individual and cumulative ECRs and noncarcinogenic hazards for soil gas samples collected at four feet bgs were less than the most stringent Cal-EPA targets of 1.0E-06 and 1.0. The cumulative ECR and the hazard index for the samples collected at four feet bgs were 9.9E-08 and 0.006.

The individual and cumulative ECRs based on the maximum COC concentrations detected at nine feet bgs and the removal of 5 feet soil above the sampling locations were less than 1.0E-06 for all detected chemicals. The cumulative ECR without naphthalene weas 9.3E-07. When the RL for naphthalene was included, the ECR increased to 5.7E-05. HQs for the maximum concentrations in the 9 feet bgs samples and the HI without naphthalene was 0.15. The HQ based on the RL for naphthalene was 1.5 and the HI when naphthalene was included was 1.7.

The ECRs and HQs for the mean concentrations detected in samples from 9 feet bgs were also less than 1.0E-06 and 1.0 and the mean naphthalene concentration resulting from the RLs resulted in an ECR of 2.9E-06 and 7.9E-02.

The vapor intrusion modeling results are presented in Table 6.

8.0 CONCLUSIONS

The potential vapor intrusion risks resulting from the hydrocarbon concentrations detected at four feet bgs, based on the maximum concentrations, are nearly two order of magnitude less than the most stringent Cal-EPA target risk and hazard limits of 1.0E-06 and 1.0, respectively. This indicates that commercial workers in a building constructed on the current soil would not be exposed to unacceptable risks from inhalation of hydrocarbons migrating into the building from the subsurface.

The vapor intrusion risks resulting from COCs detected in soil gas samples from nine feet bgs based on the maximum and mean COC concentrations were one to two orders of magnitude, respectively, less than most conservative limits 1.0E-06 and 1.0, if 5 feet of soil above the samples were removed prior to development. The risk resulting from the maximum concentrations when the RL for naphthalene is included exceeds the target ECR for commercial properties of 1.0E-05 and an HI of 1.0. It is important to note that no naphthalene was detected in the soil gas samples from 9 feet bgs and naphthalene concentrations were only detected in 2 of the 20 samples collected from 4 feet bgs. Therefore, the actual risk is likely much less than

predicted by analysis of either the maximum or mean naphthalene concentrations based on the nondetected concentrations and RLS.

Because the mean concentrations provide a more accurate depiction of potential risk, the results indicate that even when the naphthalene RLs are included in the calculation, the risk to commercial receptors occupying a structure located approximately four feet above the soil gas samples that were collected at 9 feet bgs are below the acceptable limits of 1.0E-05 and 1.0.

9.0 UNCERTAINTIES

Uncertainties in the risk characterization essentially involve the methodologies used in estimating the health risk results. They are also the products of many factors affecting each component of the risk assessment process; namely data collection/evaluation and selection of COCs, exposure assessment, and toxicity assessment. These factors measurement errors, exposure and modeling assumptions, and uncertainty and variability of the values used in the assessment.

In general, uncertainties associated with the sampling and analysis and COC selection are related to the assumptions that the sampling activities adequately characterized the soil vapor intrusion issues in the locations of the samples, and that the selected COCs were representative of the chemicals occurring in the shallow soil vapor. Exposure and toxicity assessment have been recognized by the USEPA as the largest sources of uncertainties in the health risk assessment process (USEPA, 1992). Uncertainties associated with exposure assessment in this HHRA involve, at a minimum, the use of maximum detected concentrations as EPCs and the use of upper bound exposure parameters in the J&E modeling.

Another uncertainty may include the conservative assumption that COC concentrations do not decrease over time in the environment due to source depletion and biodegradation, but remain at the concentrations detected over the exposure period evaluated. This assumption has a moderate to high effect on the health risk results where risk drivers include biodegradable COCs.

Another source of uncertainty in estimating exposures is the assumption that individuals within a particular receptor population (or subpopulation) will receive the same intake doses. Variability in parameters such as absorption rate, inhalation rate, frequency and duration of exposure, body weight, and activity pattern will exist even in a narrowly defined age group or identified sensitive subpopulation (USEPA, 1992). This range of uncertainty and variability is difficult to assess. In the HHRA, however, many Cal-EPA standard default factors representing the upper limit of these exposure parameters are deemed to have mostly over-estimated the potential health risks.

Other uncertainties are related to the averaging times selected in estimating average daily intakes for potential carcinogenic and noncarcinogenic effects, and the assumption that the same receptor will be exposed daily to low levels of site related contaminants. On the basis of

the information discussed above, the net overall uncertainty associated with the exposure assessment is rated as moderate with a bias toward overestimation of risks.

10.0 LIMITATIONS AND CERTIFICATIONS

This report was prepared in accordance with the scope of work outlined in Rubik's contract and with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the site. It was prepared for the exclusive use of Stratus and Moller Investment Group, Incorporated for the express purpose stated above. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Rubik. To the extent that this report is based on information provided to Rubik by third parties, Rubik may have made efforts to verify this third party information, but Rubik cannot guarantee the completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the site existing at the time of the field investigation. No other warranties, expressed or implied are made by Rubik.

Prepared by:

Todd Leonard
Senior Toxicologist

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TABLES

VAPOR INTRUSION HHRA
FORMER USA SERVICE STATION NO. 57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

November 24, 2009

TABLE 1
SOIL GAS ANALYTICAL RESULTS
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample ID	Sample Depth (feet bgs)	Date	TPHg (µg/m3)	Benzene (µg/m3)	Toluene (µg/m3)	Ethylbenzene (µg/m3)	Total Xylenes (µg/m3)	MTBE (µg/m3)	Naphthalene (µg/m3)	1,1-DFA (µg/m3)
Environmental Screening Level (ESL)[1] (commercial property)			**29,000**	**280**	**180,000**	**3,300**	**58,000**	**31,000**	**240**	----
SV-1A	4	10/21/09	8,000[3]	<4.1	<4.9	<5.6	<5.6	<4.7	<27	<14
SV-1B	9	10/22/09	1,100	<4.0	<4.7	<5.4	<5.4	<4.5	<26	<13
SV-1B (dup)[2]	---	---	1,100	<4.0	<4.7	<5.4	<5.4	<4.5	<26	<13
SV-2A	4	10/21/09	4,900[3]	<3.7	<4.4	<5.0	<5.0	<4.2	<24	<12
SV-2B	9	10/21/09	21,000	69	130	48	126	<12	<69	<36
SV-3A	4	10/21/09	11,000[3]	30	20	7.6	32	<4.3	<25	<13
SV-3B	9	10/21/09	20,000	96	240	38	111	<18	<100	<53
SV-3B (dup)[2]	---	---	21,000	97	230	38	109	<18	<100	<53
SV-4A	4	10/21/09	140[3]	<3.8	<4.4	<5.1	5.4	<4.2	<25	<13
SV-4B	9	10/22/09	16,000	250	1,200	51	158	170	<27	<14
SV-5A	4	10/21/09	**99,000[3]**	110	2,900	160	440	3,700	<140	<71
SV-5B	9	10/22/09	**7,400,000**	**7,800**	8,300	**39,000**	6,000	5,100	<2,400	<1,200
SV-6A	4	10/21/09	*insufficient airflow through subsurface strata to enable collection of soil gas sample*							
SV-6B	9	10/21/09	**8,000,000**	**5,600**	<25,000	<29,000	<29,000	12,000	<140,000	<73,000
SV-7A	4	10/21/09	11,000[3]	13	140	20	91	<4.3	<25	<13
SV-7B	9	10/22/09	**70,000**	58	500	83	290	<19	<110	<58
SV-8A	4	10/12/09	7,800	46	960	110	308	<4.3	<25	<13
SV-8B	9	10/22/09	12,000	**290**	160	29	93	<16	<91	<47[4]
SV-9A	4	10/12/09	3,300	100	85	10	28.9	<4.3	<25	<13
SV-9B	9	10/22/09	7,000	11	62	14	43	38	<47	<24[4]
SV-10A	4	10/21/09	**260,000[3]**	<4.2	19	30	610	<4.8	77	<14
SV-10B	9	10/22/09	**100,000**	<4.0	6.9	<5.4	53	<4.5	<26	<24[4]
SV-11A	4	10/21/09	26,000[3]	<3.8	5.8	<5.1	18.2	<4.3	45	<13
SV-11B	9	10/22/09	**40,000**	58	88	30	191	42	<26	<13[4]

Sample ID	Sample Depth (feet bgs)	Date	TPHg (µg/m3)	Benzene (µg/m3)	Toluene (µg/m3)	Ethylbenzene (µg/m3)	Total Xylenes (µg/m3)	MTBE (µg/m3)	Naphthalene (µg/m3)	1,1-DFA (µg/m3)
Environmental Screening Level (ESL)[1] (commercial property)			**29,000**	**280**	**180,000**	**3,300**	**58,000**	**31,000**	**240**	------
SV-12A	4	10/21/09	5,500[3]	180	540	140	450	<4.4	<26	<13
SV-12B	9	10/22/09	4,900	120	350	55	166	14	<25	<13[4]
SV-13A	4	10/21/09	**210,000**[3]	20	49	22	141	<5.0	<29	<15
SV-13B	9	10/22/09	**38,000**	32	520	230	1,250	<4.9	<28	<15[4]
SV-14A	4	10/12/09	1,000	31	14	5.6	23.2	<4.6	<26	14
SV-14B	9	10/22/09	**56,000**	**430**	250	70	123	<22	<130	<65
SV-15A	4	10/12/09	390	4.9	6.5	<5.2	<5.2	<4.4	<25	<13
SV-15A (dup)[2]	---	---	330	4.8	6.4	<5.2	<5.2	<4.4	<25	<13
SV-15B	9	10/22/09	7,900	38	52	15	51	<4.5	<26	<13
SV-16A	4	10/12/09	110	<3.8	<4.5	<5.2	<5.2	<4.3	<25	16
SV-16B	9	10/22/09	780	<3.9	<4.6	<5.2	<5.2	<4.4	<25	<13
SV-17A	4	10/12/09	1,700	160	60	5.5	26.5	<4.3	<25	<13
SV-17B	9	10/22/09	**52,000**	**330**	330	49	280	<22	<130	<65
SV-18A	4	10/12/09	3,500	53	350	170	450	<4.4	<25	<13
SV-18B	9	10/22/09	7,600	250	440	96	211	<4.5	<26	<13
SV-19A	4	10/12/09	27,000	**360**	500	83	380	<7.5	<44	<22
SV-19B	9	10/21/09	**30,000**	37	160	42	144	<7.6	<44	<23
SV-20A	4	10/12/09	11,000	77	560	140	351	<4.3	<25	<13
SV-20B	9	10/21/09	25,000	180	250	47	192	<4.5	<26	<13

Legend:

TPHg = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tertiary butyl ether
1,1-DFA = 1,1-difluoroethane
ug/m^3 = micrograms per cubic meter

Analytical Laboratory

Air Toxics, LTD. (NELAP 02110CA)

Analytical Methods

TPHg by Modified EPA Method TO-3
BTEX, MTBE, Naphthalene, and 1,1-DFA by Modified EPA Method TO-15

Notes:

[1] = *RWQCB-SF Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final – November 2007 (revised May 2008)* ; Table E-2, Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion Concerns (based on an excess cancer risk of 1E-06 and a hazard quotient of 0.2)

[2] = Duplicate sample analyzed by laboratory for quality control (QC) purposes
[3] = Estimated value due to bias in the continuing calibration verification
[4] = Non-detected compound associated with low bias in the continuing calibration verification
BOLD font indicates analyte exceeds corresponding ESL

TABLE 2
SOIL GAS EXPOSURE POINT CONCENTRATIONS FROM FOUR FEET BGS
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample ID	Sample Depth (feet bgs)	Date	TPHg ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	Toluene ($\mu g/m^3$)	Ethylbenzene ($\mu g/m^3$)	Total Xylenes ($\mu g/m^3$)	MTBE ($\mu g/m^3$)	Naphthalene ($\mu g/m^3$)
SV-1A	4	10/21/09	8,000	4.1	2,900	5.6	5.6	4.7	27
SV-2A	4	10/21/09	4,900	3.7	4.4	5.0	5.0	4.2	24
SV-3A	4	10/21/09	11,000	30	20	7.6	32	4.3	25
SV-4A	4	10/21/09	140	3.8	4.4	5.1	5.4	4.2	25
SV-5A	4	10/21/09	99,000	110	2,900	160	440	3,700	140
SV-7A	4	10/21/09	11,000	13	140	20	91	4.3	25
SV-8A	4	10/12/09	7,800	46	960	110	308	4.3	25
SV-9A	4	10/12/09	3,300	100	85	10	28.9	4.3	25
SV-10A	4	10/21/09	260,000	4.2	19	30	610	4.8	77
SV-11A	4	10/21/09	26,000	3.8	5.8	5.1	18.2	4.3	45
SV-12A	4	10/21/09	5,500	180	540	140	450	4.4	26
SV-13A	4	10/21/09	210,000	20	49	22	141	5.0	29
SV-14A	4	10/12/09	1,000	31	14	5.6	23.2	4.6	26
SV-15A	4	10/12/09	390	4.9	6.5	5.2	5.2	4.4	25
SV-16A	4	10/12/09	110	3.8	4.5	5.2	5.2	4.3	25
SV-17A	4	10/12/09	1,700	160	60	5.5	26.5	4.3	25
SV-18A	4	10/12/09	3,500	53	350	170	450	4.4	25
SV-19A	4	10/12/09	27,000	360	500	83	380	7.5	44
SV-20A	4	10/12/09	11,000	77	560	140	351	4.3	25
		Maximum	260,000	360	2,900	170	610	3,700	140
		Mean	36,386	64	480	49	178	199	36

Legend:
bgs = below the ground surface
TPHg = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tertiary butyl ether
$\mu g/m^3$ = micrograms per cubic meter
Shaded values are analytical reporting limit and indicate that no concentration was detected

TABLE 3
SOIL GAS EXPOSURE POINT CONCENTRATIONS FROM NINE FEET BGS
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample ID	Sample Depth (feet bgs)	Date	TPHg ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	Toluene ($\mu g/m^3$)	Ethylbenzene ($\mu g/m^3$)	Total Xylenes ($\mu g/m^3$)	MTBE ($\mu g/m^3$)	Naphthalene ($\mu g/m^3$)
SV-1B	9	10/22/09	1,100	4.0	4.7	5.4	5.4	4.5	26
SV-2B	9	10/21/09	21,000	69	130	48	126	12	69
SV-3B	9	10/21/09	20,000	96	240	38	111	18	100
SV-4B	9	10/22/09	16,000	250	1,200	51	158	170	27
SV-5B	9	10/22/09	7,400,000	7,800	8,300	39,000	6,000	5,100	2,400
SV-6B	9	10/21/09	8,000,000	5,600	25,000	29,000	29,000	12,000	140,000
SV-7B	9	10/22/09	70,000	58	500	83	290	19	110
SV-8B	9	10/22/09	12,000	290	160	29	93	16	91
SV-9B	9	10/22/09	7,000	11	62	14	43	38	47
SV-10B	9	10/22/09	100,000	4.0	6.9	5.4	53	4.5	26
SV-11B	9	10/22/09	40,000	58	88	30	191	42	26
SV-12B	9	10/22/09	4,900	120	350	55	166	14	25
SV-13B	9	10/22/09	38,000	32	520	230	1,250	4.9	28
SV-14B	9	10/22/09	56,000	430	250	70	123	22	130
SV-15B	9	10/22/09	7,900	38	52	15	51	4.5	26
SV-16B	9	10/22/09	780	3.9	4.6	5.2	5.2	4.4	25
SV-17B	9	10/22/09	52,000	330	330	49	280	22	130
SV-18B	9	10/22/09	7,600	250	440	96	211	4.5	26
SV-19B	9	10/21/09	30,000	37	160	42	144	7.6	44
SV-20B	9	10/21/09	25,000	180	250	47	192	4.5	26
		Maximum	8,000,000	7,800	25,000	39,000	29,000	12,000	140,000
		Mean	795,464	783	1,902	3,446	1,925	876	7,169

Notes:

BGS = below the ground surface

TPHg = Total petroleum hydrocarbons as gasoline

MTBE = Methyl tertiary butyl ether

$\mu g/m^3$ = micrograms per cubic meter

Shaded values are analytical reporting limit and indicate that no concentration was detected

TABLE 4
TPHg EXPOSURE POINT CONCENTRATIONS IN SOIL GAS
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Condition	TPH Concentration in Soil Gas ($\mu g/m^3$)	Fraction	Carbon Range	Percent of Weathered TPHg Composition[a]	EPC By Fraction ($\mu g/m^3$)
4 Feet BGS					
Maximum	260,000	Aliphatic	>C5-C8	16.75	4.4E+04
			>C8-C12	23.75	6.2E+04
		Aromatic	>C7-C8[b]	9.70	2.5E+04
			>C8-C12	30.49	7.9E+04
			>C12-C16	19.31	5.0E+04
9 Feet BGS					
Maximum	8,000,000	Aliphatic	>C5-C8	16.75	1.3E+06
			>C8-C12	23.75	1.9E+06
		Aromatic	>C7-C8[b]	9.70	7.8E+05
			>C8-C12	30.49	2.4E+06
			>C12-C16	19.31	1.5E+06
Mean	795,464	Aliphatic	>C5-C8	16.75	1.3E+05
			>C8-C12	23.75	1.9E+05
		Aromatic	>C7-C8[b]	9.70	7.7E+04
			>C8-C12	30.49	2.4E+05
			>C12-C16	19.31	1.5E+05

Definitions:
COC = Chemical of Concern
TPHg = Total petroleum hydrocarbons in the gasoline range
EPC = Exposure point concetration
Notes:
[a]Default fuel composition values from Washington State Department of Ecology Toxic Cleanup Program (WSDETCP, 2001)
[b]Based on % of toluene, ethylbenzene and xylenes in weathered gasoline (WSDETCP, 2001)

TABLE 5
ESTIMATION OF SOIL WATER-FILLED POROSITY USING PRECIPITATION DATA
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Month	Precipitation (P)		Runoff (Q)	Infiltration (I)		Soil Water-Filled Porosity (θw)
	(in)	(cm)	(cm)	(cm)	(m)	Unitless
Jan	4.46	11.3	9.05	2.3		
Feb	4.36	11.1	8.80	2.3		
Mar	3.4	8.6	6.45	2.2		
Apr	1.39	3.5	1.80	1.7		
May	0.57	1.4	0.31	1.1		
Jun	0.1	0.3	0.00	0.3		
Jul	0.06	0.2	0.00	0.2		
Aug	0.08	0.2	0.00	0.2		
Sep	0.27	0.7	0.02	0.7		
Oct	1.26	3.2	1.53	1.7		
Nov	3.12	7.9	5.78	2.1		
Dec	4.06	10.3	8.07	2.2		
Annual	**23.13**	**58.8**	**41.8**	**16.9**	**0.169**	**0.402**

Notes:
For simplicity purposes, it was assumed that one primary storm/rain event occurs a month.

P =	Precipitation (rain fall + snow melt) (cm) Historical averages for Oakland, CA from the January 1970 through June 2009 (WRCC 2009, http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6336)	
Q =	Runoff (cm) = $(P - 0.2S)^2 / (P + 0.8S)$, for P >= 0.2 0.2S is the initial precipitation abstraction.	
S =	Water retention parameter (cm) = (2540 / CN) - 25.4	2.21
CN =	Curve number, for roads and right-of-ways,	92 (USEPA, 1985)
I =	Infiltration rate (m/y) = P - Q	
θ_w =	Volumetric water content in vadose zone soil (unitless) = **$\theta w = \theta T * (I / Ks)^{1/(2b+3)}$**	
θ_T =	Total soil porosity (unitless) =	0.459 (Cal-EPA, 2009)*
K_s =	Saturated hydraulic conductivity (m/y) =	5 (USEPA, 1996b)*
1/(2b+3) =	Soil-specific exponential parameter (unitless) =	0.039 (USEPA, 1996b)*

*Based on clay

TABLE 6
VAPOR INTRUSION HHRA RESULTS
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

COC			Samples from 4 Feet BGS		Samples from 9 Feet BGS			
			Current Conditions (Max Concentration)		Future Conditions[c] (Max Concentration)		Future Conditions[c] (Mean Concentration)	
			Carcinogenic Risk	Hazard Quotient	Carcinogenic Risk	Hazard Quotient	Carcinogenic Risk	Hazard Quotient
Benzene			3.1E-08	1.0E-04	6.7E-07	2.2E-03	6.8E-08	2.2E-04
Toluene				7.4E-05		6.4E-04		4.9E-05
Ethylbenzene			9.8E-10	1.1E-06	2.3E-07	2.5E-04	2.0E-08	2.2E-05
Xylenes[a]				5.4E-05		2.6E-03		1.7E-04
MTBE			1.1E-08	3.8E-05	3.4E-08	1.2E-04	2.5E-09	8.9E-06
TPHg	Aliphatic	>C5-C8		1.1E-05		3.5E-04		3.5E-05
		>C8-C12		2.6E-04		8.0E-03		7.9E-04
	Aromatic	>C7-C8		4.6E-04		1.4E-02		1.4E-03
		>C8-C12		2.0E-03		6.1E-02		6.0E-03
		>C12-C16		2.1E-03		6.5E-02		6.4E-03
TOTAL RISK (without naphthalene)			**4.3E-08**	**5.1E-03**	**9.3E-07**	**1.5E-01**	**9.0E-08**	**1.5E-02**
Naphthalene[b]			5.6E-08	1.5E-03	5.6E-05	1.5E+00	2.9E-06	7.9E-02
TOTAL RISK (with naphthalene)			**9.9E-08**	**6.6E-03**	**5.7E-05**	**1.7E+00**	**3.0E-06**	**9.4E-02**

Notes:
BGS = Below the ground surface
COC = Chemical of Concern
TPHg = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tertiary butyl ether
Risk and hazard quotient estimated based on commercial exposure scenarios in 2009 version of DTSC HERD J&E model
[a]Based on o-xylene (Cal-EPA, 2005)
[b]No naphthalene was detected in soil gas samples collected from 9 feet bgs. Risk based on analytical reporting limit.
[c]Modeled using EPCs from the 9-ft bgs soil gas samples at a depth of 4-ft bgs (representing future conditions when the uppermost 5 feet of soil is removed during proposed building construction)
Shaded Values based on maximum reporting limit when no concentration detected or when reporting limit exceeded maximum concentration

APPENDIX E

HYDROCARBON MASS REMOVAL CALCULATIONS FROM 1994 SOIL OVEREXCAVATION

Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California
Mass of TPHG, Benzene, and TPHD in Stockpiled Soil

Basis	Avg Conc mg/kg	Soil Volume cu.ft	Soil Density Kg/cu.ft	Soil Mass Kg	Mass Kg
TPHG	192.46	20,925.00	36.85	771,086.25	148.40
Benzene	0.09	20,925.00	36.85	771,086.25	0.07
TPHD	376.40	1,350.00	36.85	49,747.50	18.72

Notes:

1. Average concentrations based on data from Western Geo-Sciences (1994).
2. Stockpile for TPHG and benzene assumed to be 775 cubic yards.
3. Stockpile for TPHD assumed to be 50 cubic yards.

APPENDIX F

DPE AND DPE/AS REMEDIATION DATA

Table 1
Remediation Events Summary
Former USA Service Station No 57
10700 MacArthur Boulevard
Oakland, California

Remed. Event No.	Event Dates	No. of Days	Event Type	Wells Used[1]	Soil Vapor			Groundwater			GRO Mass Removed, lbs		Highest		DTW Range, feet bgs	Comments
					Avg. Ext Rate, cfm	Total Extracted, cu.ft	GRO Concn. Range, mg/m^3	Avg. Ext Rate, gpm	Total Extracted, gallons	GRO Concn. Range, µg/L	Vapor	G.Water	Induced Vac[2], "WC	Draw-down[2], feet bgs		
1	07/06/04 to 07/25/04	19	DPE - individual wells & combined	S-1, S-2, & MW-3	87.28	2,396,726	<12 to 660	0.41	35,600	<50 to 2,200	13.34	0.015	1.3 @ S-1 (50' from nearest test well)	1.97 @ MW-8 (50' from nearest test well)	~ 11.5 to 21.5	Pilot test and mass removal event
2	06/06/05 to 07/01/05	25	DPE-combined	S-1, S-2, & MW-3	30.90	958,333	<15 to 160	1.12	34,340	<50 to 590	6.45	0.082	0.02 @ MW-6 (110' from nearest test well)	2.27 @ MW-8 (50' from nearest test well)	~ 6 to 16	Mass removal event
3	08/29/05 to 09/16/05	19	DPE-combined	S-1, S-2, MW-3, & MW-7	46.80	1,012,338	<15	2.45	54,730	<50 to 67	<0.5	0.014	0.00	2.33 @ MW-8 (50' from nearest test well)	~8.5 to 19	Mass removal event
4	02/20/06 to 03/24/06	32	DPE-combined	EX-1, EX-2, EX-3, & EX-4	33.04	1,321,116	98 to 690	0.40	13,340	130 to 3,800	25.68	0.157	3.15 @ MW-8 (60' from nearest test well)	1.88 @MW-6 (75' from nearest test well)	~2 to 11 (EX wells) & ~11 to 16.5 (obs wells)	Mass removal event. EX-1 to EX-4 are test wells. S-1,S-2,MW-3,MW-4,MW-6,MW-7,&MW-8 are obseration (Obs) wells
5	05/01/06 to 05/25/06	25	DPE-combined	EX-1, EX-2, EX-3, & EX-4	36.79	956,010	37 to 180	0.30	7,400	110 to 990	5.43	0.027	0.01 @ MW-8 (60' from nearest test well)	2.11 @ MW-3	~2 to 8 (EX-wells) & ~8 to 12 (Obs wells)	Mass removal event. EX-1 to EX-4 are test wells. S-1,S-2,MW-3,MW-4,MW-6,MW-7,&MW-8 are obseration (Obs) wells
6	07/17/06 to 08/10/06	24	DPE-combined	EX-1, EX-2, EX-3, & EX-4	96.05	3,326,861	80 to 370	0.06	1,990	150 to 900	47.63	0.007	0.00	1.85 @ MW-3 (15' from nearest test well)	~10 to 14.5(Obs wells)	Mass removal event. EX-1 to EX-4 are test wells. S-1,S-2,MW-3,MW-4,MW-6,MW-7,&MW-8 are obseration (Obs) wells
7	09/04/07 to 11/14/07	70	DPE-combined with Air Sparging	EX-1, EX-2, EX-3, EX-4, AS-1 & AS-2	111.31	5,205,946	77 to 1,800	0.03	1,570	51 to 470	693.83	0.002	--	4.14 @ MW-8 (60' from nearest test well)	~10 to 13 (EX-wells) & ~15 to 24 (Obs wells)	Mass removal event. EX-1 to EX-4 are test wells. S-1,S-2,MW-3,MW-4,MW-6,MW-7,&MW-8 are obseration (Obs) wells. Air sparging at AS-1 & AS-2
				Total	NA	15,177,330	NA	NA	148,970	NA	792.35	0.305	NA	NA	NA	

Notes

Remed - Remediation
No. - Number
DPE- Dual phase extraction
Avg - Average
Ext - Extraction
cfm - cubic feet per minute
cu. Ft - cubic feet
Concn. - Concentration
mg/m3 - milligrams per cubic meter
gpm - gallons per minute
µg/L - micrograms per litre
GRO - Gasoline range organics
lbs - Pounds
G.Water - Groundwater water
"wc - Inches water column
bgs - Below ground surface
EX-wells - Extraction wells
Obs wells - Observation wells
NA - Not applicable

[1] Wells S-1 & S-2 are screened from 20 to 40 feet bgs, well MW-3 is screened from 24 to 44 feet bgs, well MW-7 is screened from 10 to 40 feet bgs, wells EX-1 to EX-4 are screened from 6 to 25 feet bgs, and wells AS-1 & AS-2 are screened from 17.5 to 20 feet bgs

[2] Highest induced vacuum and drawdown measurements are at observation wells (non-extracting wells)

TABLE 1
DPE TEST USING WELL S-2
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date & Time	TE	Appl Vac	Air Flow	Totalizer Reading	GW Ext Rate	Inf PID	Oper Temp	Induced Vacuum ("WC) &/or DTW (feet bgs) Data in Observation Wells																	
								S-1			MW-3			MW-4		MW-5		MW-7			MW-8				
	hh:mm	"Hg	cfm	gallons	gpm	ppmv	deg F	Vac	DTW	DD	Vac	DTW	DD	DTW	DD	DTW	DD	Vac	DTW	DD	DTW	DD
7/6/2004 7:00				42,120					18.13			15.70		12.26		18.07			18.19		19.55	
7/6/2004 8:30		Start Up Test using well S-2, DTW =20.26 feet bgs and DPE unit hour meter reading = 839.6																							
7/6/2004 9:00	00:30	25.50	87	42,120	--	2.9	1,450	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
7/6/2004 10:00	01:30	NM	NM	42,120	--	23.0	NM	0.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
7/6/2004 11:00	02:30	26.25	88	42,130	0.07	29.0	1,466	1.30	18.38	0.25	0.0	15.70	0.00	12.27	0.01	18.08	0.01	0.0	18.30	0.11	19.58	0.03
7/6/2004 12:00	03:30	26.50	87	42,200	0.33	24.0	1,444	0.50	18.58	0.45	0.0	15.69	-0.01	12.25	-0.01	18.05	-0.02	0.0	18.35	0.16	19.51	-0.04
7/7/2004 6:30	22:00	23.50	86	42,820	0.47	7.1	1,456	0.20	18.65	0.52	0.0	15.70	0.00	12.26	0.00	18.04	-0.03	0.0	18.38	0.19	19.55	0.00
7/7/2004 6:50	22:20	Discontinue Test on S-2																							
Distance to Extraction Well S-2								50			60			135		170		70			100				
Screening Interval	20 - 40 (S-2)							20 - 40			24 - 44			10 - 40.5		10 - 40		10 - 40.5			10 - 35				

Notes:

TE - Time Elapsed, hours: minutes
Appl - Applied
Oper - Operating
Vac - Vacuum
DTW - depth to groundwater
" WC - Inches water column
ppmv - parts per million by volume
Temp - Temperature
deg F - degree Farenheit
Ext. - Extraction
cfm - cubic feet per minute
Inf - Influent
DD - Drawdown
GW Ext - Groundwater Extraction
PID - Photo Ionization Detector
All induced vacuum measured in observation wells were in "WC
gpm - gallons per minute
"Hg - Inches Mercury
bgs - below ground surface
NM - Not measured

TABLE 2
DPE TEST USING WELL S-1
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date & Time	TE	Appl Vac	Air Flow	Totalizer Reading	GW Ext Rate	Inf PID	Oper Temp.	Induced Vacuum ("WC) &/or DTW (feet bgs) Data in Observation Wells													
								S-2			MW-3			MW-4		MW-5		MW-7			MW-8	
	hh:mm	"Hg	cfm	gallons	gpm	ppmv	deg F	Vac	DTW	DD	Vac	DTW	DD	DTW	DD	DTW	DD	Vac	DTW	DD	DTW	DD
7/7/2004 7:05	Start Up Test using Well S-1																					
7/7/2004 7:05	0.00	NM	NM	42,820	NM	NM	NM	NM	NM		NM	15.70		12.26		18.07			18.38		19.55	
7/7/2004 7:30	00:25	24.00	86	42,890	2.80	1.5	1,459	+7.4	30.08		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
7/7/2004 8:00	00:55	24.00	87	42,890	--	0.6	1,456	+4.4	25.35	-4.73	0.0	15.70	0.00	12.25	-0.01	18.06	-0.01	0.0	18.38	0.00	19.55	0.00
7/7/2004 9:00	01:55	24.00	87	42,960	0.61	0.0	1,457	+0.2	22.16	-7.92	0.0	15.70	0.00	12.25	-0.01	18.07	0.00	0.0	18.38	0.00	19.55	0.00
7/7/2004 9:05	02:00	Discontinue Test on S-1																				
Distance to Extraction Well S-1								50			60			110		170		80			105	
Screening Interval		20 - 40 (S-1)						20 - 40			24 - 44			10 - 40.5		10 - 40		10 - 40.5			10 - 35	

Notes:

TE - Time Elapsed, hours: minutes
Appl - Applied
Oper - Operating
Vac - Vacuum
DTW - depth to groundwater
" WC - Inches water column
ppmv - parts per million by volume
Temp - Temperature
deg F - degree Farenheit
Ext. - Extraction

cfm - cubic feet per minute
Inf - Influent
DD - Drawdown
GW Ext - Groundwater Extraction
PID - Photo Ionization Detector
All induced vacuum measured in observation wells were in "WC
gpm - gallons per minute
"Hg - Inches Mercury
bgs - below ground surface
NM - Not measured

TABLE 3
DPE TEST USING WELL MW-3
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date & Time	TE	Appl Vac	Air Flow	Totalizer Reading	GW Ext Rate	Inf PID	Oper Temp	Induced Vacuum ("WC) &/or DTW (feet bgs) Data in Observation Wells													
								S-1			S-2			MW-4		MW-5		MW-7			MW-8	
	hh:mm	"Hg	cfm	gallons	gpm	ppmv	deg F	Vac	DTW	DD	Vac	DTW	DD	DTW	DD	DTW	DD	Vac	DTW	DD	DTW	DD
7/7/2004 9:25	Start Up Test using Well MW-3																					
7/7/2004 9:25	0.00	NM	NM	42,960	--	NM	NM	NM	NM	--	NM	22.16	--	12.26	--	18.07	--	NM	18.38	--	19.55	NM
7/7/2004 10:00	00:35	24.50	87	42,960	--	0.0	1,450	0.0	NM	--	NM	NM	--	NM	--	NM	--	NM	NM	--	NM	NM
7/7/2004 10:30	01:05	25.50	87	42,960	--	0.0	1,447	0.0	19.38	--	+0.6	21.00	-1.16	12.25	0.00	18.06	-0.01	0.0	18.36	-0.02	19.53	-0.02
7/7/2004 11:30	02:05	26.00	87	42,960	--	0.0	1,456	0.0	19.11	-0.27	+0.2	20.91	-1.25	12.25	0.00	18.06	-0.01	0.0	18.35	-0.03	19.53	-0.02
7/7/2004 11:35	02:10	Discontinue test on MW-3																				
Distance to Extraction Well MW-3								60			60			170		220		120			50	
Screening Interval	24-44 (MW-3)							20 - 40			20 - 40			10 - 40.5		10 - 40		10 - 40.5			10 - 35	

Notes:

TE - Time Elapsed, hours: minutes
Appl - Applied
Oper - Operating
Vac - Vacuum
DTW - depth to groundwater
" WC - Inches water column
ppmv - parts per million by volume
Temp - Temperature
deg F - degree Farenheit
Ext. - Extraction

cfm - cubic feet per minute
Inf - Influent
DD - Drawdown
GW Ext - Groundwater Extraction
PID - Photo Ionization Detector
All induced vacuum measured in observation wells were in "WC
gpm - gallons per minute
"Hg - Inches Mercury
bgs - below ground surface
NM - Not measured

TABLE 4
COMBINED DPE TEST USING WELLS S-1, S-2, AND MW-3
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date & Time	TE	Appl Vac	Air Flow	Totalizer Reading	GW Ext Rate	Inf PID	Oper Temp	MW-4		MW-5		MW-6		MW-7			MW-8		
	hh:mm	"Hg	cfm	gallons	gpm	ppmv	deg F	DTW	DD	DTW	DD	Vac	DTW	Vac	DTW	DD	Vac	DTW	DD
7/7/2004 11:35	Start Test on S-1, S-2 and MW-3																		
7/7/2004 11:35	0.00	NM	NM	42,960	NM	NM	NM	12.25	--	18.06	--	NM	DRY	NM	18.35	--	NM	19.53	--
7/8/2004 6:15	18:40	22.25	87	44,610	1.47	4.0	1,460	12.25	0.00	18.11	0.05	0.0	DRY	0.0	18.63	0.28	0.0	19.70	0.17
7/9/2004 6:00	42:25	23.00	86	46,960	0.92	2.3	1,440	12.33	0.08	18.18	0.12	0.0	DRY	0.0	18.72	0.37	0.0	20.02	0.49
7/10/2004 6:00	66:25	23.00	86	48,690	0.43	3.5	1,460	12.41	0.16	18.26	0.2	0.0	DRY	0.0	18.78	0.43	0.0	20.32	0.79
7/11/2004 6:00	90:25	21.00	86	50,760	0.38	3.2	1,456	12.41	0.16	18.27	0.21	0.0	DRY	0.0	18.81	0.46	0.0	20.58	1.05
7/12/2004 6:30	114:55	22.50	86	52,780	0.29	3.0	1,453	12.42	0.17	18.32	0.26	0.0	DRY	0.0	18.84	0.49	0.0	20.75	1.22
7/15/2004 6:00	186:25	22.50	86	58,760	0.53	4.0	1,446	12.27	0.02	18.36	0.3	0.0	DRY	0.0	18.90	0.55	0.0	21.17	1.64
7/19/2004 5:45	282:10	23.25	86	66,320	0.45	3.2	1,459	11.67	-0.58	18.23	0.17	0.0	DRY	0.0	18.98	0.63	0.0	21.50	1.97
7/22/2004 5:45	354:10	23.25	86	71,870	0.26	3.0	1,458	12.05	-0.20	18.33	0.27	0.0	DRY	0.0	19.03	0.68	0.0	21.65	2.12
7/25/2004 10:36	431:01			77,720	0.23	Discontinue DPE Test. DPE unit hour meter reading = 1,297.7													
Distance to Nearest Extraction Well								110		170		110		70			50		
Screening Interval								10 - 40.5		10 - 40		10 - 40.5		10 - 40.5			10 - 35		

Notes:

TE - Time Elapsed, hours: minutes
Appl - Applied
Oper - Operating
Vac - Vacuum
DTW - depth to groundwater
" WC - Inches water column
ppmv - parts per million by volume
Temp - Temperature
deg F - degree Farenheit
Ext. - Extraction
cfm - cubic feet per minute
Inf - Influent
DD - Drawdown
GW Ext - Groundwater Extraction
PID - Photo Ionization Detector
All induced vacuum measured in observation wells were in "WC
gpm - gallons per minute
"Hg - Inches Mercury
bgs - below ground surface
NM - Not measured

TABLE 5
SOIL VAPOR ANALYTICAL RESULTS
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	Sample Type	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
07/06/04	1030	Eff Air	Air	<12	<0.12	<0.12	<0.12	<0.12	<0.12
07/06/04	1032	Inf Cat Air	Air	660	2.1	0.38	1.2	1.1	1.0
07/07/04	0904	Inf Cat Air S-1	Air	<12	<0.12	<0.12	<0.12	<0.12	0.29
07/07/04	1126	Inf Cat Air MW-3	Air	<12	<0.12	<0.12	<0.12	<0.12	0.13
07/19/04	0641	Eff Air	Air	<12	<0.12	<0.12	<0.12	<0.12	<0.12
07/19/04	0644	Inf Cat Air	Air	88	0.26	<0.12	<0.12	0.19	0.25

All air sample values reported in milligrams per cubic meter (mg/m^3)

TPHG = Total petroleum hydrocarbons as gasoline
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tertiary butyl ether

Analytical Laboratory
Alpha Analytical, Inc. (ELAP #2019)

Analytical Methods
TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual
BTEX and MTBE analyzed by EPA Method SW8260B

TABLE 6
GROUNDWATER ANALYTICAL RESULTS
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	Sample Type	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	DIPE	ETBE	TAME	Methanol	Ethanol
07/06/04	1050	S-2	Water	2200	13	1.8	10	26.9	66	170	<1.0	<1.0	<1.0	<5,000	<5,000
07/08/04	0854	Influent	Water	<100[1]	<0.50	<0.50	0.66	4.4	16	NA	NA	NA	NA	NA	NA
07/08/04	0905	GAC Influent	Water	110	<0.50	<0.50	<0.50	1.89	17	NA	NA	NA	NA	NA	NA
07/08/04	1030	Effluent	Water	<50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	NA
07/19/04	0623	Effluent	Water	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0	NA	NA
07/19/04	0630	Influent	Water	<50	<0.50	<0.50	<0.50	0.52	3.7	56	<1.0	<1.0	<1.0	NA	NA
07/27/04	1118	Effluent	Water	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0	NA	NA

All water sample values reported in micrograms per liter (µg/L)
TPHG = Total petroleum hydrocarbons as gasoline
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tertiary butyl ether
TBA = Tertiary butyl alcohol
DIPE = Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
NA = Not analyzed
[1] Reporting limits were increased due to sample foaming

Analytical Laboratory
Alpha Analytical , Inc. (ELAP #2019)

Analytical Methods
TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual
BTEX, MTBE, TBA, DIPE, ETBE, & TAME analyzed by EPA Method SW8260B
Methanol & Ethanol analyzed by EPA Method SW8260B-DI

TABLE 7
PETROLEUM HYDROCARBON MASS EXTRACTION RATES SUMMARY
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Test Well ID	Flowrate (cfm)	Influent Concentration (mg/m^3)			Soil Vapor Extraction Rate from Wells (lbs/day)			Cumulative Mass (TPHG) Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	Period[1]	Total
									lbs	lbs
07/06/04	S-2	87.0	660	2.1	1.0	5.16	0.01	0.01	5.16	5.16
07/07/04	S-1	87.0	<12	<0.12	0.29	<0.09	<0.001	0.002	0.01	5.17
07/07/04	MW-3	87.0	<12	<0.12	0.13	<0.09	<0.001	0.001	0.01	5.18
07/19/04	S-1, S-2, MW-3	86.0	88	0.26	0.25	0.68	0.002	0.002	8.16	13.34

Date	Test Well ID	Volume of groundwater extracted[2], gallons	Influent Concentration (µg/L)			Mass Extracted from groundwater (lbs)			Cumulative Mass (TPHG) Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	Period	Total
									lbs	lbs
07/06/04	S-2	80	2,200	13	66	0.001	0.00001	0.00004	0.001	0.001
07/08/04	S-1, S-2, MW-3	2,490	<100	<0.50	16	<0.002	<0.00001	0.0003	0.012	0.014
07/19/04	S-1, S-2, MW-3	21,710	<50	<0.50	4	<0.01	<0.0001	0.001	0.008	0.015

Sample Calculations

Ext. Rate from Wells (vapor) = $\frac{40 \text{ cu ft}}{\text{min}} \times \frac{8{,}400 \text{ mg}}{\text{cu meter}} \times \frac{\text{lb}}{453593 \text{ mg}} \times \frac{1{,}440 \text{ min}}{\text{day}} \times \frac{\text{x cu meter}}{35.314 \text{ cu ft}}$

= 30.21 lbs/day

Mass removed from groundwater = concentration (µg/L) x gallons extracted x (2.2046×10^{-9})(lb/mg) / 0.26418 (gal/L)

[1] For mass estimates between the sampling dates, average mass extraction rate and time elapsed (operational uptime) between the sampling events were used

[2] Volume estimated based on flow totalizer measurements taken on the sampling days

Based on average groundwater extraction rate of 0.63 gpm and the average concentrations, the mass extraction rate for is calculated using:

Mass removed from groundwater (lbs/day) = concentration (µg/L) x average flowrate (gpm) x (2.2046×10^{-9})(lb/mg) / 0.26418 (gal/L) * 60 (mins/hr)*24 (hr/day)

TPHG	=	0.017	lbs/day
Benzene	=	0.0001	lbs/day
MTBE	=	0.0002	lbs/day

TABLE 2
DPE EVENT FIELD OBSERVATION SUMMARY
2nd DPE Event - June/July 2005
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Hour Meter Reading	TE days	Appl Vac "Hg	Air Flow cfm	Totalizer Reading gallons	GW Ext Rate gpm	Inf PID ppmv	Oper Temp deg F	MW-4		MW-5		MW-6			MW-7			MW-8		
									DTW	DD	DTW	DD	Vac	DTW	DD	Vac	DTW	DD	Vac	DTW	DD
06/06/05	**Begin June/July 2005 DPE Event, Using Wells S-1, S-2, and MW-3 for Extraction; Hour Meter Reading Prior to Test Start up = 3361.2**																				
06/06/05	3361.20	--	24.00	26.6	23,710	--	125.0	1,471	6.65	--	10.91	--	0.00	15.67	--	0.00	14.79	--	0.00	14.08	--
06/07/05	3383.60	0.93	24.00	NM	25,480	1.32	NM	1,443	NM	NM	NM	NM	0.02	NM	NM	0.00	NM	NM	0.00	NM	NM
06/09/05	3416.60	2.31	23.00	27.7	27,160	0.85	6.0	1,473	6.10	-0.55	10.62	-0.29	0.00	14.58	-1.09	0.00	13.58	-1.21	0.00	14.90	0.82
06/14/05	3468.10	4.45	24.00	28.4	31,000	1.24	6.0	1,450	6.35	-0.30	10.80	-0.11	0.00	15.60	-0.07	0.00	13.56	-1.23	0.00	14.81	0.73
06/16/05	3515.00	6.41	25.00	23.0	34,450	1.23	5.0	1,472	6.33	-0.32	10.98	0.07	0.00	15.85	0.18	0.00	13.97	-0.82	0.00	14.98	0.90
06/21/05	3638.20	11.54	25.00	39.4	43,130	1.17	0.0	1,470	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
06/28/05	3804.80	18.48	24.00	39.3	53,540	1.04	NM	1,456	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
07/01/05	3877.30	21.50	24.00	31.9	57,950	1.01	5.0	1,473	6.46	-0.19	11.09	0.18	0.00	15.65	-0.02	0.00	14.18	-0.61	0.00	16.35	2.27
07/01/05	3878.10	21.54	Event End Hr. Meter		58,050		**Discontinue DPE Event**														
Distance to Nearest Extraction Well									**110**		**170**		**110**			**70**			**50**		
Screening Interval									**10 - 40.5**		**10 - 40**		**10 - 40.5**			**10 - 40.5**			**10 - 35**		

Notes:

TE - Time Elapsed, days
Appl - Applied
Oper - Operating
Vac - Vacuum
DTW - depth to groundwater
" WC - Inches water column
* = time elapsed based on hour meter readings
ppmv - parts per million by volume
Temp - Temperature
deg F - degree Farenheit
Ext. - Extraction
cfm - cubic feet per minute
Inf - Influent
DD - Drawdown
GW Ext - Groundwater Extraction
PID - Photo Ionization Detector
All induced vacuum measured in observation wells were in "WC
gpm - gallons per minute
"Hg - Inches Mercury
bgs - below ground surface
NM - Not measured

TABLE 3
SOIL VAPOR ANALYTICAL RESULTS
2nd DPE Event - June/July 2005
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA
06/06/05	11:18	SYS INF Air	160	4.4	0.72	0.55	1.35	3.6	<7.5
06/06/05	11:15	Eff Air	<15	<0.30	<0.30	<0.30	<0.30	<0.30	<7.5
06/28/05	06:16	Inf Air	<15	<0.15	<0.15	<0.15	<0.15	<0.15	NA
07/01/05	05:41	SYS INF AIR*	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0
07/01/05	05:39	EFF AIR*	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0

Notes

All air sample values reported in milligrams per cubic meter (mg/m^3)
TPHG = Total petroleum hydrocarbons as gasoline
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tertiary butyl ether
TBA = Tertiary butyl alcohol
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
DIPE = Di-isopropyl ether
DIPE, ETBE, and TAME were reported below laboratory reporting limits in all samples.
NA = Not Analyzed

Analytical Laboratory

Alpha Analytical, Inc. (Alpha [ELAP #2019])
* = Analyzed by Severn Trent Laboratories (STL [ELAP #2496])

Analytical Methods

TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual (Alpha) & by 8260B (STL)
BTEX, MTBE, TBA, DIPE, TAME, and ETBE analyzed by EPA Method SW8260B

TABLE 4
GROUNDWATER ANALYTICAL RESULTS
2nd DPE Event - June/July 2005
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	DIPE	ETBE	TAME
06/06/05	11:34	Influent	590	11	3.8	6.1	33	62	140	<1.0	<1.0	<1.0
06/07/05	09:41	MID (Fluent)	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
06/07/05	09:39	EFF	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
06/28/05	06:08	Influent	<50	<0.50	<0.50	<0.50	<0.50	2.6	52	<1.0	<1.0	<1.0
06/28/05	06:04	Mid GAC	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
06/28/05	06:00	Effluent	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
07/01/05	05:46	INF	<50	<0.50	<0.50	<0.50	<0.50	2.2	64	<1.0	<1.0	<1.0
07/01/05	05:54	GAC-1	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
07/01/05	05:58	EFF	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0

All water sample values reported in micrograms per liter (µg/L)
TPHG = Total petroleum hydrocarbons as gasoline
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tertiary butyl ether
TBA = Tertiary butyl alcohol
DIPE = Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether

Analytical Laboratory
Alpha Analytical , Inc. (ELAP #2019)

Analytical Methods
TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual
BTEX, MTBE, TBA, DIPE, ETBE, & TAME analyzed by
EPA Method SW8260B

TABLE 5
PETROLEUM HYDROCARBON MASS EXTRACTION SUMMARY
2nd DPE Event June/July 2005
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Time Elapsed (days)	Flowrate (cfm)	Influent Concentration (mg/m^3)			Soil Vapor Extraction Rate from Wells (lbs/day)			Cumulative Mass (TPHG) Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	Period[1] lbs	Total lbs
Petroleum hydrocarbon mass removed during first DPE event conducted during July 2004									13.34	13.34
06/06/05	-	26.6	160	4.4	3.6	0.378	0.010	0.009	0.378	13.718
06/28/05	18.48	39.3	<15	<0.15	<0.15	<0.052	<0.001	<0.001	3.980	17.698
07/01/05	21.54	31.9	<50	<0.50	<0.50	<0.142	<0.001	<0.001	<2.091	19.789

Date		Volume of groundwater extracted[2], gallons	Influent Concentration (µg/L)			Mass Extracted from groundwater (lbs)			Cumulative Mass Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	TPHG lbs	MTBE lbs
Petroleum hydrocarbon mass removed during first DPE event conducted during July 2004									0.015	0.00149
06/06/05	-	56 [3]	590	11	62	0.00028	0.00001	0.00003	0.01528	0.00152
06/28/05	18.48	29,830	<50.0	<0.50	2.6	0.07966	0.00143	0.00804	0.09493	0.00956
07/01/05	21.54	4,510	<50.0	<0.50	2.2	<0.00188	<0.00002	0.00009	0.09682	0.00965

Sample Calculations

Ext. Rate from Wells (vapor) = $\frac{40 \text{ cu ft}}{\text{min}} \times \frac{8{,}400 \text{ mg}}{\text{cu meter}} \times \frac{\text{lb}}{453{,}593 \text{ mg}} \times \frac{1{,}440 \text{ min}}{\text{day}} \times \frac{\text{cu meter}}{35.314 \text{ cu ft}}$

30.21 lbs/day

Mass removed from groundwater = concentration (µg/L) x gallons extracted x (2.2046×10^{-9})(lb/mg) / 0.26418 (gal/L)

[1] For mass estimates between the sampling dates, average mass extraction rate and time elapsed (operational uptime) between the sampling events were used

[2] Volume estimated based on flow totalizer measurements taken on the sampling days

[3] Volume estimated based on average groundwater extraction rate and the time elapsed between the sample collection and start-up

The mass extraction rate is calculated by multiplying the mass extracted per day by the operational uptime for the period.

TABLE 1
DPE EVENT FIELD OBSERVATION SUMMARY
3rd DPE Event - August/September 2005
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Hour Meter Reading	TE days	Appl Vac "Hg	Air Flow cfm	Totalizer Reading gallons	GW Ext Rate gpm	Inf PID ppmv	Oper Temp deg F	Depth to Water, feet bgs and Induced Vacuum, "WC									
									MW-4		MW-5		MW-6			MW-8		
									DTW	DD	DTW	DD	Vac	DTW	DD	Vac	DTW	DD
8/29/05 5:30	Baseline measurements prior to start of third DPE event								8.71	--	12.90	--	0.00	DRY	--	0.00	16.75	--
8/29/05 7:00	**Begin Third DPE Event, Using Wells S-1, S-2, MW-3, and MW-7 for Extraction; Hour Meter Reading Prior to Test Start up = 435.6. Totalizer reading = 22,580**																	
8/29/05 8:30	437.00	0.06	18.00	48.8	22,740	1.90	5.5	1,458	NM	NM	NM	NM	NM	NM	--	NM	NM	--
8/31/05 5:00	480.70	1.88	18.00	37.3	29,840	2.71	5.5	1,456	8.73	0.02	13.18	0.28	0.00	DRY	--	0.00	17.21	0.46
9/6/05 6:00	619.10	7.65	NM	NM	51,690	2.63	System observed non-functional due to low propane											
9/6/05 9:15	System re-started after propane delivery. Based on hour meter readings for 8/31/5 at 0500 hrs & 9/6/5 at 0600 hrs, the DPE system was likely shutdown on 9/5/05 at 23:14 hrs																	
9/6/05 10:15	620.10	7.69	18.00	62.5	51,850	2.67	16.1	1,447	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
9/9/05 5:00	685.70	10.42	16.00	45.0	61,390	2.42	8.1	1,450	8.99	0.28	13.61	0.71	0.00	DRY	--	0.00	18.68	1.93
9/13/05 5:30	780.20	14.36	16.00	40.4	75,020	2.40	2.0	1,457	9.14	0.43	13.78	0.88	0.00	18.67	-0.33	0.00	19.08	2.33
9/16/05 5:00	796.10	15.02	NM	NM	77,310	2.40	System observed non-functional due to high water level in the knockout tank. Based on hour meter readings between 9/13/05 5:30 and 9/16/05 5:00, the DPE system was likely shutdown on 9/13/05 21:24 hrs. Since the influent concentrations were low, the third DPE event was discontinued.											
Distance to Nearest Extraction Well									**86**		**99**		**70**			**48**		
Screening Interval, feet bgs : S-1=20-40 , S-2=20-40, MW-3=24-44, & MW-7=10-40									**10 - 40.5**		**10 - 40**		**10 - 40.5**			**10 - 35**		

Notes:

TE - Time Elapsed calculated as difference of hour meter readings, days
Appl - Applied
Oper - Operating
Vac - Vacuum
DTW - depth to groundwater
" WC - Inches water column
Ext. - Extraction
GW Ext - Groundwater Extraction
GW Ext Rate = Difference of Totalizer Readings, gallons

cfm - cubic feet per minute
Inf - Influent
DD - Drawdown
bgs - below ground surface
gpm - gallons per minute
"Hg - Inches Mercury

Temp - Temperature
deg F - degree Farenheit
PID - Photo Ionization Detector
ppmv - parts per million by volume
NM - Not measured
-- = Not applicable

[1] Flow rate measured using a digital anemometer at 3" diameter steel pipe; flow rate = velocity X area of pipe (e.g.: flow rate = 994 feet per minute X 0.05 sq.ft)

TABLE 2
SOIL VAPOR ANALYTICAL RESULTS
3rd DPE Event - August/September 2005
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA
08/29/05	09:01	USA57ASYSINF	<15	0.59	<0.15	0.23	0.44	0.41	<1.5
08/29/05	09:05	USA57ASYSEFF	<15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.5
09/06/05	10:30	Sys Inf Air	<15	<0.15	<0.15	<0.15	<0.15	<0.15	<7.5
09/13/05	05:45	USA57ASYSINF	<15	0.19	<0.15	<0.15	<0.15	<0.15	<7.5

Notes

All air sample values reported in milligrams per cubic meter (mg/m^3)
TPHG = Total petroleum hydrocarbons as gasoline
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tertiary butyl ether
TBA = Tertiary butyl alcohol
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
DIPE = Di-isopropyl ether

Analytical Laboratory

Alpha Analytical, Inc. (Alpha [ELAP #2019])

Analytical Methods

TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual
BTEX, MTBE, TBA, DIPE, TAME, and ETBE analyzed by EPA Method SW8260B

DIPE, ETBE, and TAME were reported below laboratory reporting limits in all samples (<0.30 mg/m^3).

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
3rd DPE Event - August/September 2005
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	DIPE	ETBE	TAME
08/29/05	09:30	USA57WINF	**55**	**3.3**	**<0.50**	**0.68**	**3.3**	**17**	**160**	<1.0	<1.0	<1.0
08/29/05	09:35	USA57WEFF	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
09/06/05	10:36	Inf Water	<50	<0.50	<0.50	<0.50	<0.50	**4.7**	**61**	<1.0	<1.0	<1.0
09/13/05	06:20	USA57WINF	<50	<0.50	<0.50	<0.50	<0.50	**2.6**	**29**	<1.0	<1.0	<1.0
09/13/05	06:22	USA57WGAC1	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
09/13/05	06:25	USA57WEFF	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
09/16/05	5:32	USA57WINF	**67**	<0.50	<0.50	<0.50	**3.8**	**2.3**	**25**	<1.0	<1.0	<1.0

All water sample values reported in micrograms per liter (µg/L)
TPHG = Total petroleum hydrocarbons as gasoline
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tertiary butyl ether
TBA = Tertiary butyl alcohol
DIPE = Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether

Analytical Laboratory
Alpha Analytical , Inc. (ELAP #2019)

Analytical Methods
TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual
BTEX, MTBE, TBA, DIPE, ETBE, & TAME analyzed by
EPA Method SW8260B

TABLE 4
PETROLEUM HYDROCARBON MASS EXTRACTION SUMMARY
3rd DPE Event August/September 2005
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Time Elapsed (days)	Flowrate (cfm)	Influent Concentration (mg/m^3)			Soil Vapor Extraction Rate (lbs/day)			Cumulative Mass (TPHG) Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	Period[1]	Total
									lbs	lbs
Petroleum hydrocarbon mass removed during the previous DPE events									19.789	19.789
08/29/05	-	48.8	<15	0.59	0.41	<0.065	0.003	0.002	--	--
09/06/05	7.69	62.5	<15	<0.15	<0.15	<0.083	<0.001	<0.001	<0.570	19.789
09/13/05	6.67	40.4	<15	0.19	<0.15	<0.054	0.001	<0.001	<0.458	19.789

Date	Time Elapsed (days)	Volume of groundwater extracted[2], gallons	Influent Concentration (µg/L)			Mass Extracted from groundwater (lbs)			Cumulative Mass Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	TPHG	MTBE
									lbs	lbs
Petroleum hydrocarbon mass removed during the previous DPE events									0.09682	0.00965
08/29/05	-	160	55	3.3	17	0.00007	0.000004	0.00002	0.09689	0.00967
09/06/05	7.69	29,110	<50	<0.50	4.7	0.01275	0.00046	0.00264	0.10965	0.01231
09/13/05	6.67	23,170	<50	<0.50	2.6	<0.00967	<0.00010	0.00071	0.10965	0.01231
09/16/05	0.66	2,290	67	<0.50	2.3	0.00112	<0.00001	0.00005	0.11076	0.01231

Sample Calculations

Ext. Rate from Wells (vapor) = $\frac{40 \text{ cu ft}}{\text{min}} \times \frac{8{,}400 \text{ mg}}{\text{cu meter}} \times \frac{\text{lb}}{453{,}593 \text{ mg}} \times \frac{1{,}440 \text{ min}}{\text{day}} \times \frac{\text{x cu meter}}{35.314 \text{ cu ft}}$

30.21 lbs/day

Mass removed from groundwater = concentration (µg/L) x gallons extracted x (2.2046×10^{-9})(lb/mg) / 0.26418 (gal/L)

[1] For mass estimates between the sampling dates, average mass extraction rate and time elapsed (operational uptime) between the sampling events were used

[2] Volume estimated based on flow totalizer measurements taken on the sampling days

The mass extraction rate is calculated by multiplying the mass extracted per day by the operational uptime for the period.

TABLE 1
DPE EVENT FIELD OBSERVATION SUMMARY
4th DPE Event - February/March 2006
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Hour Meter Reading	TE days	Appl Vac "Hg	Air Flow cfm	Totalizer Reading gallons	GW Ext Rate gpm	Inf PID ppmv	Oper Temp deg F	Depth to Water, feet bgs and Induced Vacuum, "WC													
									S-1		S-2		MW-3		MW-6			MW-7			MW-8		
									DTW	DD	DTW	DD	DTW	DD	Vac	DTW	DD	Vac	DTW	DD	Vac	DTW	DD
2/20/06 5:30	**Begin fourth DPE event using wells EX-1, EX-2, EX-3, and EX-4. Hour Meter Reading = 3,086.3. Totalizer reading = 94,450 gallons**																					
2/20/06 5:30	3,086.30	0.00	20.00	40.3	94,450	--	360	1,460	14.47	--	16.61	--	10.79	--	NM	15.70	--	NM	13.74	--	NM	13.82	--
2/24/06 5:15	3,161.30	3.13	System observed non-functional and re-started by resetting power supply. Based on hour meter readings, the DPE system was likely shutdown on 2/23/06 around 0830 hrs																				
2/24/06 5:15	3,161.30	3.13	18.50	50.6	98,740	0.95	150	1,462	14.45	-0.02	16.53	-0.08	11.82	1.03	0.00	15.64	-0.06	0.00	13.65	-0.09	0.00	14.29	0.47
3/3/06 7:00	3,262.40	7.34	23.00	29.0	100,540	0.30	212	1,451	14.20	-0.27	16.30	-0.31	11.55	0.76	0.00	15.10	-0.60	0.10	13.26	-0.48	0.00	14.38	0.56
3/9/06 6:30	3,403.10	13.20	23.00	22.4	103,490	0.35	150	1,470	13.97	-0.50	16.00	-0.61	11.47	0.68	0.00	14.49	-1.21	3.03	13.11	-0.63	3.05	13.69	-0.13
3/16/06 5:30	3,566.70	20.02	23.00	25.5	105,780	0.23	68	1,457	13.61	-0.86	15.60	-1.01	11.15	0.36	0.00	14.15	-1.55	0.00	12.55	-1.19	3.15	13.03	-0.79
3/24/06 5:00	3,752.80	27.77	23.00	30.5	107,790	0.18	35	1,459	13.10	-1.37	14.68	-1.93	10.73	-0.06	0.03	13.82	-1.88	0.05	11.99	-1.75	0.00	12.83	-0.99
3/24/06 5:30	Discontinue fourth DPE event.																						
Average	--	--	**21.75**	**33.04**	--	**0.40**	**162.5**	**1,460**	**13.97**	**-0.60**	**15.95**	**-0.79**	**11.25**	**0.55**	**0.01**	**14.82**	**-1.06**	**0.64**	**13.05**	**-0.83**	**1.24**	**13.67**	**-0.18**
Distance to Nearest Extraction Well, feet									**20**		**27**		**15**		**75**			**33**			**62**		
Screening Interval : EX-1=EX-2=EX-3=EX-4= 5 to 25 feet bgs									**20 - 40**		**20 - 40**		**24 - 44**		**10 - 40.5**			**10 - 40**			**10 - 35**		

Notes:

TE - Time Elapsed calculated as difference of hour meter readings, days
Appl - Applied
Oper - Operating
Vac - Vacuum
DTW - depth to groundwater
" WC - Inches water column
Ext. - Extraction
GW Ext - Groundwater Extraction
GW Ext Rate = Difference of Totalizer Readings, gallons

cfm - cubic feet per minute
Inf - Influent
DD - Drawdown
bgs - below ground surface
gpm - gallons per minute
"Hg - Inches Mercury

Temp - Temperature
deg F - degree Farenheit
PID - Photo Ionization Detector
ppmv - parts per million by volume
NM - Not measured
-- = Not applicable

[1] Flow rate measured using a digital anemometer at 3" diameter steel pipe;
flow rate = velocity X area of pipe (e.g.: flow rate = 994 feet per minute X 0.05 sq.ft)

TABLE 2
SOIL VAPOR ANALYTICAL RESULTS
4th DPE Event - February/March 2006
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA
02/20/06	07:18	USA57ASysEff	<15	<0.15	<0.15	<0.15	<0.15	<0.15	<7.5
02/20/06	07:20	USA57ASysInf	690	8.3	20	17	107	<0.60	<30
03/03/06	07:25	USA57ASYSINF	480	8.6	7.0	8.8	19.9	0.29	<7.5
03/09/06	06:46	USA57ASysInf	320	2.0	10	11	40.5	<0.30	<15
03/24/06	05:30	USA57ASYSINF	98	0.39	0.50	1.6	7.2	<0.15	<7.5

Notes

All air sample values reported in milligrams per cubic meter (mg/m^3)
TPHG = Total petroleum hydrocarbons as gasoline
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tertiary butyl ether
TBA = Tertiary butyl alcohol
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
DIPE = Di-isopropyl ether

DIPE, ETBE, and TAME were below laboratory reporting limits in all samples.

Analytical Laboratory

Alpha Analytical, Inc. (Alpha [ELAP #2019])

Analytical Methods

TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual
BTEX, MTBE, TBA, DIPE, TAME, and ETBE analyzed by EPA Method SW8260B

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
4th DPE Event - February/March 2006
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	DIPE	ETBE	TAME
02/20/06	07:28	USA57WINF	3,800	65	300	71	740	2.7	160	<5.0[1]	<5.0[1]	<5.0[1]
02/20/06	07:42	USA57WGAC1	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
02/20/06	07:39	USA57WEFF	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
03/03/06	07:25	USA57WSYSINF	1,100	96	20	30	120	10	47	<1.0	<1.0	<1.0
03/09/06	07:24	USA57WINF	510	3.1	3.3	10	65	1.1	23	<1.0	<1.0	<1.0
03/09/06	07:26	USA57WEFF	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
03/09/06	07:28	USA57GAC1	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
03/24/06	05:15	USA57WINF	130	2.7	1.9	2.8	27	<0.50	28	<1.0	<1.0	<1.0
03/24/06	05:20	USA57WEFF	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0

All water sample values reported in micrograms per liter (µg/L)
TPHG = Total petroleum hydrocarbons as gasoline
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tertiary butyl ether
TBA = Tertiary butyl alcohol
DIPE = Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
[1] = Reporting limits were increased due to high concentrations of target analytes

Analytical Laboratory
Alpha Analytical , Inc. (ELAP #2019)

Analytical Methods
TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual
BTEX, MTBE, TBA, DIPE, ETBE, & TAME analyzed by EPA Method SW8260B

TABLE 4
PETROLEUM HYDROCARBON MASS EXTRACTION SUMMARY
4th DPE Event February/March 2006
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Time Elapsed (days)	Flowrate (cfm)	Influent Concentration (mg/m^3)			Soil Vapor Extraction Rate (lbs/day)			Cumulative Mass (TPHG) Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	Period[1]	Total
									lbs	lbs
Petroleum hydrocarbon mass removed during the previous DPE events									19.789	19.789
02/20/06	--	40.3	690	8.3	<0.60	2.47	0.03	<0.002	--	--
03/03/06	7.34	29.0	480	8.6	0.29	1.24	0.02	0.001	13.608	33.397
03/09/06	5.86	22.4	320	2.0	<0.30	0.64	0.004	<0.001	5.495	38.892
03/24/06	14.57	30.5	98	0.39	<0.15	0.27	0.001	<0.0004	6.578	45.469

Date	Time Elapsed (days)	Volume of groundwater extracted[2], gallons	Influent Concentration (µg/L)			Mass Extracted from groundwater (lbs)			Cumulative Mass Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	TPHG	MTBE
									lbs	lbs
Petroleum hydrocarbon mass removed during the previous DPE events									0.11076	0.01231
02/20/06	-	48	3,800	65	2.7	0.00152	0.000026	0.000001	0.11228	0.01231
03/03/06	7.34	6,090	1,100	96	10.0	0.12451	0.00409	0.00032	0.23679	0.01263
03/09/06	5.86	2,950	510	3.1	1.1	0.01982	0.00122	0.00014	0.25661	0.01277
03/24/06	14.57	4,300	130	2.7	<0.50	0.01148	0.00010	0.00003	0.26809	0.01280

Sample Calculations

Ext. Rate from Wells (vapor) = $\frac{40.3 \text{ cu ft}}{\text{min}} \times \frac{690 \text{ mg}}{\text{cu meter}} \times \frac{\text{lb}}{453{,}593 \text{ mg}} \times \frac{1{,}440 \text{ min}}{\text{day}} \times \frac{\text{x cu meter}}{35.314 \text{ cu ft}}$

= 2.47 lbs/day

Mass removed from groundwater = concentration (µg/L) x gallons extracted x (2.2046×10^{-9})(lb/mg) / 0.26418 (gal/L)

[1] For mass estimates between the sampling dates, average mass extraction rate and time elapsed (operational uptime) between the sampling events were used

[2] Volume estimated based on flow totalizer measurements taken on the sampling days. For February 20, 2006, the volume of groundwater extracted was estimated based on the average groundwater extraction rate (0.40 gpm) and time elapsed between the start-up and sample collection

TABLE 1
DPE EVENT FIELD OBSERVATION SUMMARY
5th DPE Event - May 2006
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Hour Meter Reading	TE days	Appl Vac "Hg	Air Flow[1] cfm	Totalizer Reading gallons	GW Ext Rate gpm	Inf PID ppmv	Oper Temp deg F	Depth to Water, feet bgs and Induced Vacuum, "WC													
									S-1		S-2		MW-3		MW-6			MW-7			MW-8		
									DTW	DD	DTW	DD	DTW	DD	Vac	DTW	DD	Vac	DTW	DD	Vac	DTW	DD
5/1/06 9:30	**Begin fifth DPE event using wells EX-1, EX-2, EX-3, and EX-4. Hour Meter Reading = 3,758. Totalizer reading = 107,790 gallons**																					
5/1/06 9:30	3,758.00	0.00	24.50	29.5	107,790	--	12	1,451	9.43	--	11.37	--	7.84	--	0.00	11.00	--	0.00	8.41	--	0.00	11.16	--
5/3/06 5:30	3,826.80	2.87	24.00	21.9	110,790	0.73	15	1,479	9.55	0.12	11.04	-0.33	8.85	1.01	0.00	11.05	0.05	0.00	8.37	-0.04	0.01	11.04	-0.12
5/8/06 6:00	3,923.20	6.88	22.00	26.1	112,920	0.37	17	1,450	9.58	0.15	11.42	0.05	9.51	1.67	0.00	11.08	0.08	0.00	8.35	-0.06	0.00	11.46	0.30
5/16/06 5:30	4,006.80	10.37	Upon arrival the DPE system was observed to be non-operating due to generator malfunction. Based on the hour meter readings, the DPE system was likely shutdown at 17:36 hrs on 5/11/06. The DPE system system was re-started at 5:30 hrs on 5/16/06 after troubleshooting the generator malfunction.																					
5/16/06 5:30	4,006.80	10.37	21.00	56.2	113,780	0.17	50	1,460	9.63	0.20	11.47	0.10	9.95	2.11	0.00	11.28	0.28	0.00	8.43	0.02	0.00	11.86	0.70
5/22/06 5:30	4,150.40	16.35	21.00	38.8	114,830	0.12	43	1,460	9.54	0.11	11.39	0.02	9.85	2.01	0.00	11.10	0.10	0.00	8.39	-0.02	0.00	11.88	0.72
5/25/06 5:30	4,190.20	18.01	Upon arrival the DPE system was observed to be non-operating due to generator malfunction. Based on the hour meter readings, the DPE system was likely shutdown at 21:18 hrs on 5/23/06. The DPE system system was re-started at 5:30 hrs on 5/25/06 after troubleshooting the generator malfunction.																					
5/25/06 5:30	4,190.20	18.01	20.00	48.4	115,090	0.11	20	1,452	NM	--	NM	--	NM	--	NM	NM	--	NM	NM	--	NM	NM	--
5/25/06 6:40	4,191.10	18.05	Discontinue fifth DPE event. Totalizer reading = 115,190 gallons																			
Average	--	--	**22.08**	**36.79**	--	**0.30**	**26.2**	**1459**	**9.55**	**0.15**	**11.34**	**-0.04**	**9.20**	**1.70**	**0.00**	**11.10**	**0.13**	**0.00**	**8.39**	**-0.03**	**0.00**	**11.48**	**0.40**
Distance to Nearest Extraction Well, feet									**20**		**27**		**15**		**75**			**33**			**62**		
Screening Interval : EX-1=EX-2=EX-3=EX-4= 5 to 25 feet bgs									**20 - 40**		**20 - 40**		**24 - 44**		**10 - 40.5**			**10 - 40**			**10 - 35**		

Notes:

TE - Time Elapsed calculated as difference of hour meter readings, days
Appl - Applied
Oper - Operating
Vac - Vacuum
DTW - depth to groundwater
" WC - Inches water column
Ext. - Extraction
GW Ext - Groundwater Extraction
GW Ext Rate = Difference of Totalizer Readings, gallons

cfm - cubic feet per minute
Inf - Influent
DD - Drawdown
bgs - below ground surface
gpm - gallons per minute
"Hg - Inches Mercury

Temp - Temperature
deg F - degree Farenheit
PID - Photo Ionization Detector
ppmv - parts per million by volume
NM - Not measured
-- = Not applicable

[1] Flow rate measured using a digital anemometer at 3" diameter steel pipe;
flow rate = velocity X area of pipe (e.g.: flow rate = 600 feet per minute X 0.05 sq.ft)

TABLE 2
SOIL VAPOR ANALYTICAL RESULTS
5th DPE Event - May 2006
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA
05/01/06	10:40	USA57ASysEff	<15	<0.15	<0.15	<0.15	<0.15	<0.15	<7.5
05/01/06	10:45	USA57ASysInf	37	5.4	2.3	0.58	2.25	<0.15	<7.5
05/08/06	06:10	USA57ASYSINF	37	0.31	0.25	0.49	2.73	<0.15	<7.5
05/25/06	06:20	USA57ASysInf	180	1.1	0.22	0.32	0.58	<0.15	<7.5

Notes

All air sample values reported in milligrams per cubic meter (mg/m^3)
TPHG = Total petroleum hydrocarbons as gasoline (Gasoline Range Organics [GRO] C4-C13)
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tertiary butyl ether
TBA = Tertiary butyl alcohol
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
DIPE = Di-isopropyl ether

Analytical Laboratory

Alpha Analytical, Inc. (Alpha [ELAP #2019])

Analytical Methods

TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual
BTEX, MTBE, TBA, DIPE, TAME, and ETBE analyzed by EPA Method SW8260B

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
5th DPE Event - May 2006
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	DIPE	ETBE	TAME
05/01/06	10:28	USA57WINF	990	170	96	15	205	12	66	<2.0[1]	<2.0[1]	<2.0[1]
05/04/06	06:28	USA57WEFF	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
05/04/06	06:32	USA57WGAC1	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
05/08/06	06:45	USA57WINF	110	0.61	<0.50	0.66	11.1	0.61	29	<1.0	<1.0	<1.0
05/25/06	06:35	USA57WInf	290	19	2.7	3.5	22.3	20	42	<1.0	<1.0	<1.0
05/25/06	06:39	USA57WMid	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0

Notes:

All water sample values reported in micrograms per liter (µg/L)
TPHG = Total petroleum hydrocarbons as gasoline (Gasoline Range Organics [GRO] C4-C13)
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tertiary butyl ether
TBA = Tertiary butyl alcohol
DIPE = Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether

Analytical Laboratory

Alpha Analytical , Inc. (ELAP #2019)

Analytical Methods

TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual
BTEX, MTBE, TBA, DIPE, ETBE, & TAME analyzed by EPA Method SW8260B

[1] = Reporting limits were increased due to high concentrations of target analytes

TABLE 4
PETROLEUM HYDROCARBON MASS EXTRACTION SUMMARY
5th DPE Event - May 2006
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Time Elapsed (days)	Flowrate (cfm)	Influent Concentration (mg/m^3)			Soil Vapor Extraction Rate (lbs/day)			Cumulative Mass (TPHG) Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	Period[1]	Total
									lbs	lbs
Petroleum hydrocarbon mass removed during the previous DPE events									45.469	45.469
05/01/06	--	29.5	37	5.4	<0.15	0.10	0.01	<0.0004	--	--
05/08/06	6.88	26.1	37	0.31	<0.15	0.09	0.00	<0.0003	0.629	46.098
05/25/06	11.16	48.4	180	1.1	<0.15	0.77	0.005	<0.001	4.801	50.900

Date	Time Elapsed (days)	Volume of groundwater extracted[2], gallons	Influent Concentration (µg/L)			Mass Extracted from groundwater (lbs)			Cumulative Mass Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	TPHG	MTBE
									lbs	lbs
Petroleum hydrocarbon mass removed during the previous DPE events									0.26809	0.01280
05/01/06	-	18	990	170	12	0.00015	0.000026	0.000002	0.26824	0.01280
05/08/06	6.88	5,130	110	0.61	0.61	0.02355	0.00365	0.00027	0.29178	0.01307
05/25/06	11.16	2,270	290	19	20	0.00379	0.00019	0.00020	0.29557	0.01327

Sample Calculations

Ext. Rate from Wells (vapor) = $\frac{40.3 \text{ cu ft}}{\text{min}} \times \frac{690 \text{ mg}}{\text{cu meter}} \times \frac{\text{lb}}{453{,}593 \text{ mg}} \times \frac{1{,}440 \text{ min}}{\text{day}} \times \frac{\text{x cu meter}}{35.314 \text{ cu ft}}$

= 2.47 lbs/day

Mass removed from groundwater = concentration (µg/L) x gallons extracted x (2.2046×10^{-9})(lb/mg) / 0.26418 (gal/L)

[1] For mass estimates between the sampling dates, average mass extraction rate and time elapsed (operational uptime) between the sampling events were used

[2] Volume estimated based on flow totalizer measurements taken on the sampling days. For May 1, 2006, the volume of groundwater extracted was estimated based on the average groundwater extraction rate (0.30 gpm) and time elapsed between the start-up and sample collection

TABLE 1

DPE EVENT FIELD OBSERVATION SUMMARY

6th DPE Event - July/August 2006

Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Hour Meter Reading	TE days	Appl Vac "Hg	Air Flow[1] cfm	Totalizer Reading gallons	GW Ext Rate gpm	Inf PID ppmv	Oper Temp deg F	Depth to Water, feet bgs and Induced Vacuum, "WC													
									S-1		S-2		MW-3		MW-6			MW-7			MW-8		
									DTW	DD	DTW	DD	DTW	DD	Vac	DTW	DD	Vac	DTW	DD	Vac	DTW	DD
7/17/06 7:00	**Begin sixth DPE event using wells EX-1, EX-2, EX-3, and EX-4. Hour Meter Reading = 4,410.7. Totalizer reading = 121,580 gallons**																					
7/17/06 7:00	4,410.70	0.00	18.00	113.1	121,580	--	106	1,479	11.00	--	12.98	--	10.08	--	0.00	12.75	--	0.00	9.94	--	0.00	13.08	--
7/17/06 8:30	4,412.10	0.06	18.00	113.4	121,690	1.31	105	1,470	NM	--	NM	--	NM	--	NM	NM	--	NM	NM	--	NM	NM	--
7/21/06 5:00	4,505.10	3.93	18.00	111.5	122,200	0.09	100	1,450	NM	--	NM	--	NM	--	NM	NM	--	NM	NM	--	NM	NM	--
7/25/06 9:45	4,605.60	8.12	16.50	70.7	122,518	0.05	98	1,450	11.53	0.53	13.47	0.49	11.05	0.97	NM	13.13	0.38	NM	10.35	0.41	NM	13.51	0.43
7/27/06 6:00	4,651.40	10.03	17.00	59.9	122,633	0.04	77	1,457	NM	--	NM	--	NM	--	NM	NM	--	NM	NM	--	NM	NM	--
8/3/06 5:00	4,818.10	16.98	16.50	114.8	123,070	0.04	23	1,450	11.95	0.95	13.90	0.92	11.66	1.58	0.00	13.56	0.81	0.00	10.83	0.89	0.00	14.10	1.02
8/10/06 6:45	4,988.00	24.05	17.50	88.9	123,570	0.05	20	1,460	12.25	1.25	14.22	1.24	11.93	1.85	0.00	13.85	1.10	0.00	11.15	1.21	0.00	14.35	1.27
8/10/06 7:00																							
Average	--	--	**17.36**	**96.05**	--	**0.06**	**75.6**	**1,459**															
Distance to Nearest Extraction Well, feet									**20**		**27**		**15**		**75**			**33**			**62**		
Screening Interval : EX-1=EX-2=EX-3=EX-4= 5 to 25 feet bgs									**20 - 40**		**20 - 40**		**24 - 44**		**10 - 40.5**			**10 - 40**			**10 - 35**		

Notes:

TE - Time Elapsed calculated as difference of hour meter readings, days
Appl - Applied
Oper - Operating
Vac - Vacuum
DTW - depth to groundwater
" WC - Inches water column
Ext. - Extraction
GW Ext - Groundwater Extraction
GW Ext Rate = Difference of Totalizer Readings, gallons

cfm - cubic feet per minute
Inf - Influent
DD - Drawdown
bgs - below ground surface
gpm - gallons per minute
"Hg - Inches Mercury

Temp - Temperature
deg F - degree Farenheit
PID - Photo Ionization Detector
ppmv - parts per million by volume
NM - Not measured
-- = Not applicable

[1] Flow rate measured using a digital anemometer at 3" diameter steel pipe;
flow rate = velocity X area of pipe (e.g.: flow rate = 600 feet per minute X 0.05 sq.ft)

TABLE 2
SOIL VAPOR ANALYTICAL RESULTS
6th DPE Event - July/August 2006
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA
07/17/06	8:25	USA57ASysEff	<15	<0.15	<0.15	<0.15	<0.15	<0.15	<7.5
07/17/06	8:28	USA57ASysInf	370	3.8	0.96	1.8	3.72	<0.30	<15
08/03/06	5:42	USA57ASysInf	80	<0.15	<0.15	0.20	2.33	<0.15	<7.5
08/10/06	07:00	USA57ASysInf	220	2.6	17	5.5	27.6	<0.15	<7.5

Notes

All air sample values reported in milligrams per cubic meter (mg/m^3)
TPHG = Total petroleum hydrocarbons as gasoline (Gasoline Range Organics [GRO] C4-C13)
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tertiary butyl ether
TBA = Tertiary butyl alcohol
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
DIPE = Di-isopropyl ether

Analytical Laboratory

Alpha Analytical, Inc. (Alpha [ELAP #2019])

Analytical Methods

TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual
BTEX, MTBE, TBA, DIPE, TAME, and ETBE analyzed by EPA Method SW8260B

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
6th DPE Event - July/August 2006
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	DIPE	ETBE	TAME
07/17/06	8:10	USA57WINF	**900**	**170**	**56**	**13**	**130**	**34**	**130**	<5.0[1]	<5.0[1]	<5.0[1]
08/03/06	5:55	USA57WEFF	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
08/03/06	5:57	USA57WGAC1	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
08/03/06	5:59	USA57WINF	**150**	<0.50	<0.50	<0.50	**17.9**	**0.79**	**18**	<1.0	<1.0	<1.0

Notes:

All water sample values reported in micrograms per liter (µg/L)
TPHG = Total petroleum hydrocarbons as gasoline (Gasoline Range Organics [GRO] C4-C13)
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tertiary butyl ether
TBA = Tertiary butyl alcohol
DIPE = Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether

Analytical Laboratory
Alpha Analytical , Inc. (ELAP #2019)

Analytical Methods
TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual
BTEX, MTBE, TBA, DIPE, ETBE, & TAME analyzed by EPA Method SW8260B

[1] = Reporting limits were increased due to high concentrations of target analytes

TABLE 4
PETROLEUM HYDROCARBON AND GROUNDWATER MASS EXTRACTION SUMMARY
6th DPE Event - July/August 2006
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Time Elapsed (days)	Flowrate (cfm)	Influent Concentration (mg/m^3)			Soil Vapor Extraction Rate (lbs/day)			Cumulative Mass (TPHG) Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	Period[1]	Total
									lbs	lbs
Petroleum hydrocarbon mass removed during the previous DPE events									50.900	50.900
07/17/06	--	113.4	370	3.8	<0.30	3.73	0.04	<0.0030	--	--
08/03/06	16.98	114.8	80	<0.15	<0.15	0.82	<0.002	<0.0015	38.596	89.496
08/10/06	7.07	88.9	220	2.6	<0.15	1.74	0.021	<0.0012	9.032	98.527

Date	Time Elapsed (days)	Volume of groundwater extracted[2], gallons	Influent Concentration (µg/L)			Mass Extracted from groundwater (lbs)			Cumulative Mass Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	TPHG	MTBE
									lbs	lbs
Petroleum hydrocarbon mass removed during the previous DPE events									0.29557	0.01327
07/17/06	-	91.7	900	170	34	0.00069	0.000130	0.000026	0.29626	0.01330
08/03/06	16.98	1,490	150	<0.50	0.79	0.00653	<0.00106	0.00022	0.30279	0.01351

Groundwater extracted to date 186,800 gallons

Sample Calculations

Ext. Rate from Wells (vapor) = $\frac{40.3 \text{ cu ft}}{\text{min}} \times \frac{690 \text{ mg}}{\text{cu meter}} \times \frac{\text{lb}}{453{,}593 \text{ mg}} \times \frac{1{,}440 \text{ min}}{\text{day}} \times \frac{\text{x cu meter}}{35.314 \text{ cu ft}}$

= 2.47 lbs/day

Mass removed from groundwater = concentration (µg/L) x gallons extracted x (2.2046×10^{-9})(lb/mg) / 0.26418 (gal/L)

[1] For mass estimates between the sampling dates, average mass extraction rate and time elapsed (operational uptime) between the sampling events were used.

[2] Volume estimated based on flow totalizer measurements taken on the sampling days. For July 17, 2006, the volume of groundwater extracted was estimated based on the groundwater extraction rate (1.31 gpm) and time elapsed between the start-up and sample collection .

...BLE 2

DPE-AS EVENT FIELD OBSERVATION SUMMARY

Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Hour Meter Reading	TE (days)	Appl Vac ("Hg)	Air Flow[1] (cfm)	Totalizer Reading (gallons)	GW Ext Rate (gpm)	Inf PID (ppmv)	Oper Temp (deg F)	Depth to Water, feet bgs and Induced Vacuum, "WC									
									S-1		S-2		MW-3		MW-7		MW-8	
									(DTW)	(DD)	(DTW)	(DD)	(DTW)	(DD)	(DTW)	(DD)	(DTW)	(DD)
9/4/07 5:45	NM	NM	NM	NM	NM	NM	NM	NM	18.57	--	20.69	--	15.43	--	17.60	--	19.55	--
9/4/07 9:40	**Begin DPE-AS event using wells EX-1 through EX-4 and AS-1 through AS-2. Hour Meter Reading = 11,489.50. Totalizer Reading = 199,300 gallons**																	
9/4/07 9:40	11,489.50	0.00	15.00	93.3	199,307	--	NM	NM	NM	--	NM	--	NM	--	NM	--	NM	--
9/4/07 10:15	11,490.50	0.04	15.00	98.2	199,320	0.22	230	1,490	NM	--	NM	--	NM	--	NM	--	NM	--
9/4/06 11:15	11,491.40	0.08	14.00	103.1	199,340	0.37	140	1,450	NM	--	NM	--	NM	--	NM	--	NM	--
9/11/07 10:15	11,524.00	1.44	12.00	122.8	199,410	0.04	160	1,450	NM	--	NM	--	NM	--	NM	--	NM	--
9/17/07 5:45	11,592.60	4.30	10.00	122.8	199,550	0.03	139	1,483	NM	--	NM	--	NM	--	NM	--	NM	--
9/18/07 4:15	11,616.70	5.30	NM	NM	199,550	0.00	NM	NM	18.80	0.23	20.94	0.25	16.10	0.67	17.78	0.18	23.69	4.14
9/20/07 5:00	11,640.00	6.27	NM	98.2	199,550	0.00	418	1,538	NM	--	NM	--	NM	--	NM	--	NM	--
9/25/07 9:00	11,668.10	7.44	14.00	103.1	199,630	0.05	400	1,527	NM	--	NM	--	NM	--	NM	--	NM	--
10/2/07 5:00	11,730.00	10.02	NM	NM	NM	--	NM	NM	19.12	0.55	21.33	0.64	16.40	0.97	18.11	0.51	20.24	0.69
10/3/07 5:30	11,762.20	11.36	8.00	132.6	199,690	0.01	1,060	1,480	NM	--	NM	--	NM	--	NM	--	NM	--
10/5/07 5:00	11,808.80	13.30	NM	NM	199,690	--	NM	NM	NM	--	NM	--	NM	--	NM	--	NM	--
10/11/07 7:00	11,862.00	15.52	11.00	122.8	199,770	0.03	90	1,460	NM	--	NM	--	NM	--	NM	--	NM	--
10/15/07 4:50	11,960.30	19.62	NM	NM	199,830	0.01	NM	NM	19.22	0.65	21.32	0.63	16.45	1.02	18.29	0.69	20.36	0.81
10/17/07 8:00	11,972.00	20.10	11.00	103.1	199,830	--	300	1,497	NM	--	NM	--	NM	--	NM	--	NM	--
10/30/07 8:50	12,101.00	25.48	14.50	117.9	199,920	0.01	69	1,450	NM	--	NM	--	NM	--	NM	--	NM	--
11/6/07 7:00	12,108.00	25.77	12.00	117.9	199,990	0.17	347	1,485	NM	--	NM	--	NM	--	NM	--	NM	--
11/14/07 6:00	12,269.00	32.48	NM	NM	NM	--	NM	NM	NM	--	NM	--	NM	--	NM	--	NM	--
11/14/07 20:00	**Discontinue DPE-AS event.**																	
Average	--	--	**12.41**	**111.31**	--	**0.08**	**304.82**	**1,483**										
Distance to Nearest Extraction Well, feet									**20**		**27**		**15**		**33**		**62**	
Screening Interval : EX-1=EX-2=EX-3=EX-4= 5 to 25 feet bgs									**20 - 40**		**20 - 40**		**24 - 44**		**10 - 40**		**10 - 35**	

BLE 2
DPE-AS EVENT FIELD OBSERVATION SUMMARY
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Hour Meter Reading	TE (days)	Appl Vac ("Hg)	Air Flow[1] (cfm)	Totalizer Reading (gallons)	GW Ext Rate (gpm)	Inf PID (ppmv)	Oper Temp (deg F)	Depth to Water, feet bgs and Induced Vacuum, "WC									
									S-1		S-2		MW-3		MW-7		MW-8	
									(DTW)	(DD)	(DTW)	(DD)	(DTW)	(DD)	(DTW)	(DD)	(DTW)	(DD)

Notes:

Appl - Applied

cfm - Cubic feet per minute

DD - Drawdown

deg F - Degree Fahrenheit

DTW - Depth to groundwater

gpm - Gallons per minute

GW Ext Rate = Difference of Totalizer Readings, gallons

"Hg - Inches mercury

Inf - Influent

NM - Not measured

Oper - Operating

PID - Photo ionization detector

ppmv - Parts per million by volume

TE - Time elapsed calculated as difference of hour meter readings, days

Temp - Temperature

Vac - Vacuum

[1] Flow rate measured using a digital anemometer at 3" diameter steel pipe;
flow rate = velocity x area of pipe (e.g. flow rate = 600 feet per minute x 0.05 square feet)

TABLE 3
SOIL VAPOR ANALYTICAL RESULTS
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	GRO (mg/m^3)	Benzene (mg/m^3)	Toluene (mg/m^3)	Ethyl-benzene (mg/m^3)	Total Xylenes (mg/m^3)	MTBE (mg/m^3)	TBA (mg/m^3)
09/04/07	11:15	Sys Inf Air 57	**540**	**0.75**	<0.75	**0.97**	<0.75	<0.75	<38
09/04/07	11:20	EFF Air	<15	<0.15	<0.15	<0.15	<0.15	<0.15	<7.5
10/03/07	05:30	0057ASYSINF	**1,800**	**3.4**	**0.96**	**1.2**	**7.5**	<0.75	NA
10/11/07	07:11	USA57 A SYSINF	**730**	**1.2**	**0.45**	<0.30	**1.1**	<0.30	NA
10/11/07	07:00	USA57 A EFF	<15	<0.15	<0.15	<0.15	<0.15	<0.15	NA
11/06/07	07:22	0057 A SYS INF	**1,600**	**2.6**	**1.2**	**0.81**	**2.3**	<0.75	NA
11/06/07	07:20	0057 A SYS EFF	**73**	<0.15	<0.15	<0.15	<0.15	<0.15	NA
11/15/2007 [1]	09:10	0057 A INF	**77**	<0.15	**0.15**	<0.15	**1.16**	<0.15	NA
11/15/2007 [1]	09:05	0057 A EFF	<15	<0.15	<0.15	<0.15	<0.15	<0.15	NA

Notes

[1] Samples analyzed per Bay Area Air Quality Management District (BAAQMD) permit limits

BTEX = Benzene, toluene, ethylbenzene, and total xylenes

GRO = Gasoline Range Organics C4-C13

MTBE = Methyl tertiary butyl ether

NA = Not analyzed

TBA = Tertiary butyl alcohol

Analytical Laboratory

Alpha Analytical, Inc. (Alpha [ELAP #2019])

Analytical Methods

GRO analyzed by EPA Method SW8015B/DHS LUFT Manual

BTEX, MTBE, and TBAanalyzed by EPA Method SW8260B

TABLE 4
GROUNDWATER ANALYTICAL RESULTS
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
09/04/07	10:15	INF	470	25	2.9	10	19	230	120	<1.0	<1.0	<1.0
10/03/07	5:30	0057WINF	51	9.2	0.63	<0.50	1.82	5.4	19	<1.0	<1.0	<1.0
10/11/07	6:35	USA57 W INF	120	25	1.6	3.3	8.7	3.8	18	<1.0	<1.0	<1.0
10/11/07	6:30	USA57 W EFF	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
11/06/07	7:35	00057 W INF	430	140	33	9.6	61	9.0	41	<2.0[1]	<2.0[1]	<2.0[1]
11/06/07	7:30	00057 W EFF	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0

Notes:

µg/L - Micrograms per liter
BTEX - Benzene, toluene, ethylbenzene, and total xylenes
DIPE - Di-isopropyl ether
ETBE - Ethyl tertiary butyl ether
GRO - Gasoline range organics C4-C13
MTBE - Methyl tertiary butyl ether
TBA - Tertiary butyl alcohol
TAME - Tertiary amyl methyl ether

Analytical Laboratory

Alpha Analytical , Inc. (ELAP #2019)

Analytical Methods

GRO analyzed by EPA Method SW8015B/DHS LUFT Manual
BTEX, MTBE, TBA, DIPE, ETBE, and TAME analyzed by EPA Method SW8260B

[1] = Reporting limits were increased due to high concentrations of target analytes

TABLE 5
PETROLEUM HYDROCARBON AND GROUNDWATER MASS EXTRACTION SUMMARY
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Time Elapsed (days)	Flowrate (cfm)	Influent Concentration (mg/m^3)			Soil Vapor Extraction Rate (lbs/day)			Cumulative Mass (TPHG) Removed	
			GRO	Benzene	MTBE	GRO	Benzene	MTBE	Period[1]	Total
									lbs	lbs
Petroleum hydrocarbon mass removed during the previous DPE events									98.527	98.527
09/04/07	0.08	103.1	540	0.75	<0.75	4.95	0.01	<0.0069	4.950	103.477
10/03/07	11.36	132.6	1,800	3.40	<0.75	21.22	0.04	<0.0088	148.618	252.095
10/11/07	15.52	122.8	730	1.2	<0.30	7.97	0.013	<0.0033	226.474	478.569
11/06/07	25.77	117.9	1,600	2.6	<0.75	16.77	0.027	<0.0079	318.733	797.302
11/15/07	NA	NM	77	<0.15	<0.15	--	--	--	--	--

Date	Time Elapsed (days)	Volume of Groundwater Extracted[2] (gallons)	Influent Concentration (µg/L)			Mass Extracted from Groundwater (lbs)			Cumulative Mass Removed	
			GRO	Benzene	MTBE	GRO	Benzene	MTBE	GRO	MTBE
									lbs	lbs
Petroleum hydrocarbon mass removed during the previous DPE events									0.30279	0.01351
09/04/07	0.04	20.0	470	25	230	0.00008	0.000004	0.000038	0.30287	0.01355
10/03/07	11.36	390.0	51	9.2	5.4	0.00017	0.00003	0.000018	0.30303	0.01357
10/11/07	15.52	470	120	25	3.8	0.00034	0.0001	0.00002	0.30337	0.01358
11/06/07	25.77	690	430	140	9	0.00158	0.0005	0.00004	0.30495	0.01362

Groundwater extracted to date 187,490 gallons

Sample Calculations

Ext. Rate from Wells (vapor) = $\frac{40.3 \text{ cu ft}}{\text{min}} \times \frac{690 \text{ mg}}{\text{cu meter}} \times \frac{\text{lb}}{453{,}593 \text{ mg}} \times \frac{1{,}440 \text{ min}}{\text{day}} \times \frac{\text{x cu meter}}{35.314 \text{ cu ft}}$

= 2.47 lbs/day

Mass removed from groundwater = concentration (µg/L) x gallons extracted x (2.2046×10^{-9})(lb/mg) / 0.26418 (gal/L)

Notes:

[1] For mass estimates between the sampling dates, average mass extraction rate and time elapsed (operational uptime) between the sampling events were used.

[2] Volume estimated based on flow totalizer measurements taken on the sampling days.

µg/L - Micrograms per liter
cfm - Cubic feet per meter
DPE - Dual phase extraction
gal - Gallons
GRO - Gasoline range organics
lbs - Pounds
mg/m^3 - Milligrams per cubic
MTBE - Methuyl tertiary butyl ether
NA - Not analyzed
NM - Not monitored
TPHG - Total petroleum hydrocarbons