June 25, 2008

SUPPLEMENTAL SOIL VAPOR INVESTIGATION REPORT

Former Young's Cleaners
10700 MacArthur Boulevard
Oakland, California

AEI Project No. 261829
Toxics Case No. RO0002580

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EXECUTIVE SUMMARY

This report describes the activities and results of the recent investigation and planning activities performed by AEI Consultants for the property located at 10700 MacArthur Boulevard, Oakland, California. This included implementation of an additional soil vapor investigation, field testing of the proposed venting approach, and design review of the proposed pilot test.

RECENT INVESTIGATIVE ACTIVITIES

AEI originally proposed to complete a pilot study at the site in the *Work Plan for Pilot Study* dated March 7, 2008. In the letter by the Alameda County Health Care Services (ACHCS) dated April 10, 2008, which included a review of this workplan, and the meeting with the ACHCS on April 22, 2008, the ACHCS required further investigation of the vapor phase extent of impact to the south and west of the release area prior to approval of pilot study activities. The specific goal of the sampling was to fill any remaining data gaps on the extent of impact prior to implementing the pilot testing installations. In response to this requirement, AEI completed seven shallow soil vapor borings in the specific locations requested by the ACHCS. All sample analyses reported site contaminants below laboratory detection limits. Based on this, the lateral extent of the impact has been completed defined, as requested by ACHCS, and no further assessment is necessary prior to remedial action initiation.

SUB-SLAB RADIUS OF INFLUENCE TESTING

On May 15, 2008, AEI mobilized to the site to perform preliminary site condition testing to further refine the design specifications for the pilot study system installations. The design of the planned pilot testing was based on a very conservative radius of influence (ROI) estimate in order to create a significant factor of safety in its effectiveness such that additional installations (piping runs, extraction wells or pits, etc) would not be needed within the target area. In order to decrease the uncertainty regarding the sub-slab induced vacuum ROI prior to preparing for the installation phase of the pilot test, AEI performed the preliminary ROI testing, allowing for a more efficient pilot study design.

In order to determine if a significant radius of influence was present beneath the concrete slab, AEI used a conservative range of -0.025 to -0.035 inches of water as the minimum acceptable vacuum ROI to eliminate vapor intrusion potential. During initial testing at 10', 20', 30', and 40', a vacuum of 0.24 inches of water, 0.11 inches of water, 0.075 inches of water, and 0.04 inches of water, respectively, was observed, indicating sufficient vacuum in the sub-slab material from one extraction point to up to 40 feet away. AEI then tested the sub-slab vacuum at 75', the furthest area possible, due to building limitations. A measurable vacuum was not observed at 75' in the Magnahelic gauge, therefore AEI completed a "smoke test" in which a smoke pen generates smoke in the vicinity of the test hole. During the smoke test, the smoke was visually observed to move into the test hole indicating that a vacuum was present beneath the slab at 75' from the extraction

point. Based on these measurements, a revision to the location and layout of sub-slab vents is included in this document.

CONCLUSIONS AND RECOMMENDATIONS

The results of the additional investigation defined the extent of shallow impact in the vapor phase to the immediate vicinity of the previously identified areas. All additional samples had non-detect concentrations of site contaminants. Therefore, no further assessment of the extent of the release is necessary prior to remedial pilot testing and implementation. Based on the distribution of site contaminants in shallow soil, the remedial action will be focused only on the building areas previously targeted: the building space in and immediately surrounding the former Young's Cleaners space. Mitigation of potential vapor intrusion is not necessary at the building to the south (which is slated for demolition) or that to the west.

Based on the results of the field vacuum testing, an alternative layout for extraction location will be implemented. Shallow vapor collection sumps (vacuum pits) will be constructed as opposed to trenches. This will adequately cover the target area and reduce the cost and disruptions of trenching. A total of six (6) suction pits will be installed with plumbing installed within the walls at the time of tenant improvements. This portion of the subject building is currently vacant, with design for the interior space under final review. Field installations will be completed with interior improvements following which the vacuum equipment will be mobilized and testing will begin.

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1.0 INTRODUCTION

This report describes the activities and results of the recent investigation and planning activities performed by AEI Consultants for the property located at 10700 MacArthur Boulevard, Oakland, California (Figure 1: Site Location Map). The investigation was originally proposed in AEI's *Work Plan for Pilot Study – Addendum* dated May 9, 2008, in response to the request for an additional investigation by the Alameda County Health Care Services (ACHCS) in a letter dated April 10, 2008. The proposed work was approved by the ACHCS in a letter dated May 16, 2008, provided that an additional technical comment (3 additional soil vapor sample locations) be incorporated into the proposed work.

The investigation included the collection and analyses of seven additional soil vapor samples to further define the extent of the release of chlorinated volatile organic compounds (CVOCs), particularly tetrachloroethylene (PCE), from historical dry-cleaning activities. The specific goal of the investigation was to complete the characterization of the release in preparation for remedial action implementation in the coming months.

2.0 SITE DESCRIPTION AND HISTORY

The subject property (hereinafter referred to as the site or property) is located at 10700 MacArthur Boulevard (Figure 1). The site is approximately 13.5 acres in size and is currently developed with the Foothill Square Shopping Center. The shopping center consists of five buildings, together totaling approximately 155,600 square feet. The are of concern is the former Youngs Cleaners, located on the north side of the property.

The site is situated in a mixed commercial and residential area of Oakland. The site is bound by MacArthur Boulevard to the west, Foothill Boulevard to the east, and 108th Avenue to the south. An ARCO gasoline station is located adjacent to the northwest and residences to the north. Refer to Figure 2 for a site plan of the western section of the Foothill Square Shopping Center property.

Construction of the shopping center began in the early 1960s. Additions to the original center continued through the 1970s, including the construction of a gas station at the southeastern corner in 1970. This gas station was operated by USA Petroleum which ceased operations and was eventually demolished in 1994. A current open leaking underground storage tank (LUST) case exists for this former gas station, the responsibility for which is with USA.

Between 1984 and 1995, Young's Cleaners, a dry-cleaning business, operated in one of the units of the shopping center, located at the southwestern end of the northern building (Figure 2). A release of PCE was discovered as part of an offsite investigation, which was later traced to Young's Cleaners. Below is a chronology of discovery, investigation, and mitigation of the release.

2.1 Preliminary Investigations

In August 1988, Kaldveer Associates performed a Preliminary Soil and Groundwater Quality Testing Program at the site. Fifteen soil borings were drilled to depths of 11.5 to 36.5 below

ground surface (bgs) around the perimeter of the site. The investigation focused on past use of the site as a truck manufacturing facility, the then operating USA Gasoline Station on the southeast corner of the site, and an ARCO service station adjacent to the north west corner of the site. The result of the analytical program indicated the presence of hydrocarbons in the soil and groundwater in the northwest corner of the site, adjacent to the ARCO station.

WGR installed 5 groundwater monitoring wells (WGR-MW-1 to WGR-MW-5) on the shopping center property in January, 1989. Soil and groundwater samples confirmed the presence of petroleum hydrocarbons in the northwest corner of the site. Groundwater samples from well WGR-MW-2 and WGR-MW-3, contained low concentrations of 1,1-trichloroethane. Wells WGR-MW-1 through WGR-MW-3 and WGR-MW-5 were installed in what was described as the "shallow" groundwater, described as between 20 to 35 feet bgs. Well WGR-MW-4 was installed in what was described as the "deeper" groundwater zone, with the well slots from 25 to 45 feet bgs.

RESNA conducted several investigations of the ARCO service station between 1991 and 1993 to define the extent of the petroleum hydrocarbon release that occurred on that property. During their investigations, RESNA detected chlorinated volatile organic compounds (CVOCs) in several of their borings and wells. On March 23, 1993, the ACHCS requested that the vertical and lateral extent of PCE contamination, discovered on the shopping center by ARCO while investigating its release, be investigated by the shopping center owners.

2.2 Exploratory Excavation - 1994

In May 1994, Augeas performed an exploratory excavation within the Young's Cleaners location. Approximately 8 cubic yards of soil were removed from site of the coin operated dry cleaning machines. An area approximately 1.5 feet deep and 6 feet by 8 feet was excavated by the south wall of the facility. Augeas collected 4 soil samples (SB-1 through SB-4) from the floor and sidewalls of the shallow excavation which were analyzed by EPA method 8240. PCE was detected in these samples at concentrations ranging from 890 milligrams per kilogram (mg/kg) (SB-1) to 9,100 mg/kg (SB-2). Sample SB-2 was located about three feet directly below a floor drain that was shown by Augeas to be connected to the sanitary sewer.

In July 1994, the existing excavation was extended four feet to the west and deepened to about 4 feet bgs. On August 29, 1994, Augeas collected eight additional soil samples (H-1 through H-8) from floor and sidewalls of the excavation. PCE was reported at concentrations ranging from 1.4 mg/kg (H-2) to 5.0 mg/kg (H-3).

2.3 Site Characterization – 1994 to 1995

Between September and November 1994, Augeas drilled seven soil borings and three groundwater monitoring wells on the site. Boring B-1 was drilled to a depth of 5 feet bgs and borings B-2 through B-7 to depths of 21 to 25 feet bgs. One well AMW-1 was drilled near the back of Young's Dry Cleaners and two (AMW-2 and AMW-3) near the front of the facility.

Augeas reported PCE soil contamination in 5 of the soil borings (B-3 through B-7) and monitoring wells AMW-2 and AMW-3 at concentrations ranging from 0.012 mg/kg (B-3) to 90 mg/kg (AMW-2).

PCE was detected in groundwater samples from soil borings B-4 through B-6 at concentrations ranging from 870 micrograms per liter (µg/L) to 11,000 µg/L. No chlorinated solvents were detected in the groundwater sample from well AMW-1. The groundwater sample from well AMW-2, located in front of the drycleaners, adjacent to the sanitary sewer line was reported to contain PCE, trichloroethylene (TCE), cis & trans-1,2-dichloroethylene (c-1,2-DCE), (t-1,2 –DCE), 1,1-DCE and c-1,3-DCP at concentrations of 35,000 µg/L, 320 µg/L, 110 µg/L, 50 µg/L, 8 µg/L and 4.2 µg/L, respectively. Total petroleum hydrocarbons as Stoddard solvent (TPHs) was also reported in the groundwater sample from AMW-2.

In March 1995, Augeas installed two additional wells, AMW-4 and MW-5. Wells AMW-6 through AMW-9 were installed in July through August 1995. Based on the investigations, Augeas concluded that the PCE contamination centered on the Young's Cleaners, and was caused by a release of solvents from the drycleaner and associated sanitary sewer line in front of the facility. They also concluded that the extent of soil contamination was not wide spread. Augeas recommended that the PCE affected soil be excavated, thereby removing the source. Augeas expected this to result in reduction of PCE and other contaminant concentrations in the groundwater over time.

2.4 Source Excavation – 1995 to 1996

Between October 1995 and January 1996, AEI excavated PCE contaminated soil from beneath the Young's Cleaners and adjacent tenant spaces and around the sanitary sewer. Upon removal, the excavation was backfilled with clean imported fill. The lateral and vertical extent of the contamination was found to be greater than initially estimated by Augeas. Augeas initially recommended removal of soil with PCE concentrations in excess of 1.0 mg/kg. During excavation, PCE dechlorination products were identified for the first time in soil and the clean-up goal was revised to a total VOC concentration of 1.0 mg/kg. The resulting excavation extended into adjacent tenant spaces and required the removal of approximately 2,500 cubic yards of affected soil. During excavation activities, wells AMW-2 and AMW-3 were properly abandoned and destroyed.

This action was successful in removing a significant volume of highly impacted soil from the source area. However, several areas with residual total VOC concentrations above the 1.0 mg/kg goal remained at the final extent of excavation: 1) The northwest corner of the Young's Cleaners space, where total VOCs were 1.8 mg/kg and 1.9 mg/kg at depths of 4 and 8 feet respectively; 2) beneath the breezeway west of the former cleaners where total VOCs were 2.5 mg/kg at a depth of 5 feet; and 3) beneath the breezeway, in front of and east of the former location of Young's Cleaners (near AMW-3), where total VOC of 1.4 mg/kg were reported in the boring at a depth of 25.5 feet bgs (outside of the extent of the excavation).

The excavated soil was spread over the southeaster corner of the property. In February 1996, ten soil samples were collected by AEI from the stockpile and analyzed for VOCs to evaluate baseline concentrations in the stockpile. PCE was detected in these samples at concentrations ranging from ND<5.0 µg/kg to 380 µg/kg. TCE was detected in three samples at concentrations ranging from 11 µg/kg to 38 µg/kg. No other VOCs were detected in the stockpile.

The soil stockpile was tilled between February 1996 and January 1997. In January 1997 and again in May 1999, stockpile sampling occurred. During the May 1999 sampling, PCE was only detected in one of eight samples, at 28 µg/kg. Based on the sampling data, limited reuse of the soil was approved.

2.5 Additional Groundwater Investigation and Risk Evaluation

To assess potential offsite migration of PCE in the groundwater, PES Environmental performed a preliminary investigation consisting of a CPT survey and HydroPunch ™ sampling of the groundwater. The survey consisted of obtaining CPT measurements at nine locations (HP-1 through HP-9), to depths of up to 60 feet. Following the collection of the CPT data, water samples were collected from HydroPunch ™ borings located within several feet of the CPT locations.

In the "shallow" zone, groundwater samples could not be collected from drilling locations HP-1, HP-3, HP-5 HP-6 and HP-9. Although, the CPT logs indicated that the silts of the "shallow" aquifer were saturated and monitoring wells in this interval are productive, the low transmissivity of the silts and clays prevented groundwater sample collection in this shallow zone using this sampling technique. PCE was only detected in groundwater at location HP-7, at 230 µg/L. No PCE has been detected in the "shallow" zone in offsite borings.

In the "deep" groundwater zone, PCE was detected in borings HP-0, HP-1, HP-6 and HP-9 at concentrations of 440 µg/l, 20 µg/L, 40 µg/L, and 25 µg/L, respectively. This data indicated that although PCE had been detected at the ARCO station at concentrations up to 2,600 µg/L, only low concentrations of PCE were present in the "deep" groundwater zone west of MacArthur Boulevard and west toward 106th Avenue.

PES concluded that the PCE plume had not migrated substantially off site and was stable. They attributed the stability of the plume primarily to natural attenuation. PCE dechlorination products were observed, including TCE and cis- and trans- 1,2-DCE.

An evaluation of risk to human health via migration of contaminant vapors into the occupied building spaces was documented in the February 15, 1996 report prepared by PES. The numerical evaluation modeled the indoor concentrations of the site contaminants (PCE, TCE, 1,1-DCE, 1,2-DCE, cis- and trans-) using residual contaminant concentrations in soil. The modeled indoor air contaminant concentrations were below their respective Preliminary Remediation Goals (PRGs) (US EPA Region IX, 1995) and, therefore, it was concluded that the concentrations of remaining contaminants in the soil did not pose a significant threat to human health. This finding was concurred with by the ACHCS and Regional Water Quality Control Board (RWQCB) in letters dated March 26, 1996 and March 21, 1996, respectively.

Based on the findings of the groundwater investigation, PES recommended that two additional down gradient "sentry" wells be installed to monitor the down gradient edge of the groundwater plume. In July 1997, these two wells (FHS-MW-10 and FHS-MW-11) were drilled and installed at depths of 54.5 and 62.5 feet bgs, respectively. Sampling of these wells began in September 1997. During subsequent groundwater monitoring, PCE was detected in well FHS-MW-10 and FHS-MW-11 at maximum concentrations of 18 µg/L and 12 µg/L, respectively. Monitoring continued on a roughly semi-annual basis through the present.

2.6 Additional Investigation & Site Remediation Planning– 2006 to 2008

On October 11 through October 13, 2006, two soil borings (SB-1 and SB-2) and a total of seventeen (17) soil gas probes (VB-1 through VB-17), each with a shallow boring as well as a deep boring, were advanced by AEI. The investigation was performed at the request of the ACHCS to evaluate the presence of vapor phase contaminants within and around the release area and the possibility of contaminant vapor intrusion. In addition, a groundwater monitoring and sampling event for the existing monitoring well network was performed at this time.

Results of soil vapor sample analyses indicate the presence of subsurface vapor phase contaminants, include PCE, TCE, cis-1,2 DCE, and vinyl chloride. The highest concentrations detected were in the area of the former excavation of impacted soil, likely the result of low concentrations of residual contaminants that remained upon completion of the excavation activities. Vapor phase contaminant concentrations decrease significantly away from the former release area. The data suggests that vapor phase migration along the onsite utility corridor has not occurred.

Following review of this 2006 report by ACHCS, it was determined that site mitigation activities would be necessary to reduce the threat of vapor intrusion from shallow soil vapors from entering the existing buildings at the site, however, an additional soil vapor investigation was needed to further characterize the extent of vapor phase impact prior to finalization of a remedial approach for the residual impact. Subsequently on June 25, 2007, AEI performed the additional soil vapor investigation to further define the extent of the PCE release from the former Young's Cleaners. A total of eight soil gas samples were collected from five additional probe locations to the northeast of the former release area, where previous investigations had been limited. Based on the analyses of the eight additional soil gas samples, it was determined that PCE and related contaminants (TCE, c-1,2 DCE, t-1,2 DCE, and VC) have not spread northwest of the release area beneath the existing building. Therefore it was determined that the extent of the contamination is confined to non-detectable concentrations to the east, north, and northwest of the former Young's Cleaners.

On November 20, 2007, AEI submitted a *Site Mitigation Plan* which contained a proposed mitigation plan for the site. Following a county review of the proposal in a letter dated January 10, 2008, site mitigation plans were modified in AEI's *Work Plan for Pilot Study* dated March 7, 2008. Following review of the AEI's work plan, the ACHCS issued a letter dated April 10, 2008 which requested further investigation of the soil vapor beneath the site. A work plan addendum was submitted in May 2008, and the work plan was subsequently approved in a letter dated May 16,

2008. The following report details the additional soil vapor investigation activities approved in the May 16, 2008 letter.

Locations of monitoring wells, previous soil borings, and soil vapor sampling locations are presented on Figure 2. Historical soil vapor data is included on Table 1 and Figure 3.

3.0 GEOLOGY AND HYDROGEOLOGY

The subject site is located on the eastern edge of the East Bay, a broad, gently westward sloping area produced by coalescing alluvial fans and bay margin plains along the eastern shore of San Francisco Bay. In the site vicinity the sediments underlying the surface are mapped as Holocene aged alluvium, consisting of weakly consolidated, slightly weathered poorly sorted, irregularly bedded clay, silt, sand and gravel, interpreted to be primarily alluvial fan and fluvial deposits. These alluvial fan deposits extend westward over the Late Pleistocene Alameda formation, the major basin-filling unit in the area.

On the eastern portion of the site in the vicinity of the former USA station, the alluvial sediments are underlain at depths ranging from 12 to 25 feet bgs by deeply weathered highly fractured silty sandstone, siltstone, claystone and chert. These units are interpreted as bedrock and may be part of the Cretaceous aged Novato Quarry terrain sandstones similar to what is exposed to the north of the northwest of the site along the west side of the Hayward Fault. On the eastern edge of the site, the Hayward fault separates the sediments of the East Bay Plain from the igneous rocks that comprise the western portion of the adjacent San Leandro Hills.

During the 2006 site investigation, soil borings SB-1 and SB-2 revealed the presence of silty clay to the maximum depth explored (18 feet bgs). The silty clay contained varying amounts of sand with a maximum of up to approximately 25% sand content. During the June 2007 soil vapor probe installation, two probes out of five encountered refusal at a depth of 6 feet bgs, northeast of the release area.

3.1 Hydrology

Historically the groundwater had been classified as “shallow” or “deep” aquifers or “zones”. The shallow water table has been reported at depths ranging from approximately 10 feet bgs to 25 feet bgs and the deep at depths ranging from approximately 14 feet bgs to 45 feet bgs. AEI interprets the underlying groundwater to represent a single complex aquifer that consists of highly variable sediments ranging from high transmissivity gravel to low transmissivity silt. Wells are completed with well screens of varying lengths installed at varying depths based on were sands, if any, were encountered. This combination of variable screens and sediments results in highly variable and somewhat suspect groundwater elevation data in the wells. Examination of the CPT and well logs show that few if any sands are continuous across the site and that the silts between the sands are apparently water saturated. With this taken into account, the following hydrologic generalizations can be made. Based on the available data, the gradient across the ARCO site appears to be generally to the south. The gradient between the ARCO site and the former Young’s dry cleaners appears generally to be to the southwest. The reported gradients at the USA site have been in all

directions, both radial internal and external (at times influenced by remedial efforts); however, a southeasterly direction is predominant. These gradients are consistent with the general topography which shows a slight southwesterly swale along the north side of the site and a slight southwesterly nose through the former USA station. These topographic features are likely are reflective of the underlying bedrock topography and would effect shallow groundwater flow. Actual groundwater movement would also preferentially follow higher transmissivity sediments of variable orientations.

Based on groundwater monitoring events performed at the site to date, groundwater in the shallow wells has generally flows towards the west and in the deeper wells groundwater generally flows towards the west/southwest.

4.0 INVESTIGATIVE EFFORTS

Prior to mobilization onsite, a drilling permit (W2008-0280) was obtained from the Alameda County Public Works Agency (ACPWA) and Underground Service Alert North was notified to identify public utilities in the planned work area. A copy of the drilling permit is included in Appendix A.

4.1 Soil Vapor Sample Collection

AEI performed the drilling and sampling at the property on May 23, 2008. Soil vapor probes were installed in seven locations (VB-23 through VB-29). The vapor probe boring locations were selected based recommendations by the ACHCS in directive letters dated April 10, 2008 and May 16, 2008. The locations were also determined based on the discussion with the ACHCS during a meeting on April 22, 2008 in order to define vapor phase contaminants, primarily beneath existing buildings in a westerly and southerly direction from the release area. The locations of soil vapor sampling are shown on Figure 2.

The soil vapor borings were advanced by TEG (CA C57 License # 706568). The soil vapor probes were constructed of 1 inch outer diameter chrom-moly steel, equipped with a steel sacrificial tip. An inert 1/8 inch tube ran through the center of the probe and was attached to the sampling port with a stainless steel post run fitting. The probes were driven into the ground with an electric rotary hammer. After inserted to the desired depth (approximately 5 feet bgs), the probe was retracted slightly, which opened the tip and exposed the vapor sampling port. If no flow conditions were encountered, the probe was retracted until flow conditions were encountered. Once the probe rod was placed, the sample was collected after waiting approximately twenty minutes for equilibration.

Soil vapor was withdrawn from the inert tubing using a calibrated syringe connected via an on-off valve. A purge volume test was not conducted during this sampling event as a purge volume test was performed during the October 2006 sampling event. Therefore the result of the October 2006 purge volume test (3 purge volumes) was used during this sampling. After purging, the next 20cc to 50cc of soil vapor were withdrawn in the syringe, plugged, and immediately transferred to the

mobile lab for analysis within the required holding time. During sampling, a leak check gas was used to confirm that the sample train and probe rod was tight and leak free. To minimize the potential for cross-contamination, all external probe parts were cleaned of excess dirt and moisture prior between sampling locations. The internal inert tubing and sampling syringes were discarded after each sample.

4.2 Boring Destruction

Upon completion of sampling and measurement activities, all sampling equipment was removed from the boreholes. Each boring was backfilled with neat cement grout to the existing grade per ACPWA permit requirements.

4.3 Laboratory Analysis

Soil vapor samples were analyzed by TEG (Department of Health Services Certification #1671), an onsite mobile laboratory. Soil vapor samples analyzed by TEG were analyzed for VOCs by EPA Method 8260B along with the leak check compound 1,1 diflouroethane. Analytical results and chain of custody documents are included as Appendix B.

5.0 FINDINGS

Soil vapor borings were not logged during the recent investigation. A soil vapor sample was attempted to be collected at 5 feet bgs in each of the borings (VB-23 to VB-29), however low flow was encountered in several of the borings, therefore soil vapor samples were collected from approximately 3 to 5 feet bgs from each of the vapor probe boring locations.

5.1 Soil Vapor Analytical Results

Analyses of the seven soil vapor samples collected did not detect any of the target VOCs in any of the samples above laboratory reporting limits (0.10 µg/l) in any of the samples. Leak check compound was not detected in any of the soil gas samples. In addition, laboratory quality assurance / quality control results were reviewed and equipment calibration results and surrogate recoveries were found to be within acceptable limits.

Soil vapor analytical data is summarized in Table 1 and presented on Figure 3. The laboratory analytical report is included as Appendix B.

6.0 SUB-SLAB RADIUS OF INFLUENCE TESTING

On May 15, 2008, AEI mobilized to the site to perform preliminary site condition testing to further refine the design specifications for the pilot study system installations. The design of the planned pilot testing was based on a very conservative radius of influence (ROI) estimate in order to create a significant factor of safety in its effectiveness such that additional installations (piping runs, extraction wells or pits, etc) would not be need to be added at a later time. In order to decrease the uncertainty regarding the sub-slab induced vacuum ROI prior to preparing for the installation phase

of the pilot test, AEI performed the preliminary ROI testing, allowing for a more efficient pilot study design.

The ROI testing was performed by drilling a 1.5" hole in the concrete slab and inserting 1.5" diameter tubing into the concrete. The tubing was connected to a mobile vacuum system which was able to apply a vacuum through the tubing and into the sub-slab. AEI then drilled several ¼" diameter "test holes" through the concrete slab at distances of 10', 20', 30', 40', and 75' in several directions based on site conditions. Stainless steel ¼" tubing was placed in each test hole and a Magnehelic differential pressure gauge was attached to the tubing to determine if a vacuum was induced under the building in the particular location.

6.1 Sub-Slab Radius of Influence Testing Results

In order to determine if a significant radius of influence was present beneath the concrete slab, AEI used a conservative range of -0.025 to -0.035 inches of water as the minimum acceptable vacuum ROI to eliminate vapor intrusion potential. During initial testing at 10', 20', 30', and 40', a vacuum of 0.24 inches of water, 0.11 inches of water, 0.075 inches of water, and 0.04 inches of water, respectively, was observed, indicating sufficient vacuum in the sub-slab material from one extraction point to up to 40 feet away. AEI then tested the sub-slab vacuum at 75', the furthest area possible, due to building configuration. A measurable vacuum was not observed at 75' in the Magnahelic gauge, therefore AEI completed a "smoke test" in which a smoke pen generates smoke in the vicinity of the test hole. During the smoke test, the smoke was visually observed to move into the test hole indicating that a vacuum was present beneath the slab at 75' from the extraction point. Based on these measurements, a revision to the location and layout of sub-slab vents has been made that will still adequately cover the target area, as it appears that horizontal extraction piping was based on overly conservative (low) estimates of effective radius of influence.

7.0 SUMMARY AND CONCLUSIONS

This additional soil vapor investigation was performed to further define the extent of the PCE release from the former Young's Cleaners. A total of seven soil gas samples were collected from additional probe locations in buildings to the south and west of the former release area, where previous investigations had been limited. The original scope of work included a contingency plan for additional step-out borings in the event that significant contaminants were identified in the seven primary borings. Since no impact was identified in these samples, the step-out borings were not performed.

Based on the analyses of the additional soil gas samples, PCE and related contaminants (TCE, c-1,2 DCE, t-1,2 DCE, and VC) have been delineated beneath the subject property and no further testing is necessary at this time. Previous sampling data has defined the extent of impact to non-detectable concentrations to the east, north, and northwest of the former Young's Cleaners, and recent data has completed the delineation to below laboratory detection limits to the south and west. In addition, recent findings indicate that mitigation activities are not necessary beyond the previously approved mitigation activities as PCE and related contaminants do not appear to pose a threat for vapor intrusion in the buildings to the west and south of the release area.

As site characterization activities have been completed at the site, the site is ready for implementation of the approved pilot testing. Based on the results of the field vacuum testing, an alternative layout for extraction location will be implemented. Shallow vapor collection sumps (vacuum pits) will be constructed as opposed to trenches. This will adequately cover the target area and reduce the cost and disruptions of trenching. A total of six (6) suction pits will be installed with plumbing installed within the walls at the time of tenant improvements (Figure 4). Each suction pit will consist of an approximately 2'x2'x2' pit in which a slotted PVC pipe will be installed and backfilled with porous pea gravel. Field installations will be performed concurrent with the other improvements such that conduits to the vacuum equipment can be run through the wall rather then underground piping through trenching. The subject building area is currently vacant. The developer is working to obtain final building permits for the remodeling activities. Upon commencement of construction activities, AEI plans to install the approved system and complete pilot study activities. Construction is expected to be completed within the next six months, however due to the coordination necessary with construction activities, the pilot test may not be completed by the current due date of September 16, 2008 for a pilot test report. All pilot study activities will be completed prior to occupancy of this tenant space, however the due date of the requested report will need to be extended.

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9.0 LIMITATIONS AND SIGNATURES

This report has been prepared by AEI Consultants for the property located at 10700 Foothill Boulevard, Oakland, Alameda County, California, and presents the findings of investigation activities relating to the historical release of hazardous materials on the property. Portions of this report rely on previous field investigations, laboratory testing of material samples, and evaluations performed by AEI and others. AEI is not responsible for the accuracy or quality of work performed by others, information not available or provided to AEI, and other data or information gaps. This report does not reflect subsurface variations that may exist between sampling points. These variations cannot be anticipated, nor could they be entirely accounted for, in spite of exhaustive additional testing. This report should not be regarded as a guarantee that no further contamination, beyond that which could have been detected within the scope of past investigations, is present beneath the property or that all contamination present at the site would be identified, treated, or removed. Undocumented, unauthorized releases of hazardous material(s) and petroleum products, the remains of which are not readily identifiable by visual inspection and/or are of different chemical constituents, are difficult and often impossible to detect within the scope of a chemical specific investigation and may or may not become apparent at a later time. All specified work was performed in accordance with generally accepted practices in environmental engineering, geology, and hydrogeology which existed at the time and location of the work.

If you have any questions regarding our investigation, please do not hesitate to contact the undersigned at (925) 944-2899.

Sincerely,
AEI Consultants

Jeremy Smith
Project Manager

Peter J. McIntyre, P.G., REA
Senior Project Manager

REGISTERED GEOLOGIST
PETER J. McINTYRE
Exp. 5-31-10
No. 7702
STATE OF CALIFORNIA

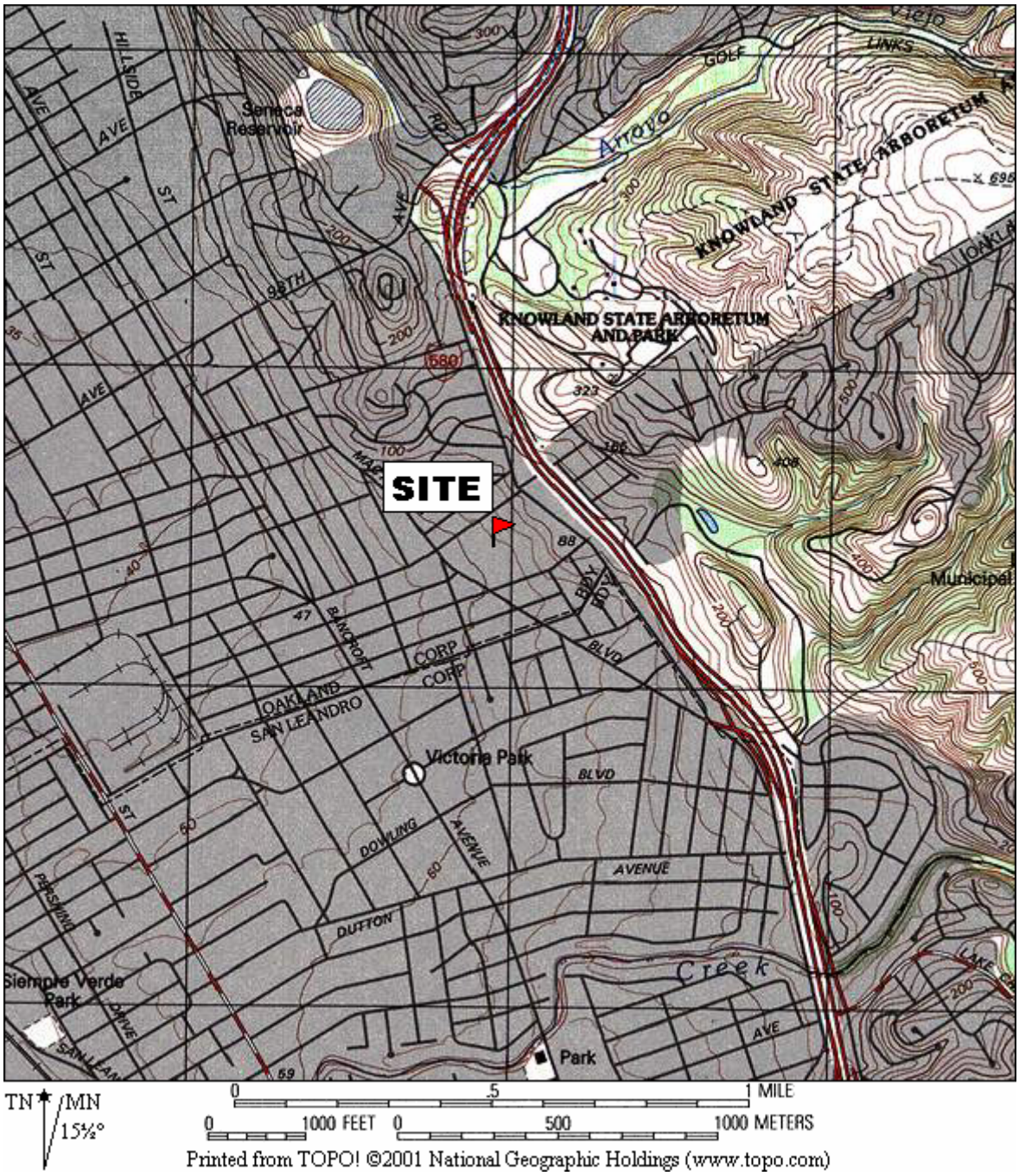
Report Distribution:

Jay-Phares Corp. Attn: John Jay, 10700 MacArthur Blvd., Oakland, CA 94605

Alameda County Health Care Services, Attn: Jerry Wickham, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502 (Electronic Upload to ACHCS FTP)

GeoTracker Database

FIGURES



AEI CONSULTANTS

2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597

SITE LOCATION MAP

10700 MACARTHUR BLVD
OAKLAND, CALIFORNIA

FIGURE 1
PROJECT NO. 261829

106 th AVENUE

ARCO Station

GAS STATION

CONC. RETAINING WALL

RETAINING WALL

ELEC. SHED

LOADING DOCK

Former Grocery Store

Former Young's Dry Cleaners

MACARTHUR BOULEVARD

Utility Trench 4-5' deep

Utility Trench 5-7' deep

HP-4 HP-5 MW-5 HP-9 MW-8 MW-4 RW-1 MW-2 MW-5 MW-3 VB-15 HP-0 EB-1 HP-1 MW-6 MW-7 WGR-MW3 SB-1 VB-14 VB-13 HP-7 EB-15 VB-12 AMW-9 AMW-7 VB-6 AMW-5 SB-2 VB-29 VB-3 VB-24 VB-28 VB-23 VB-25 AMW-6 VB-5 VB-27 VB-26 AMW-4 VB-7 VB-8 B-3 B-6 B-4 B-5 B-7 VB-9 VB-10 VB-2 VB-4 VB-1 VB-17 AMW-1 VB-16 AMW-8 B-1 EB-4 WGR-MW2 EB-2 B-2 VB-11 VB-19 VB-18 VB-21 VB-22 VB-20 EB-3 EB-5

OHE

Scale: 1" = 60'

0 50 75 100

KEY

EB-1 Soil Boring - Kaldveer 1988

B-1 Soil Boring - Augeas 1994

HP-8 CPT Boring/HydroPunch Sample - PES 1997

MW4 Groundwater Monitoring Well

Soil Vapor Sample

Soil Boring - AEI 2006

Excavated to depth of 5 to 7 feet bgs

Excavated to depth of 8 to 13 feet bgs

Excavated to depth of 14 to 18 feet bgs

On Site Storm Drain

Off Site Storm Drain

On Site Sanitary Sewer

Off Site Sanitary Sewer

On Site Underground Power

On Site Gas Line

Drafted 6/30/05 - RFF on Dirk Slooten base
Revised 06/08 by J.SMITH

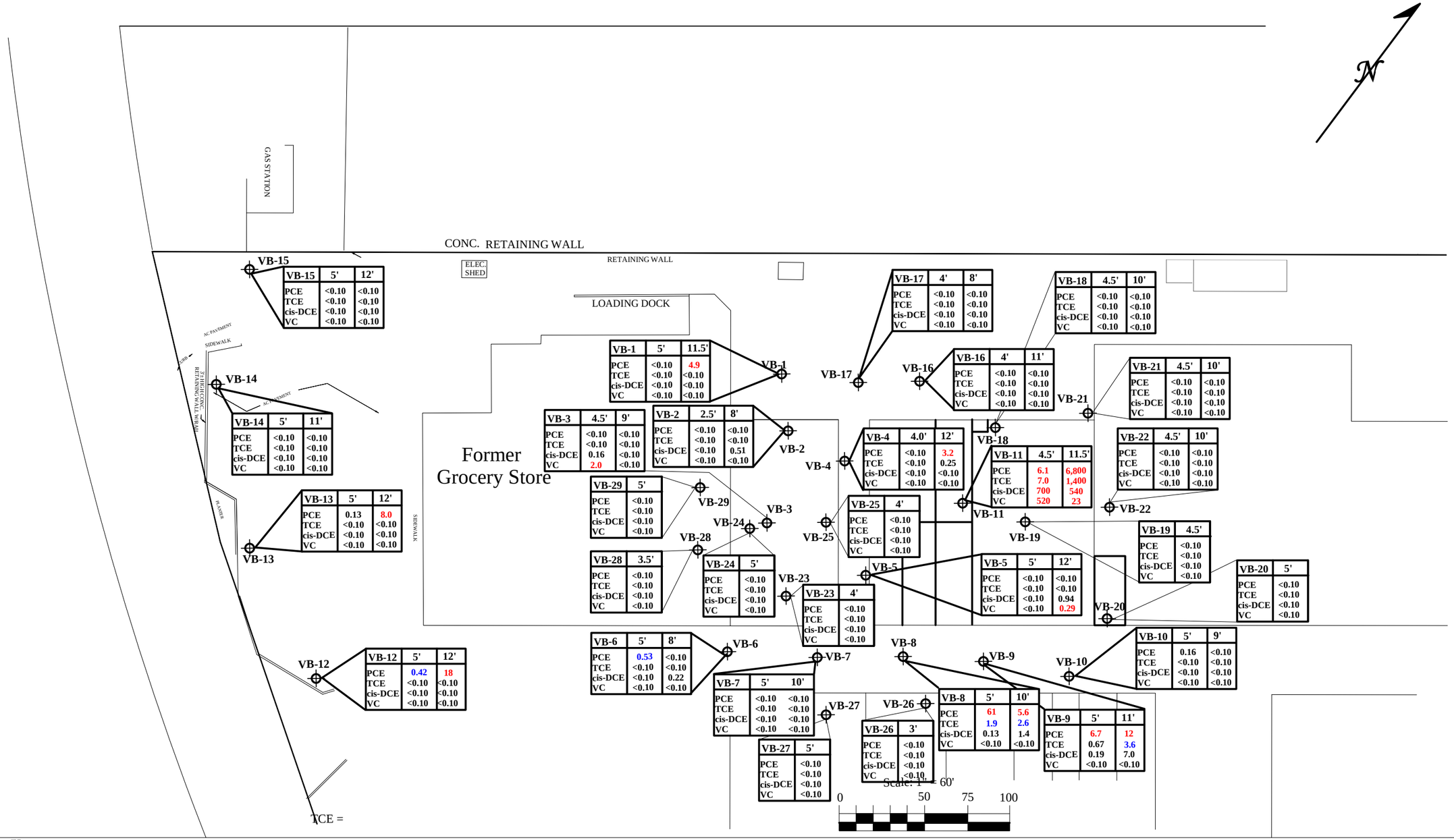
AEI CONSULTANTS

2500 CAMINO DIABLO, WALNUT CREEK, CA

SITE PLAN

10700 MACARTHUR BLVD.
OAKLAND, CALIFORNIA

FIGURE 2
PROJECT NO. 261829



VB-15	5'	12'
PCE	<0.10	<0.10
TCE	<0.10	<0.10
cis-DCE	<0.10	<0.10
VC	<0.10	<0.10

VB-14	5'	11'
PCE	<0.10	<0.10
TCE	<0.10	<0.10
cis-DCE	<0.10	<0.10
VC	<0.10	<0.10

VB-13	5'	12'
PCE	0.13	8.0
TCE	<0.10	<0.10
cis-DCE	<0.10	<0.10
VC	<0.10	<0.10

VB-12	5'	12'
PCE	0.42	18
TCE	<0.10	<0.10
cis-DCE	<0.10	<0.10
VC	<0.10	<0.10

VB-1	5'	11.5'
PCE	<0.10	4.9
TCE	<0.10	<0.10
cis-DCE	<0.10	<0.10
VC	<0.10	<0.10

VB-2	2.5'	8'
PCE	<0.10	<0.10
TCE	<0.10	<0.10
cis-DCE	<0.10	0.51
VC	<0.10	<0.10

VB-3	4.5'	9'
PCE	<0.10	<0.10
TCE	<0.10	<0.10
cis-DCE	0.16	<0.10
VC	2.0	<0.10

VB-4	4.0'	12'
PCE	<0.10	3.2
TCE	<0.10	0.25
cis-DCE	<0.10	<0.10
VC	<0.10	<0.10

VB-5	5'	12'
PCE	<0.10	<0.10
TCE	<0.10	<0.10
cis-DCE	<0.10	0.94
VC	<0.10	0.29

VB-6	5'	8'
PCE	0.53	<0.10
TCE	<0.10	<0.10
cis-DCE	<0.10	0.22
VC	<0.10	<0.10

VB-7	5'	10'
PCE	<0.10	<0.10
TCE	<0.10	<0.10
cis-DCE	<0.10	<0.10
VC	<0.10	<0.10

VB-8	5'	10'
PCE	61	5.6
TCE	1.9	2.6
cis-DCE	0.13	1.4
VC	<0.10	<0.10

VB-9	5'	11'
PCE	6.7	12
TCE	0.67	3.6
cis-DCE	0.19	7.0
VC	<0.10	<0.10

VB-10	5'	9'
PCE	0.16	<0.10
TCE	<0.10	<0.10
cis-DCE	<0.10	<0.10
VC	<0.10	<0.10

VB-11	4.5'	11.5'
PCE	6.1	6,800
TCE	7.0	1,400
cis-DCE	700	540
VC	520	23

VB-16	4'	11'
PCE	<0.10	<0.10
TCE	<0.10	<0.10
cis-DCE	<0.10	<0.10
VC	<0.10	<0.10

VB-17	4'	8'
PCE	<0.10	<0.10
TCE	<0.10	<0.10
cis-DCE	<0.10	<0.10
VC	<0.10	<0.10

VB-18	4.5'	10'
PCE	<0.10	<0.10
TCE	<0.10	<0.10
cis-DCE	<0.10	<0.10
VC	<0.10	<0.10

VB-19	4.5'
PCE	<0.10
TCE	<0.10
cis-DCE	<0.10
VC	<0.10

VB-20	5'
PCE	<0.10
TCE	<0.10
cis-DCE	<0.10
VC	<0.10

VB-21	4.5'	10'
PCE	<0.10	<0.10
TCE	<0.10	<0.10
cis-DCE	<0.10	<0.10
VC	<0.10	<0.10

VB-22	4.5'	10'
PCE	<0.10	<0.10
TCE	<0.10	<0.10
cis-DCE	<0.10	<0.10
VC	<0.10	<0.10

VB-23	4'
PCE	<0.10
TCE	<0.10
cis-DCE	<0.10
VC	<0.10

VB-24	5'
PCE	<0.10
TCE	<0.10
cis-DCE	<0.10
VC	<0.10

VB-25	4'
PCE	<0.10
TCE	<0.10
cis-DCE	<0.10
VC	<0.10

VB-26	3'
PCE	<0.10
TCE	<0.10
cis-DCE	<0.10
VC	<0.10

VB-27	5'
PCE	<0.10
TCE	<0.10
cis-DCE	<0.10
VC	<0.10

VB-28	3.5'
PCE	<0.10
TCE	<0.10
cis-DCE	<0.10
VC	<0.10

VB-29	5'
PCE	<0.10
TCE	<0.10
cis-DCE	<0.10
VC	<0.10

KEY

PCE =	Tetrachloroethene
TCE =	Trichloroethene
cis=DCE =	cis-1,2-dichloroethylene
VC =	vinyl chloride
0.42	Sample Exceeds Residential ESL
18	Sample Exceeds Residential and Commercial ESL
	Results in Micrograms per Liter
⊕	Soil Vapor Sample

Drafted 6/30/05 - RFF on Dirk Slooten base
Revised 05/08 by J.SMITH

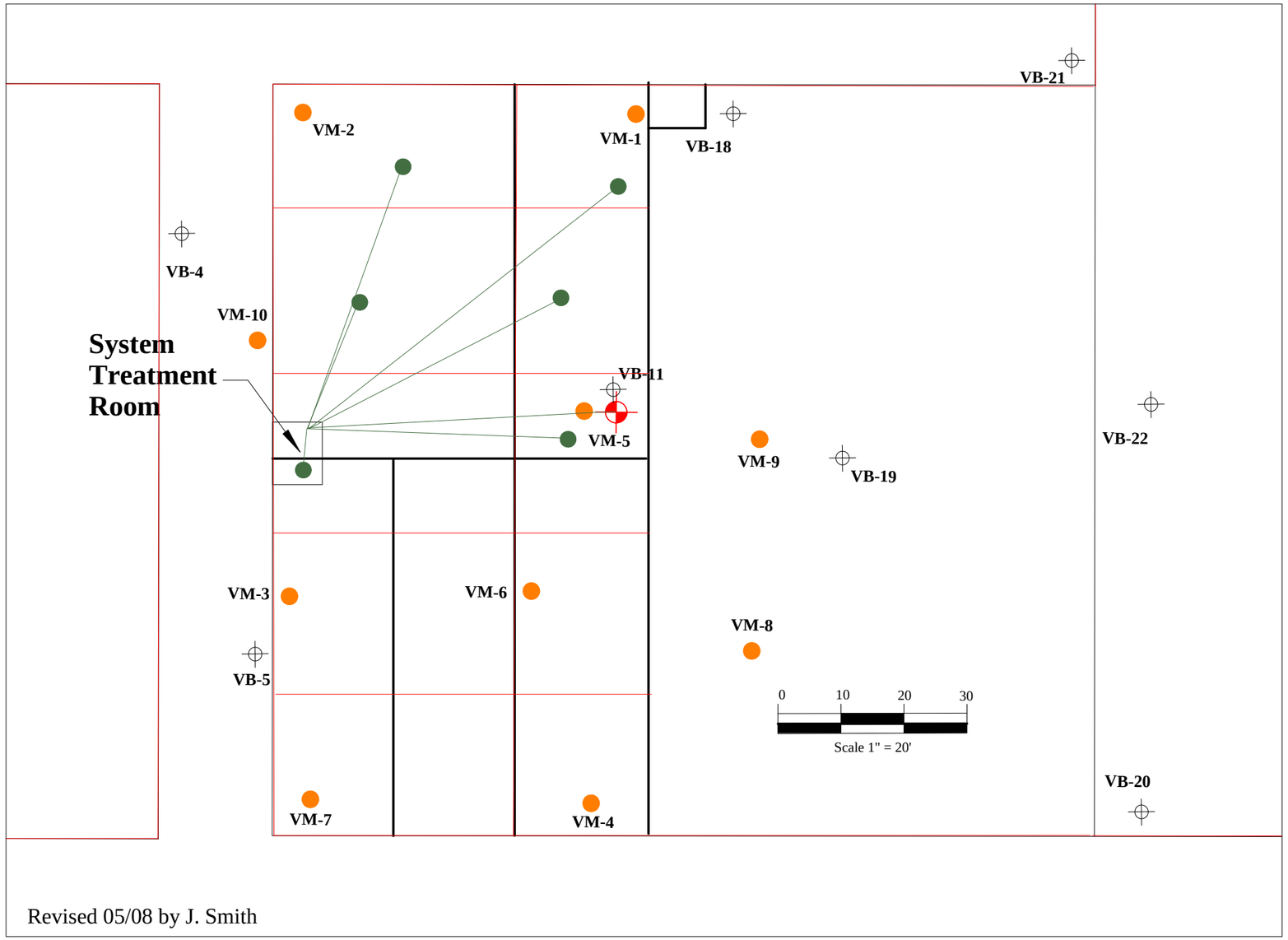
AEI CONSULTANTS

2500 CAMINO DIABLO, WALNUT CREEK, CA

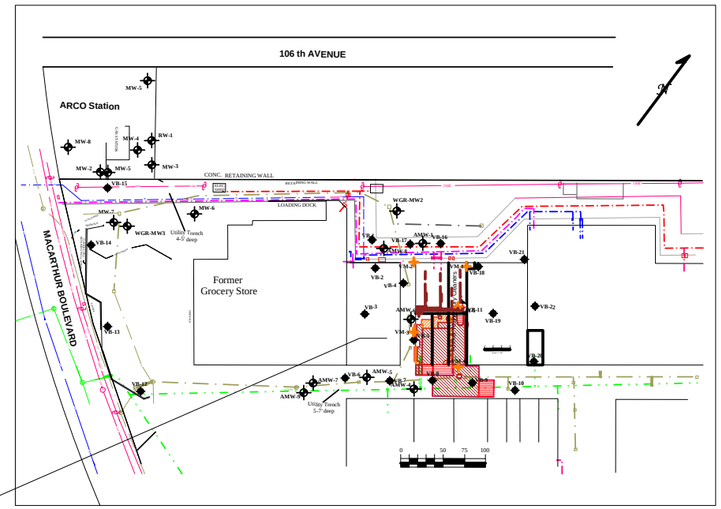
SOIL VAPOR SAMPLE ANALYTICAL RESULTS

10700 MACARTHUR BLVD.
OAKLAND, CALIFORNIA

FIGURE 3
PROJECT NO. 261829



Revised 05/08 by J. Smith



- Soil Vapor Monitoring Point
- Vapor Extraction Well
- Previous Soil Vapor Probe
- Proposed Extraction Sump
- Above Ground Piping
- Load Bearing Wall

AEI CONSULTANTS

2500 CAMINO DIABLO, WALNUT CREEK, CA

PROPOSED VAPOR EXTRACTION SYSTEM AND MONITORING POINTS

10700 MACARTHUR BLVD.
OAKLAND, CALIFORNIA

FIGURE 4

PROJECT NO. 261829

TABLES

Table 1:
Soil Vapor Sample Analytical Results
10700 MacArthur Blvd., Oakland, California

Sample ID	Date	Depth (feet bgs)	PCE µg/L	TCE µg/L	cis-1,2-DCE µg/L	trans-1,2 DCE µg/L	Vinyl Chloride µg/L
October 2006 Investigation							
VB-1-5	10/12/2006	5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-1-11.5	10/12/2006	11.5	**4.9**	**0.44**	ND<0.10	ND<0.10	ND<0.10
VB-2-2.5	10/12/2006	2.5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-2-8	10/12/2006	8	ND<0.10	ND<0.10	**0.51**	ND<0.10	ND<0.10
VB-3-4.5	10/12/2006	4.5	ND<0.10	ND<0.10	**0.16**	ND<0.10	**2.0**
VB-3-9	10/12/2006	9	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-4-4	10/13/2006	4	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-4-12	10/13/2006	12	**3.2**	**0.25**	ND<0.10	ND<0.10	ND<0.10
VB-5-5	10/13/2006	5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-5-12 [1]	10/13/2006	12	ND<0.10	ND<0.10	**0.94**	**0.13**	**0.29**
VB-6-5 [2]	10/11/2006	5	**0.53**	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-6-8 [1]	10/11/2006	8	ND<0.10	ND<0.10	**0.22**	ND<0.10	ND<0.10
VB-7-5	10/12/2006	5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-7-10	10/12/2006	10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-8-5	10/12/2006	5	**61**	**1.9**	**0.13**	ND<0.10	ND<0.10
VB-8-10	10/12/2006	10	**5.6**	**2.6**	**1.4**	ND<0.10	ND<0.10
VB-9-5 [1]	10/12/2006	5	**6.7**	**0.67**	**0.19**	ND<0.10	ND<0.10
VB-9-11	10/12/2006	11	**12**	**3.6**	**7.0**	ND<0.10	ND<0.10
VB-10-5	10/13/2006	5	**0.16**	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-10-9	10/13/2006	9	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-11-4.5	10/13/2006	4.5	**6.1**	**7.0**	**700**	**170**	**520**
VB-11-11.5	10/13/2006	11.5	**6,800**	**1,400**	**540**	**64**	**23**
VB-12-5	10/11/2006	5	**0.42**	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-12-12	10/11/2006	12	**18**	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-13-5	10/11/2006	5	**0.13**	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-13-12	10/11/2006	12	**8.0**	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-14-5	10/11/2006	5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-14-11	10/11/2006	11	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-15-5	10/11/2006	5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-15-12	10/11/2006	12	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10

Sample ID	Date	Depth (feet bgs)	PCE µg/L	TCE µg/L	cis-1,2-DCE µg/L	trans-1,2 DCE µg/L	Vinyl Chloride µg/L
VB-16-4	10/13/2006	4	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-16-11	10/13/2006	11	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-17-4	10/13/2006	4	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-17-8	10/13/2006	8	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
June 2007 Investigation							
VB-18-4.5	6/25/2007	4.5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-18-10	6/25/2007	10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-19-4.5	6/25/2007	4.5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-20-5.0	6/25/2007	5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-21-4.5	6/25/2007	4.5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-21-10	6/25/2007	10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-22-4.5	6/25/2007	4.5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-22-10	6/25/2007	10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
May 2008 Investigation							
VB-23	5/23/2008	4	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-24	5/23/2008	5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-25	5/23/2008	4	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-26	5/23/2008	3	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-27	5/23/2008	5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-28	5/23/2008	3.5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
VB-29	5/23/2008	5	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
Residential Land Use ESL		--	**0.41**	**1.2**	**7.3**	**15**	**0.031**
Commercial Land Use ESL		--	**1.4**	**4.1**	**20**	**41**	**0.10**

Notes:

PCE = Tetrachloroethene

TCE = Trichloroethene

c-1,2-DCE = cis-1,2-Dichloroethene

trans-1,2-DCE = trans-1,2-Dichloroethene

µg/L = micrograms per liter (ppb)

bgs = below ground surface

[1] = Duplicate analysis performed on this sample. Highest results reported on table.

[2] = Purge volume test performed on this sample. Sample reported after 3 purge volumes for all samples.

ESL's = Environmental Screening Level for shallow soil gas screening levels, updated May 2008.

APPENDIX A

DRILLING PERMITS

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 05/20/2008 By jamesy

Permit Numbers: W2008-0280
Permits Valid from 05/23/2008 to 05/23/2008

Application Id: 1210960546556
City of Project Site: Oakland
Site Location: 10700 MacArthur Blvd. Oakland, CA
Project Start Date: 05/23/2008
Completion Date: 05/23/2008
Requested Inspection: 05/23/2008
Scheduled Inspection: 05/23/2008 at 8:30 AM (Contact your inspector, NO INSPECTOR ASSIGNED-EMAIL ACPWA AT wells@acpwa.org WHEN COMPLETED or call at (510) 670-6633, to confirm.)

Applicant: AEI Consultants - Jeremy Smith
2500 Camino Diablo, Walnut Creek, CA 94597
Phone: 925-944-2899

Property Owner: c/o John Jay Jay Phares Corporation
10700 MacArthur Blvd., Oakland, CA 94605
Phone: --

Client: ** same as Property Owner **

Total Due: $200.00
Receipt Number: WR2008-0170 **Total Amount Paid:** $200.00
Payer Name : Jeremy Smith Paid By: VISA **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 12 Boreholes
Driller: TEG Northern California - Lic #: 706568 - Method: DP **Work Total: $200.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2008-0280	05/20/2008	08/21/2008	12	1.50 in.	5.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

4. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

5. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

6. No Inspector Assigned to this site.
Applicant shall contact this office by email at wells@acpwa.org and certify in writing that work was completed and according to County Standards within 5 working days after the completion of work.

APPENDIX B

LABORATORY ANALYTICAL REPORT

teg

TRANSGLOBAL
ENVIRONMENTAL
GEOCHEMISTRY

16 June 2008

Mr. Jeremy Smith
AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597

SUBJECT: DATA REPORT - AEI Consultants Project #261829
10700 MacArthur Boulevard, Oakland, California

TEG Project # 80523D

Mr. Smith:

Please find enclosed a data report for the samples analyzed from the above referenced project for AEI Consultants. The samples were analyzed on site in TEG's mobile laboratory. TEG conducted a total of 8 analyses on 8 soil vapor samples.

-- 8 analyses on soil vapors for selected volatile organic hydrocarbons by EPA method 8260B.

The results of the analyses are summarized in the enclosed tables. Applicable detection limits and calibration data are included in the tables.

1,1 difluoroethane was used as a leak check compound around the probe rods during the soil vapor sampling. No 1,1 difluoroethane was detected in any of the vapor samples reported at or above the DTSC recommended leak check compound reporting limit of 10 µg/L of vapor.

TEG appreciates the opportunity to have provided analytical services to AEI Consultants on this project. If you have any further questions relating to these data or report, please do not hesitate to contact us.

Sincerely,

Mark Jerpbak
Director, TEG-Northern California

AEI Consultants Project # 261829
10700 MacArthur Boulevard
Oakland, California

TEG Project #80523D

EPA Method 8260B VOC Analyses of SOIL VAPOR in ug/L of Vapor

SAMPLE NUMBER:		Probe Blank	VB-23	VB-24	VB-25	VB-26
SAMPLE DEPTH (feet):			4.0	5.0	4.0	3.0
PURGE VOLUME:			3	3	3	3
COLLECTION DATE:		5/23/08	5/23/08	5/23/08	5/23/08	5/23/08
COLLECTION TIME:		08:00	08:27	08:47	09:14	09:48
DILUTION FACTOR (VOCs):		1	1	1	1	1
	RL					
Dichlorodifluoromethane	0.10	nd	nd	nd	nd	nd
Vinyl Chloride	0.10	nd	nd	nd	nd	nd
Chloroethane	0.10	nd	nd	nd	nd	nd
Trichlorofluoromethane	0.10	nd	nd	nd	nd	nd
1,1-Dichloroethene	0.10	nd	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	0.10	nd	nd	nd	nd	nd
Methylene Chloride	0.10	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.10	nd	nd	nd	nd	nd
1,1-Dichloroethane	0.10	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.10	nd	nd	nd	nd	nd
Chloroform	0.10	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	0.10	nd	nd	nd	nd	nd
Carbon Tetrachloride	0.10	nd	nd	nd	nd	nd
1,2-Dichloroethane	0.10	nd	nd	nd	nd	nd
Benzene	0.10	nd	nd	nd	nd	nd
Trichloroethene	0.10	nd	nd	nd	nd	nd
Toluene	0.20	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	0.10	nd	nd	nd	nd	nd
Tetrachloroethene	0.10	nd	nd	nd	nd	nd
Ethylbenzene	0.10	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.10	nd	nd	nd	nd	nd
m,p-Xylene	0.20	nd	nd	nd	nd	nd
o-Xylene	0.10	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.10	nd	nd	nd	nd	nd
1,1 Difluoroethane (leak check)	10	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		103%	102%	103%	102%	102%
Surrogate Recovery (1,2-DCA-d4)		95%	94%	97%	91%	97%
Surrogate Recovery (1,4-BFB)		82%	85%	86%	86%	84%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. Jon Edmondson

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AEI Consultants Project # 261829
10700 MacArthur Boulevard
Oakland, California

TEG Project #80523D

EPA Method 8260B VOC Analyses of SOIL VAPOR in ug/L of Vapor

SAMPLE NUMBER:		VB-27	VB-28	VB-29	VB-29 dup
SAMPLE DEPTH (feet):		5.0	3.5	5.0	5.0
PURGE VOLUME:		3	3	3	3
COLLECTION DATE:		5/23/08	5/23/08	5/23/08	5/23/08
COLLECTION TIME:		10:51	11:34	11:57	12:22
DILUTION FACTOR (VOCs):		1	1	1	1
	RL				
Dichlorodifluoromethane	0.10	nd	nd	nd	nd
Vinyl Chloride	0.10	nd	nd	nd	nd
Chloroethane	0.10	nd	nd	nd	nd
Trichlorofluoromethane	0.10	nd	nd	nd	nd
1,1-Dichloroethene	0.10	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	0.10	nd	nd	nd	nd
Methylene Chloride	0.10	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.10	nd	nd	nd	nd
1,1-Dichloroethane	0.10	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.10	nd	nd	nd	nd
Chloroform	0.10	nd	nd	nd	nd
1,1,1-Trichloroethane	0.10	nd	nd	nd	nd
Carbon Tetrachloride	0.10	nd	nd	nd	nd
1,2-Dichloroethane	0.10	nd	nd	nd	nd
Benzene	0.10	nd	nd	nd	nd
Trichloroethene	0.10	nd	nd	nd	nd
Toluene	0.20	nd	nd	nd	nd
1,1,2-Trichloroethane	0.10	nd	nd	nd	nd
Tetrachloroethene	0.10	nd	nd	nd	nd
Ethylbenzene	0.10	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.10	nd	nd	nd	nd
m,p-Xylene	0.20	nd	nd	nd	nd
o-Xylene	0.10	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.10	nd	nd	nd	nd
1,1 Difluoroethane (leak check)	10	nd	nd	nd	nd
Surrogate Recovery (DBFM)		101%	103%	103%	102%
Surrogate Recovery (1,2-DCA-d4)		96%	99%	96%	95%
Surrogate Recovery (1,4-BFB)		87%	89%	84%	84%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. Jon Edmondson

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CALIBRATION STANDARDS - Initial Calibration / LCS

Instrument: Agilent 5973N MSD

COMPOUND	INITIAL CALIBRATION RF	INITIAL CALIBRATION %RSD	LCS RF	LCS %DIFF
Dichlorodifluoromethane*	0.286	16.8%	0.329	15.0%
Vinyl Chloride*	0.375	16.7%	0.442	17.9%
Chloroethane*	0.205	16.8%	0.254	23.9%
Trichlorofluoromethane	0.480	7.0%	0.550	14.6%
1,1-Dichloroethene	0.273	10.3%	0.311	13.9%
1,1,2-Trichloro-trifluoroethane*	0.300	6.3%	0.331	10.3%
Methylene Chloride	0.280	10.3%	0.281	0.4%
trans-1,2-Dichloroethene	0.310	6.4%	0.348	12.3%
1,1-Dichloroethane	0.496	4.9%	0.520	4.8%
cis-1,2-Dichloroethene	0.301	10.4%	0.317	5.3%
Chloroform	0.478	3.2%	0.494	3.3%
1,1,1-Trichloroethane	0.443	4.7%	0.449	1.4%
Carbon Tetrachloride	0.388	8.4%	0.425	9.5%
1,2-Dichloroethane	0.388	5.8%	0.430	10.8%
Benzene	1.140	5.0%	1.158	1.6%
Trichloroethene	0.279	8.1%	0.282	1.1%
Toluene	0.756	15.5%	0.696	7.9%
1,1,2-Trichloroethane	0.173	14.4%	0.176	1.7%
Tetrachloroethene	0.348	16.3%	0.349	0.3%
Ethylbenzene	0.586	11.1%	0.612	4.4%
1,1,1,2-Tetrachloroethane	0.371	14.1%	0.389	4.9%
m,p-Xylene	0.708	9.4%	0.750	5.9%
o-Xylene	0.669	12.0%	0.718	7.3%
1,1,2,2-Tetrachloroethane	0.751	9.9%	0.737	1.9%
Acceptable Limits		20.0%		15.0%

' * ' Indicates RSD not to exceed 30% & LCS not to exceed 25%