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February 25, 2009

Jerry Wickham, P.G., C.E.G., C.HG.  
Senior Hazardous Materials Specialist  
ALAMEDA COUNTY ENVIRONMENTAL HEALTH  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

Bureau Veritas Project No. 33104-004578.00

**Subject: Workplan for Additional Subsurface Investigation  
Former Lemoine Sausage Factory  
630 20<sup>th</sup> Avenue  
Oakland, California 94601  
Fuel Leak Case No. RO0000334 and Geotracker ID T0600102114**

Dear Mr. Wickham:

Bureau Veritas North America, Inc. (Bureau Veritas) is pleased to present this workplan to conduct an additional subsurface investigation at the subject property. Our workplan was prepared in accordance with the objectives outlined in your letter dated November 12, 2008.

We are ready to commence investigation efforts upon your approval of this workplan. If you have any questions or comments regarding this workplan, please do not hesitate to contact me at (925) 426-2626 or at [timothy.bodkin@us.bureauveritas.com](mailto:timothy.bodkin@us.bureauveritas.com).

Sincerely,

Timothy G. Bodkin, C.E.G., R.E.A. II  
Senior Project Manager  
Health, Safety, and Environmental Services

Enclosure

cc: Nanda Thalasila, AIG  
Donna Profitt, Bank of America  
Heather Bush, Bureau Veritas North America, Inc.

**Bureau Veritas North America, Inc.**

6920 Koll Center Parkway, Suite 216  
Pleasanton, CA 94566

Main (925) 426-2600

Fax (925) 426-0106

[www.us.bureauveritas.com](http://www.us.bureauveritas.com)

# ***Workplan for Additional Subsurface Investigation***

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Former Lemoine Sausage Factory  
630 29<sup>th</sup> Avenue  
Oakland, California 94601

February 25, 2009  
33104-004578.00

Prepared for  
**ALAMEDA COUNTY**  
**ENVIRONMENTAL HEALTH**  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577



For the benefit of business and people

**Bureau Veritas North America, Inc.**  
6920 Koll Center Parkway  
Pleasanton, California 94566  
925.426.2600  
[www.us.bureauveritas.com](http://www.us.bureauveritas.com)



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## **1.0 INTRODUCTION**

Bureau Veritas North America, Inc. (Bureau Veritas) has prepared this workplan to conduct an additional subsurface investigation at the Former Lemoine Sausage Factory ("Site), located at 630 29<sup>th</sup> Avenue in Oakland, California. The workplan has been prepared in accordance with the Alameda County Environmental Health's (ACEH) letter dated November 12, 2008, requiring that additional subsurface investigation be conducted at the Site.

As presented in their letter, ACEH reviewed groundwater monitoring data from Second Quarter 2008, which showed that a plume of dissolved petroleum hydrocarbons extends more than 200 feet in a west-southwest direction from the former UST area at the Site. Total petroleum hydrocarbons as gasoline (TPH-g) and benzene were detected in groundwater at concentrations up to 26,000 and 9,700 micrograms per liter ( $\mu\text{g/L}$ ), respectively in Second Quarter 2008. Detected concentrations of the TPH-g and benzene exceed California Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs) for both drinking water and non-drinking water resources. Chlorinated volatile organic compounds (VOCs) also were also detected in groundwater in on-site and off-site areas. The source of the VOCs is unknown.

On the basis of information presented in the ACEH's letter, the objectives of this additional subsurface investigation include:

- Delineating the dissolved petroleum hydrocarbon plume within its central and downgradient portions
- Investigating potential source(s) for the VOCs
- Delineating the lateral extent of coarse-grained soils below the 15-foot depth
- Assessing nearby utility corridors that may serve as contaminant migration pathways
- Evaluating potential vapor intrusion into the existing building on-site

Descriptions of the site background and proposed scope of work supporting the objectives of this additional investigation are provided in the following sections.

## **2.0 SITE BACKGROUND**

The Site is located at the southeast corner of the intersection of 29<sup>th</sup> Avenue and East 7<sup>th</sup> Street, in an area primarily zoned light industrial and commercial. The location of the Site is shown on Figure 1. The Site is surrounded by light industrial and commercial facilities to the north and south, the 29<sup>th</sup> Avenue overpass to the west, and a light industrial/commercial facility and residences to the east. An unpaved, undeveloped lot containing automobile wreckage, miscellaneous equipment, and scrap metal materials is located to the west of the Site. A blacksmith and steel fabrication shop (Mor-Drop) is located further west of the undeveloped lot. Residential areas are located further south and east of the adjacent commercial properties. According to historic maps, machine shops also were formerly located in the adjacent undeveloped lot. An automotive repair facility was formerly located to the south.



The Site is occupied by an approximately 9,262-square foot, L-shaped building formerly used as a sausage factory and cold storage warehouse. The building is a one-story, wood-framed, stucco exterior structure with concrete flooring and a wooden roof. The concrete flooring lies approximately 3.5 feet above street grade within the western and central portions of the building, and lies at ground level within the eastern portion of the building.

During earlier operations at the Site, the interior of the building was divided into a sausage production area, cold storage area, office area, refrigeration machinery room, and employee locker room. Additional refrigeration equipment was formerly present on the roof of the building, as noted during previous investigations. The building is currently subdivided into three tenant spaces. The eastern portion is occupied by an automobile repair and hobby shop. The central portion is occupied by an architectural design and fabrication facility. The western portion is occupied by an art fabricator.

A 1,000-gallon gasoline underground storage tank (UST) and associated piping were formerly located beneath the sidewalk along 7<sup>th</sup> Street adjacent to the northeast side of the building. The UST was located near the roll-up door on the building. The fuel dispenser for the UST was located in a “cubby hole” adjacent to the building’s roll-up door. The location of the former UST is shown on Figure 2.

## **2.1 UST REMOVAL**

In November 1996, the UST and associated piping were removed. Groundwater was encountered at the 5-foot depth during excavation activities. A petroleum hydrocarbon sheen was observed in groundwater that entered the excavation during the UST removal. Seven (7) soil samples (S-1 through S-7) were obtained during UST removal under the direction of ACEH. The soil samples were collected at depths between 5 and 8 feet below ground surface (bgs) beneath the fill ends of the UST and the dispenser. The soil samples were analyzed for TPH-g, methyl tertiary butyl ether (MTBE), benzene, toluene, ethylbenzene, and xylenes (BTEX), and organic lead. Analytical results showed concentrations of these constituents ranging between non-detection and 4,300 milligrams per kilogram (mg/kg). Chemical concentrations detected in soil during the UST removal are shown on Figure 3.

## **2.2 PREVIOUS INVESTIGATIONS**

Since 1997, several investigations and quarterly groundwater monitoring events have been performed at the Site to characterize soil quality and monitor groundwater conditions and quality. To date, this has included ten (10) soil borings (B-1 through B-10) to assess soil and groundwater quality around the vicinity of the former UST excavation and beneath the building footprint, and thirteen (13) groundwater monitoring wells (MW-1 through MW-13) within the uppermost water-bearing zone to characterize groundwater conditions and quality, as well as delineate the extent of impacted groundwater on- and off-site. Previous investigation results suggest the mass of impacted soil is located around the former UST location and beneath a limited portion of the building footprint on the northeast side of the building along East 7<sup>th</sup> Street. Boring and monitoring well locations are shown on Figure 2. Soil analytical results from Borings B-1 through B-5 are shown on Figure 3. Boring logs and monitoring well construction details from these previous investigations are provided in Appendix A.

In 1999, Clayton Group Services, Inc. (Clayton, now Bureau Veritas) initiated quarterly groundwater monitoring activities at the Site. Since the inception of quarterly monitoring, groundwater flow consistently has been to the west-southwest, and analytical data has shown TPH- and benzene-impacted



groundwater extending across a portion of the Site, as well as off-site to the west. The highest concentrations of TPH-g and benzene have been detected in on-site Wells MW-2 and MW-9, which are both located inside the central portion of the building. Historical groundwater elevation data is presented in Appendix B. Historical groundwater analytical data is presented in Appendix C.

TPH-g and benzene concentrations in groundwater generally have remained within the same order of magnitude over the past several monitoring events. The lateral extent of the groundwater plume is roughly defined by the TPH and benzene concentrations detected in the outermost monitoring wells with the exception of the TPH-g and benzene concentrations detected in the most downgradient well (MW-13), which may be attributable to an off-site source. Groundwater elevations measured during Fourth Quarter 2008 are shown on Figure 4. TPH-g and benzene concentrations detected in groundwater during Fourth Quarter 2008 are shown on Figures 5 and 6, respectively.

VOCs, primarily trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-DCE, and vinyl chloride (VC), have been detected in some of the wells (MW-8, MW-12, and MW-13) during previous monitoring events. The presence of cis-1,2-DCE, trans-1,2-DCE, and VC in groundwater over the past several monitoring events indicates that natural attenuation of the TCE is occurring. The VOC plume is stable in size and configuration, and has not shown further offsite migration to the west. The source of VOCs in groundwater is unknown and appears to be offsite. TCE and cis-1,2-DCE concentrations detected in groundwater during Fourth Quarter 2008 are shown on Figure 7.

### **2.2.1 Risk Assessment/Feasibility Study (RA/FS)**

In 2001, Clayton performed a risk assessment and feasibility study (RA/FS) to determine site-specific cleanup goals and evaluate potential remedial measures for the Site. The risk assessment was performed at the Tier II level in accordance with the California Code of Regulations Title 22 Division 21 (Title 22), American Society for Testing and Materials (ASTM-E1735) Standard Guide for Risk Based Corrective Action (RBCA) Applied at Petroleum Release Sites (ASTM, 1995), and the Oakland Urban Land Redevelopment Program (OULRP) Guidance Document (COPWA, 2000), as well as in accordance with the City of Oakland's document entitled "Oakland Risk-Based Corrective Action: Technical Background Document" updated January 1, 2000. The risk assessment identified chemicals of concern, primary sources, secondary sources, transport mechanisms and chemical exposure pathways to potential receptors. As part of the RA/FS, a receptor characterization and survey, risk evaluation, and identification of decision analysis-remedial action options were implemented.

The receptor survey determined that no domestic drinking water wells exist within a 2,000-foot radius of the Site, and, therefore, there is no risk of exposure from groundwater consumption downgradient and within 2,000 feet of the Site. Nearby underground utilities, including a storm drain and sanitary sewer, were identified as potential conduits for the transport of impacted groundwater. Appendix D provides a map showing storm drain and sanitary sewer locations. Non-detect concentrations noted in monitoring wells adjacent to the Site indicated that groundwater impact to the utility trenches was unlikely. The Oakland Estuary, located approximately 0.2 miles away to the south southwest between the Oakland and Alameda city limits, also was considered as a point of exposure. During the RA/FS, it was assumed that groundwater was able to enter the Oakland Estuary through natural pathways or via leakage from utility trenches. Upon further review, it was concluded that the Oakland Estuary was not a viable pathway of exposure due to its use as an active marine waterway.



In summary, the results of the risk assessment showed there were no off-site receptors that would be impacted by the Site constituents. Groundwater beneath the Site was not considered to be of beneficial use because it was located adjacent to a sanitary sewer system. Low permeability hydrogeologic conditions also showed that groundwater could not be extracted at sufficient rates for consumption over a prolonged period of time. Furthermore, groundwater beneath the Site is brackish and not suitable for consumption.

### **2.2.2 Evaluation of Remedial Action Alternatives**

In 2004, remedial action alternatives were evaluated for practical consideration, technical applicability, and costs. Three (3) remedial action alternatives were selected for evaluation and included Alternative 1 (building demolition, excavation/disposal, and building reconstruction), Alternative 2 (soil excavation, groundwater extraction via the installation of an interceptor trench with soil vapor extraction); and Alternative 3 (groundwater injection using an Oxygen Release Compound (ORC)). Each alternative was evaluated with regard to implementability, effectiveness, and cost.

This evaluation showed that each of the alternatives could be implemented, with the exception of several elements that were not technically or economically feasible. Such restrictions included the intrusiveness of each alternative relative to the building footprint and tenant occupancy, overall cost, and length of time to achieve a designated site-specific cleanup goal.

Alternative 1 was considered the most likely approach to achieve cleanup goals, but would have been the most intrusive to implement because of completely displacing tenants during remedial activities. Alternative 1 also would have been the most costly to implement. The approach involved building demolition and removal; excavation and offsite disposal of impacted soils; reuse of clean soil from the upper 6 feet of the excavation as fill; and placement of a limited volume of imported soil. Impacted groundwater would have been extracted and treated during construction dewatering. The time needed to complete Alternative 1 would have been significantly less than for Alternatives 2 or 3.

Alternative 2 also would have required temporary tenant relocation, and would have taken much longer to meet cleanup goals because a more localized area of impacted soil, rather than a larger area, would have been removed. The soil vapor extraction for Alternative 2 would not have been effective because of predominant, fine-grained, low permeability soils occurring within the vadose zone. VOC-impacted groundwater from the off-site source likely would have been captured and brought on-site during implementation of Alternatives 1 or 2.

Considering the intrusive nature, cost prohibition, time constraints, low permeability soil conditions, and necessity to capture of VOC-impacted groundwater from an off-site source associated with Alternatives 1 and 2, it was decided that a pilot test for Alternative 3 (ORC injection) would be conducted.

### **2.2.3 ORC Injection Pilot Study**

In 2005, an ORC injection pilot study was performed at the Site to evaluate its technical feasibility for reducing chemical concentrations in groundwater. Two (2) temporary monitoring wells (T-1 and T-2) were installed and ORC injection borings were drilled. The wells were positioned downgradient of Well MW-9 to evaluate the effects of ORC injection. The injection borings were positioned upgradient of Wells MW-9 and MW-4. Well MW-9 also was utilized for groundwater monitoring purposes during the study.





Following injection, Wells T-1, T-2, and Well MW-9 were sampled three times over a five-month period. Sampling events were interspersed with the quarterly groundwater monitoring schedule. During the earlier RA/FS, bio-assessment test data showed that groundwater beneath the Site contained heterotrophic bacteria capable of degrading organic compounds. Test data also showed that groundwater beneath the Site was anaerobic (oxygen-poor) and lacked essential inorganic nutrients (nitrogen and phosphate). However, ORC injection was selected as a remedial alternative for pilot testing assuming if the oxygen, nitrogen, and phosphate concentrations could be increased, then those elements would potentially stimulate and increase bacteriological activity, thus allowing for biodegradation of the petroleum hydrocarbons.

Test results showed that minimal aerobic biodegradation of petroleum hydrocarbons occurred during the pilot study. No significant declines in hydrocarbon concentrations in groundwater were noted. Biodegradation appeared to occur at an extremely slow rate that would be ineffective for reducing chemical concentrations in a timely manner. On this basis, ORC injection would have been conducted over a much longer time interval, and requiring more injection events, than had been anticipated to achieve cleanup goals.

Based on the pilot study outcome, Alternative 3 was not recommended for implementation at the Site. Low permeability soils beneath the Site also would have limited the effectiveness of multiple ORC injection events and would have likely necessitated re-applications of ORC over smaller areas if the quarterly monitoring analytical results continued to show minimal changes of concentrations over time. Furthermore, none of the TPH-impacted source area would be removed during ORC injection. The length of time to meet site-specific cleanup goals was unknown.

### **3.0 SUBSURFACE CONDITIONS**

Previous investigation results show that the Site is underlain by fine-grained soils containing occasional layers of coarse-grained soils. Subsurface conditions beneath the Site are illustrated on cross sections provided in this workplan. The locations of the cross sections are shown on Figure 8. Cross sections A-A' and B-B' are shown on Figure 9.

Uppermost soils beneath the Site generally consist of sandy clay and clayey silt that extend to depths between 4 and 7 feet bgs. Green-colored staining and hydrocarbon odors were encountered within these units at a depth of about 6 feet bgs at some locations. The coarse grained soils consist of sands, silty sands, and clayey sands that are discontinuous in extent. The sands are present at depths between 4 and 7 feet bgs with thicknesses between 2 and 5.5 feet. The sands are further underlain by silty clay and clayey silt units, which were noted to extend to the termination depths in most borings drilled during previous investigations except for Wells MW-7 and MW-13. Clayey sand was encountered at 14 feet bgs in Boring MW-13 and silty gravel was encountered at 18.5 feet bgs in Boring MW-7. No separate phase hydrocarbon product has been encountered in borings advanced at the Site.

Fill soils were encountered in Borings B-9, B-10, and MW-1, along East 7<sup>th</sup> Street; this occurs as backfill material for a trench containing the sanitary sewer line. The fill consists of sandy clay with gravel and extends to approximately 8 feet bgs. The sandy clay is underlain by an approximately one-foot thick layer of saturated sand that appears to cover the sanitary sewer line.



Quarterly groundwater monitoring events have shown the depth to groundwater varying between approximately 6 and 9 feet bgs. Fine-grained soils beneath the Site exhibit low permeability. Slow recharge has been noted in borings advanced at the Site, especially while attempting to obtain grab groundwater samples. Monitoring wells also have exhibited slow recharge characteristics, where the monitoring wells have been bailed dry upon removal of a few well casing volumes of water. The thickness of unsaturated vadose zone soils (clayey silt and sandy clay soils) beneath the Site is also limited due to the presence of shallow groundwater. Because of fluctuating groundwater levels, a hydrocarbon “smear zone” appears to be present at depths between approximately 5 and 9 feet bgs.

#### **4.0 SCOPE OF WORK**

The scope of work for this investigation is designed to meet objectives presented in Section 1.0 of this Workplan. The scope of work includes drilling and sampling of nineteen (19) borings (SV-1 through SV-3, SVGW-1 through SVGW-4, and B-11 through B-22) for soil vapor, soil, and grab-groundwater sampling purposes, followed by laboratory analyses. Borings SV-1 through SV-3 will be advanced inside the Site building for soil vapor sampling purposes. SVGW-1 through SVGW-4 will be advanced inside the Par-A-Dice Custom tenant space for soil vapor and grab groundwater sampling purposes. Boring B-11 will be advanced inside the Par-A-Dice tenant space to log stratigraphic conditions and define the lateral and vertical extent of a coarse-grained soil zone that was encountered in the bottom of Boring MW-13, located downgradient of the Site. Borings B-12 through B-22 will be advanced within the undeveloped land and Mor-Drop facility for soil vapor, soil, and grab-groundwater sampling purposes. Pre-field and field activities are described in the following sections.

#### **4.1 PRE-FIELD ACTIVITIES**

##### **4.1.1 Property Access**

The borings for this investigation will be advanced inside the Site building, the undeveloped land, and the Mor-Drop facility, as shown on Figure 10. Arrangements for accessing the tenant spaces, undeveloped land, and Mor-Drop facility will be coordinated with the property owners in advance of field activities.

##### **4.1.2 Permitting**

Permits for the soil vapor/grab groundwater sampling points will be obtained from Alameda County Public Works Agency. Field activities will commence upon receipt of the permits.

##### **4.1.3 Health and Safety Plan**

A Health and Safety Plan (HASP) will be prepared for the Site based upon results of previous investigations. The HASP will provide information on the work to be performed, safety precautions, emergency response procedures, nearest hospital information, and on-site personnel responsible for managing emergency situations.

Bureau Veritas will perform the investigation in accordance with the requirements of the State of California General Industry Safety Order 5192 and Title 29 of the Code of Federal Regulations, Section 1910.120 (29 CFR 1910.120). Prior to starting field activities, Bureau Veritas also will conduct “tailgate” safety meetings with field personnel and subcontractors, which will include discussions of the safety



hazards and precautionary measures to be implemented during the course of the field activities. Tailgate safety meetings will be performed on a regular basis, as necessary. A copy of the HASP will be kept onsite during field activities.

During field activities, field personnel will don modified Level D health and safety gear, consisting of gloves, safety glasses, steel-toed boots, and hardhats for protection from overhead drilling equipment. On-site health and safety issues will be the responsibility of the Bureau Veritas Project Manager and Site Health and Safety Officer.

#### **4.1.4 Utility Clearance**

Boring locations will be marked with white paint prior to contacting Underground Services Alert (USA). Upon contact, USA will notify local utility companies regarding the upcoming exploration work, who, in turn, will mark the locations of their utilities around designated investigation areas, as appropriate and where accessible. Following the USA clearance, an experienced underground utility locator will be retained by Bureau Veritas to perform a detailed utility clearance to confirm marked underground utility locations, as well as check for the presence of other underground utilities not already marked. Boring locations will be shifted accordingly if underground utilities are found to be located directly beneath or in close proximity to the boring locations.

## **4.2 FIELD ACTIVITIES**

Drilling for the borings will be performed by a qualified, experienced, C-57 licensed drilling company under subcontract to Bureau Veritas. Depending upon the locations, drilling will be accomplished with a limited access or truck-mounted drilling rig using direct push methods. Drilling for Boring B-11 will be accomplished using the same drilling methods with the exception of utilizing dual tube casing for preventing cross contamination from water-bearing zone to another during grab-groundwater sampling. Drilling operations will be supervised by an experienced Bureau Veritas field scientist or geologist under the oversight of a Bureau Veritas California-licensed Certified Engineering Geologist.

The borings will be advanced to depths between 10 and 15 feet bgs except for Boring B-11, which is anticipated to be advanced to a depth of approximately 35 feet bgs. The borings will be continuously cored throughout their entire depths for purposes of lithologic logging and field screening purposes, as well as for soil vapor, soil, and grab-groundwater sample collection. Soils will be retained in acrylic liners lining the inside of the core barrel during each sample drive for selection of samples for laboratory analyses, lithologic logging, and field screening. Recovered soil cores will be examined for soil classification and described on detailed boring logs in general conformance with the Unified Soil Classification System. Additional lithologic descriptions and drilling information, such as physical features, sample recovery, discoloration, odor, etc., will be recorded on the boring logs. Upon completion of drilling, the borings will be backfilled with a bentonite grout.

#### **4.2.1 Soil Vapor Sampling**

Soil vapor samples will be collected from each of the borings (SV-1 through SV-3, SVGW-1 through SVGW-4, and B-12 through B-22) in an attempt to locate the source area(s) of VOCs and to evaluate potential vapor intrusion into the existing building at the Site except for Boring B-11. Temporary, nested soil vapor sampling points will be installed at each location for sample collection. Proposed soil vapor



borings will be spatially positioned across the Site, as shown on Figure 10. Soil vapor sampling activities during this investigation will be performed in accordance with the California Department of Toxic Substances Control (DTSC) and RWQCB *Advisory – Active Soil Gas Investigation* guidance dated January 28, 2003.

#### **4.2.1.1. Temporary, Nested Soil Vapor Sampling Point Construction**

The borings will be advanced for construction of temporary soil vapor points, which will be installed at a depth of 4 feet. Upon reaching the borehole bottom at each location, the construction of each sampling point will begin by placing approximately 6 inches of clean, dry sand in the borehole bottom along with a temporary soil vapor probe attached to an approximate 5-foot length of inert tubing, both extending to the borehole bottom. After the tubing is set in place, an additional 6 inches of clean, dry sand will be added above the tip of the tubing. Above the sand layer, the borehole annulus will be filled with approximately one foot of dry granular bentonite and then filled with hydrated bentonite chips to grade.

#### **4.2.1.2. Soil Vapor Sample Collection**

After an adequate amount of time has been allotted for first soil vapor sampling point to equilibrate, a purge test will be performed to determine the optimal purge volume to be applied to each soil vapor sampling location. The purge test will consist of collecting soil vapor samples from first sample point at one (1), three (3), and seven (7) purge volumes. Sampling apparatus at the ground surface will consist of a combination of inert tubing, Teflon tape, gas-tight syringes, and stainless steel and brass fittings, as necessary. Leak tests also will be conducted at each sampling point using an appropriate chemical compound to determine if leakage is occurring through the sampling apparatus during sample collection. The soil vapor samples will be retained in gas-tight syringes.

Upon retrieval of the soil vapor samples, the syringes will be labeled with appropriate project information, including the project name, project number, sample location and depth, date of sampling, and sampler's name. Chain-of-custody documentation will be completed and accompany the soil vapor samples to the analytical laboratory. The soil vapor samples will be analyzed by a State of California-certified mobile analytical laboratory that will be stationed onsite during sampling activities. The samples will be analyzed for VOCs using EPA Method 8260B. Duplicate soil vapor samples will be obtained during the survey at the rate of one (1) sample per each field day.

Upon completion of soil vapor sampling, the inert tubing will be removed from the borehole. Bentonite seals will be left in the boreholes until re-drilled for soil and/or grab-groundwater sampling purposes.

### **4.2.2 Soil Sampling**

Soil samples will be obtained from the vadose zone in Borings B-12 through B-22 to assess for the presence of VOCs. One (1) soil sample will be obtained from the vadose zone in each boring at about the 5-foot depth for laboratory analyses. Selected sample depths for the laboratory analyses may be modified during field activities, and will be dependent upon drilling conditions and the depth to groundwater. A total of eleven (11) soil samples will be submitted for laboratory analyses.

The soil samples will be retained in acrylic liners lining the inside of the core barrel during each sample drive. After the core barrel is retrieved, the acrylic liner will be examined and cut for selecting and



retaining samples for laboratory analyses. Samples to be submitted for laboratory analyses will be retained using EPA Method 5035 protocol (Encore sampling devices).

After the samples are retrieved from the core barrel and the acrylic liners are examined and cut, the ends of the acrylic tubes will be covered with Teflon tape and sealed with airtight plastic caps. The acrylic tubes will then be labeled with the project name, project number, boring number, sample depth, sampling date/time of sampling, and sampler's initials. The tubes will be placed on crushed ice inside an insulated, pre-chilled cooler for transport to the analytical laboratory. Chain-of-custody (COC) documentation will be completed and accompany the soil samples to the analytical laboratory.

#### **4.2.2.1. Field Screening**

Soil samples from each sampling interval in the vadose zone will be retained for headspace testing. Headspace tests will be performed with a photo-ionization detector (PID) for detecting the presence of VOCs. To initiate the headspace testing procedure, soil samples will be removed from the acrylic liners inside the core barrel, placed into labeled plastic bags, and sealed for conducting the tests. After sufficient time has elapsed for vapor build-up inside the bags, the bags will be punctured with the probe tip of the PID to allow for measurement of the headspace. Measurements will be obtained in the parts per million (ppm) range for total VOCs. Results of the headspace tests (PID readings) will be recorded on the boring logs.

#### **4.2.3 Grab-Groundwater Sampling**

Upon completion of the soil vapor and/or soil sampling activities, the borings (SVGW-1 through SVGW-4 and B-12 through B-22) will then be advanced into the uppermost water-bearing zone beneath the Site for grab-groundwater sampling purposes. Based upon our knowledge of the site-specific subsurface conditions at the Site, it is anticipated that the borings will be advanced to depths approximately between 10 and 15 feet bgs.

To initiate grab-groundwater sampling, the core barrel from the drilling rig will be pulled a few feet upward to allow for installation of one-inch-diameter PVC casing, which will serve as temporary well casing. The casing will be inserted to the borehole bottom. The lower five feet of the casing will be slotted to allow the introduction of water into the casing.

Sufficient time will be allowed for groundwater to enter the screen for collection of a grab-groundwater sample. Prior to sample collection, the groundwater level will be measured and recorded on the boring log. Grab groundwater samples will be obtained from the temporary well casings using a pre-cleaned, stainless steel bailer or plastic bailer. Upon collection, the samples will be poured from the bailer into appropriate laboratory-supplied containers. The sample containers will be capped/sealed, labeled with identifying project information, and placed into a pre-chilled ice chest for transportation to the analytical laboratory. Chain of custody documentation will accompany the groundwater samples to the laboratory.

Upon sample collection, the temporary well casings will be removed and the borings will be backfilled with either a bentonite grout or neat cement grout in accordance with ACPWA permitting requirements.



#### **4.2.4 Decontamination and Waste Containerization**

Drilling and sampling equipment will be steam cleaned or cleaned with a non-phosphate solution prior to drilling each boring. Decontamination of the drilling equipment will be performed at a designated self-contained onsite area. Decontamination wastewater will be pumped from the driller's self-contained unit into Department of Transportation (DOT)-approved 55-gallon waste drums. Soil cuttings generated during drilling activities also will be placed into DOT-approved 55-gallon waste drums. Disposable health and safety gear, if any, worn during field activities also will be placed into 55-gallon waste drums.

The drums will be temporarily stored onsite. Disposition of the waste(s) will be determined upon receipt of the laboratory analytical data.

### **5.0 LABORATORY ANALYSES**

Soil vapor and grab-groundwater samples will be analyzed by State of California-certified analytical laboratories. Soil vapor samples will be analyzed by a mobile analytical laboratory. Grab-groundwater samples will be analyzed by a fixed analytical laboratory. The samples will be analyzed for TPH-g and BTEX using EPA Method 8021B and for VOCs using EPA Method 8260B. Laboratory analyses will be performed over a standard turnaround time of between 5 and 10 business days.

### **6.0 REPORT PREPARATION**

Upon completion of the field activities and receipt of the laboratory analytical data, Bureau Veritas will prepare a technical report, which will include a description of the site conditions, summary of investigative methodologies, analytical results, findings, conclusions, and recommendations. The report also will include tables showing the laboratory analytical results for the various media, figures showing the boring locations and distribution of laboratory analytical results for various media, and appendices for the drilling permits, boring logs, chain-of-custody documentation, and certified analytical results.

### **7.0 PROJECT SCHEDULE**

Pre-field activities for this investigation will commence upon the ACEH's written approval of this workplan. It is anticipated that the pre-field activities through the report preparation phase may take between six and eight weeks to complete. Scheduling of the pre-field field activities through report preparation will be contingent upon arrangement of access into tenant spaces and off-site areas, receipt of drilling permits, subcontractor availability, and receipt of laboratory analyses.



This workplan prepared by:

---

Timothy G. Bodkin, C.E.G., R.E.A. II  
Senior Project Manager  
Health, Safety, and Environmental Services

This workplan reviewed by:

---

Jon A. Rosso, P.E.  
Regional Director  
Health, Safety, and Environmental Services

February 25, 2009  
Project No. 33104-004578.00



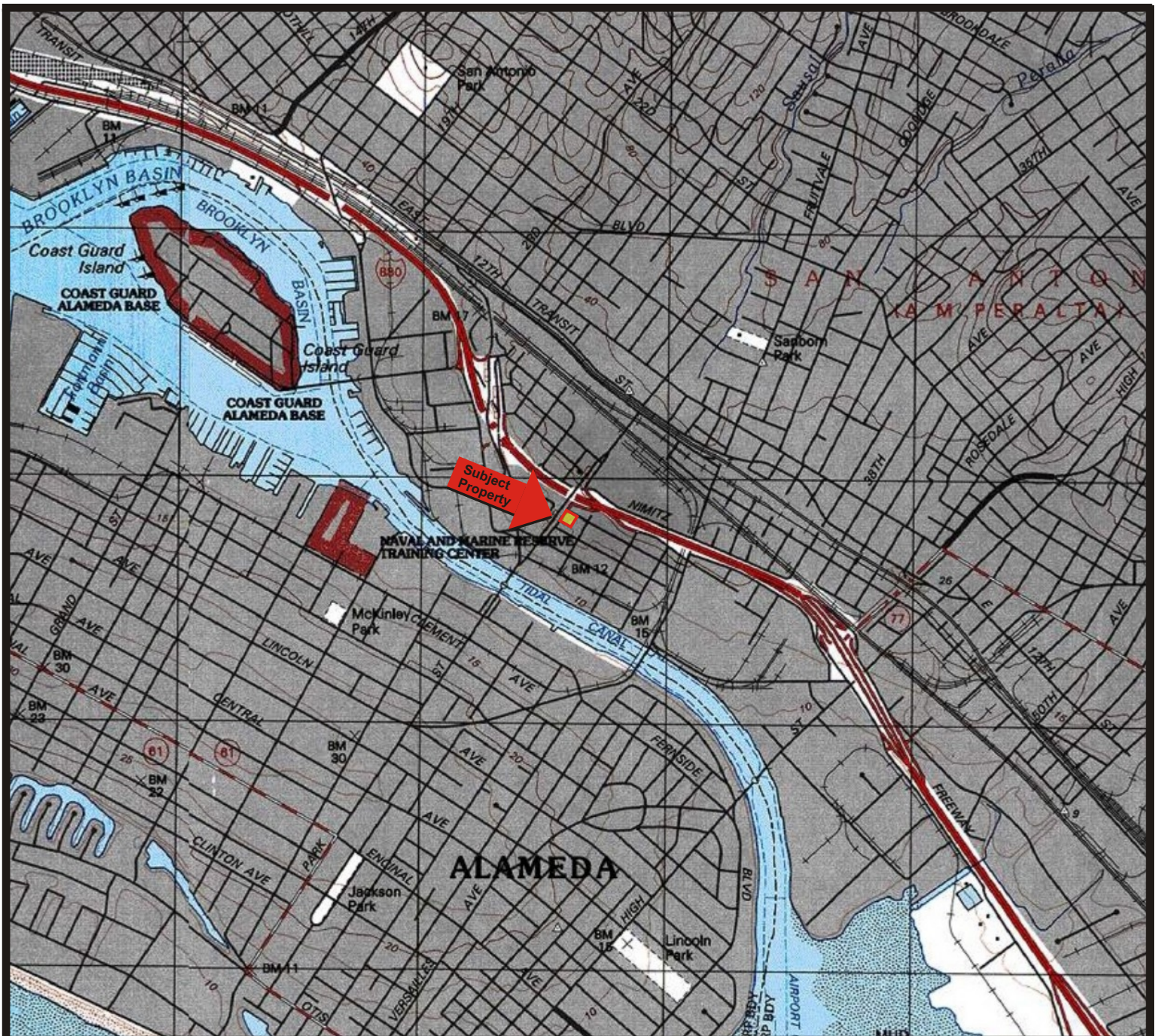
## 8.0 REFERENCES

- Alameda County Environmental Health, 2008, *Fuel Leak Case No. RO0000334 and Geotracker Global ID T0600102114, Lemoine Cold Storage, 630 29<sup>th</sup> Avenue, Oakland, CA 94601*, ACEH letter dated November 12, 2008 issued to Chuck and Norma Lemoine, Bank of America, and Michael Alders.
- Bureau Veritas North America, Inc., 2006, *Request for No Further Action, Former Lemoine Sausage Factory, 630 29<sup>th</sup> Avenue, Oakland, CA*, report dated July 20, 2006, prepared for AIG Technical Services, Inc.
- Bureau Veritas North America, Inc., 2009, *Fourth Quarter 2008 Groundwater Monitoring Report, Former Lemoine Sausage Factory, 630 29<sup>th</sup> Avenue, Oakland, CA 94601*, report dated January 22, 2009, prepared for AIG Technical Services, Inc.
- Clayton Group Services, Inc., 2002, *Risk Assessment/Feasibility Study, Former Lemoine Sausage Factory, 630 29<sup>th</sup> Avenue, Oakland, CA 94601*, report dated February 16, 2001, prepared for Alameda County Environmental Health.
- Clayton Group Services, Inc., 2002, *Evaluation of Remedial Action Alternatives, Former Lemoine Sausage Factory, 630 29<sup>th</sup> Avenue, Oakland, CA 94601*, report dated September 21, 2004, prepared for AIG Technical Services, Inc.
- Clayton Group Services, Inc., 2002, *ORC Injection Pilot Study, Former Lemoine Sausage Factory, 630 29<sup>th</sup> Avenue, Oakland, CA 94601*, report dated February 22, 2006, prepared for AIG Technical Services, Inc.



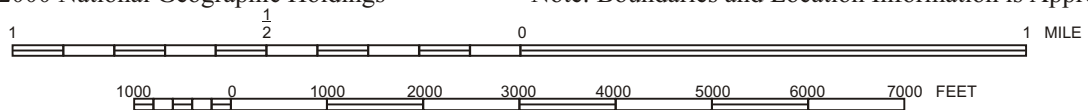


## FIGURES



Map Source: TOPO!© 2000 National Geographic Holdings

Note: Boundaries and Location Information is Approximate



Portion of the 7.5-Minute Series Oakland East, California  
 Quadrangle Topographic Map (Datum: NAD 27)  
 United States Department of the Interior  
 Geological Survey  
 1997



QUADRANGLE LOCATION

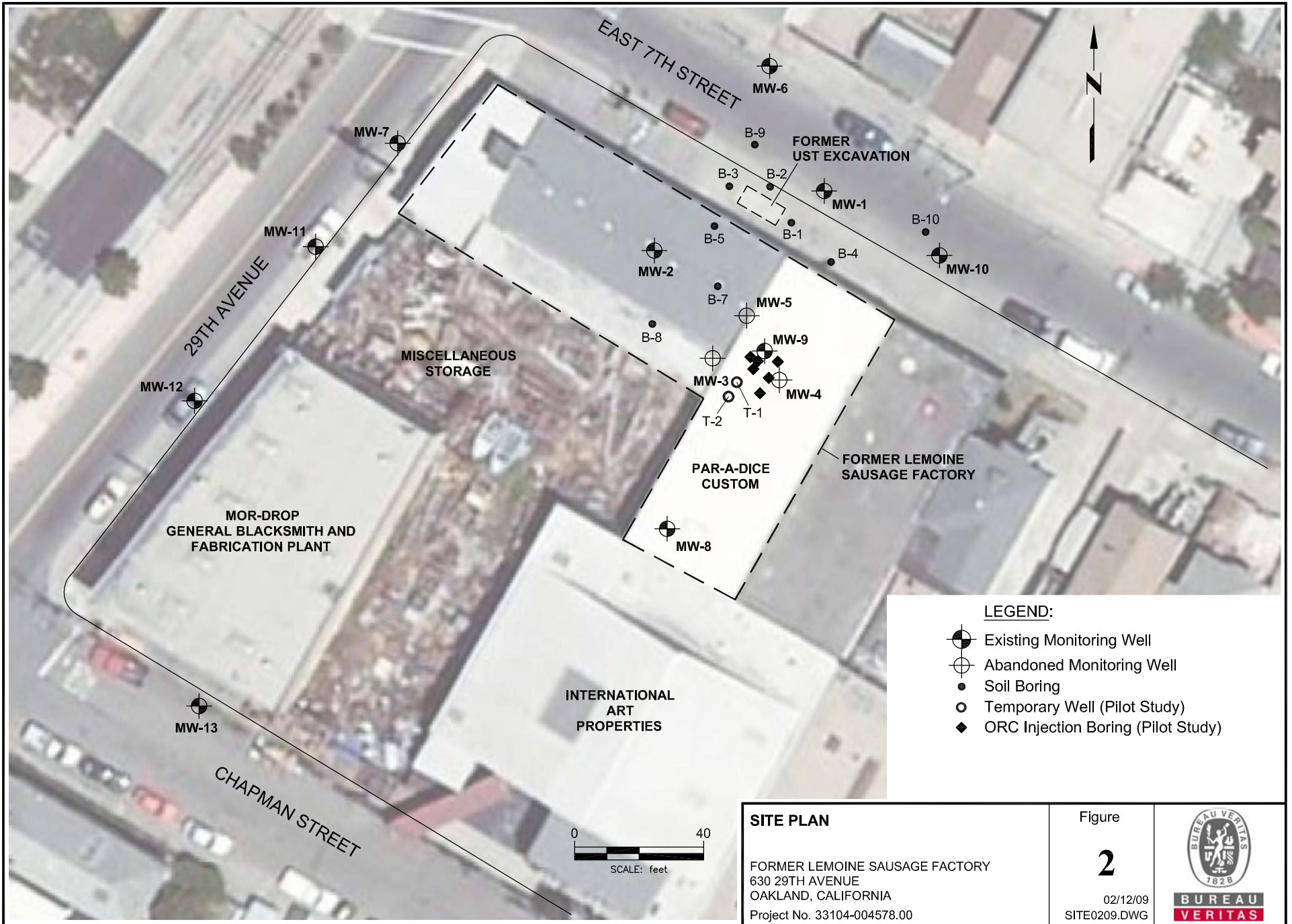
PROPERTY LOCATION MAP  
 Former Lemoine Sausage Factory  
 630 29th Avenue  
 Oakland, California  
 Project No. 33104-004578.00

FIGURE






1



**BUREAU  
 VERITAS**



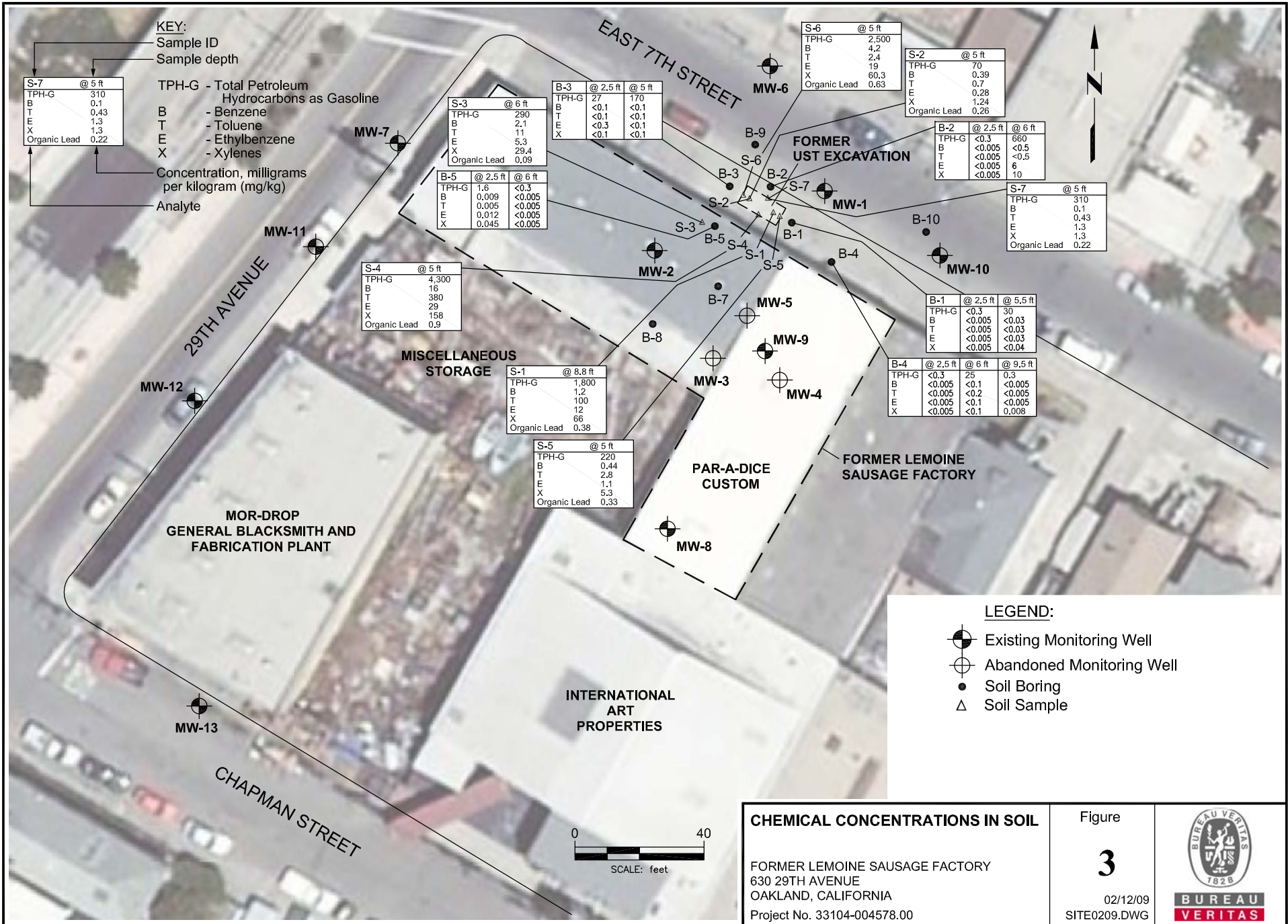
**LEGEND:**

-  Existing Monitoring Well
-  Abandoned Monitoring Well
-  Soil Boring
-  Temporary Well (Pilot Study)
-  ORC Injection Boring (Pilot Study)

**SITE PLAN**  
 FORMER LEMOINE SAUSAGE FACTORY  
 630 29TH AVENUE  
 OAKLAND, CALIFORNIA  
 Project No. 33104-004578.00

Figure  
**2**  
 02/12/09  
 SITE0209.DWG





S-7 @ 5 ft

TPH-G	310
B	0.1
T	0.43
E	1.3
X	1.3
Organic Lead	0.22

TPH-G - Total Petroleum Hydrocarbons as Gasoline  
 B - Benzene  
 T - Toluene  
 E - Ethylbenzene  
 X - Xylenes

Concentration, milligrams per kilogram (mg/kg)  
 Analyte

S-3 @ 6 ft

TPH-G	290
B	2.1
T	11
E	5.3
X	29.4
Organic Lead	0.09

B-3 @ 2.5 ft @ 5 ft

TPH-G	27	170
B	<0.1	<0.1
T	<0.1	<0.1
E	<0.3	<0.1
X	<0.1	<0.1

S-6 @ 5 ft

TPH-G	2,500
B	4.2
T	2.4
E	19
X	60.3
Organic Lead	0.63

S-2 @ 5 ft

TPH-G	70
B	0.39
T	0.7
E	0.28
X	1.24
Organic Lead	0.26

B-2 @ 2.5 ft @ 6 ft

TPH-G	<0.3	660
B	<0.005	<0.5
T	<0.005	<0.5
E	<0.005	6
X	<0.005	10

S-7 @ 5 ft

TPH-G	310
B	0.1
T	0.43
E	1.3
X	1.3
Organic Lead	0.22

S-4 @ 5 ft

TPH-G	4,300
B	16
T	380
E	29
X	158
Organic Lead	0.9

S-1 @ 8.8 ft

TPH-G	1,800
B	1.2
T	100
E	12
X	66
Organic Lead	0.38

S-5 @ 5 ft

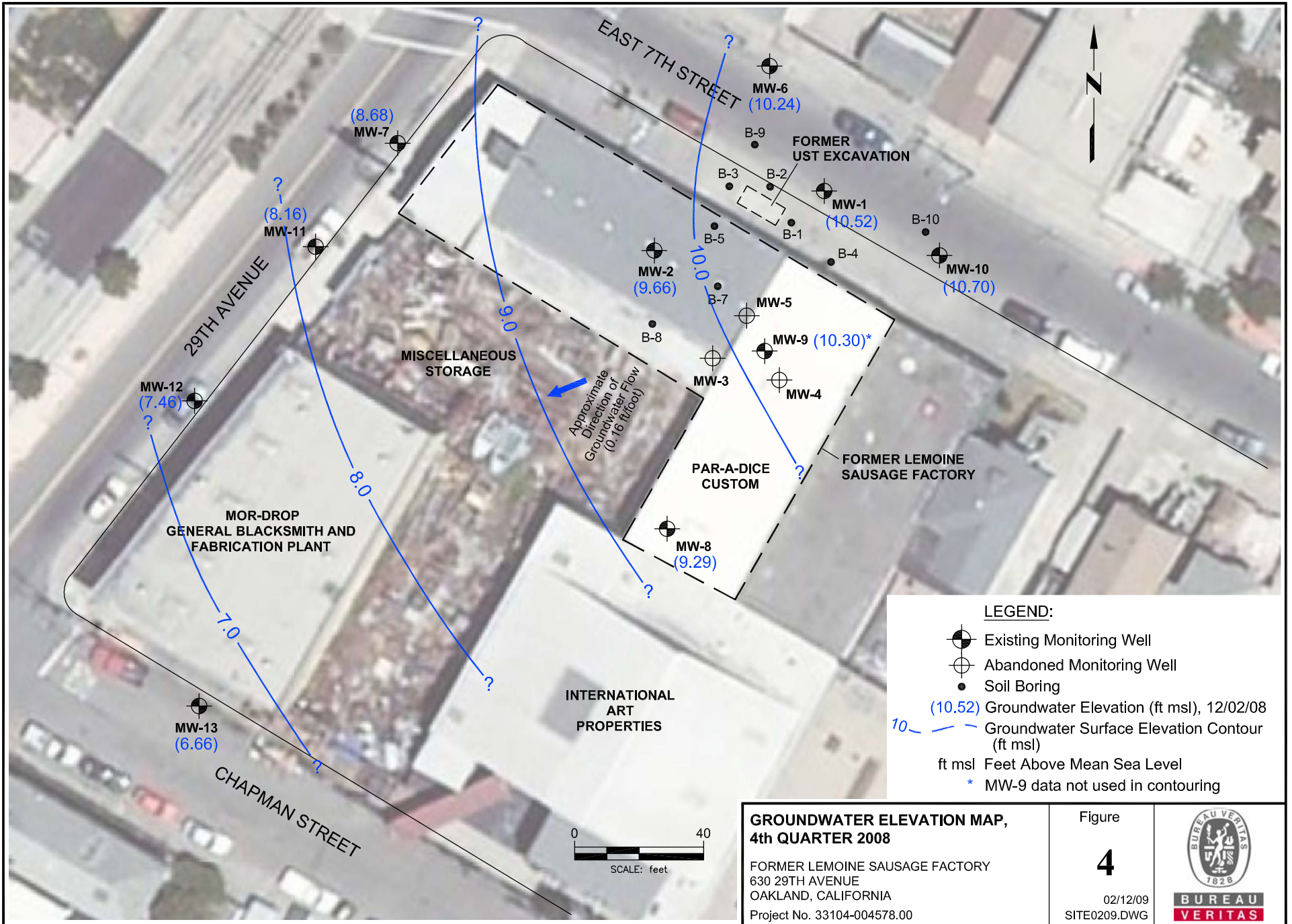
TPH-G	220
B	0.44
T	2.8
E	1.1
X	5.3
Organic Lead	0.33

B-1 @ 2.5 ft @ 5.5 ft

TPH-G	<0.3	30
B	<0.005	<0.03
T	<0.005	<0.03
E	<0.005	<0.03
X	<0.005	<0.04

B-4 @ 2.5 ft @ 6 ft @ 9.5 ft

TPH-G	<0.3	25	0.3
B	<0.005	<0.1	<0.005
T	<0.005	<0.2	<0.005
E	<0.005	<0.1	<0.005
X	<0.005	<0.1	0.008



MW-7  
(8.68)

MW-11  
(8.16)

MW-12  
(7.46)

MW-13  
(6.66)

MW-2  
(9.66)

MW-8  
(9.29)

MW-6  
(10.24)

MW-1  
(10.52)

MW-10  
(10.70)

MW-5  
(10.30)\*

MW-9  
(10.30)\*

MW-3

MW-4

INTERNATIONAL  
ART  
PROPERTIES

MISCELLANEOUS  
STORAGE

PAR-A-DICE  
CUSTOM

FORMER LEMOINE  
SAUSAGE FACTORY

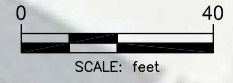
MOR-DROP  
GENERAL BLACKSMITH AND  
FABRICATION PLANT

FORMER  
UST EXCAVATION

EAST 7TH STREET

29TH AVENUE

CHAPMAN STREET



Approximate  
Direction of  
Groundwater Flow  
(0.16 ft/foot)



9.0

8.0

7.0

10.0

?

?

?

?

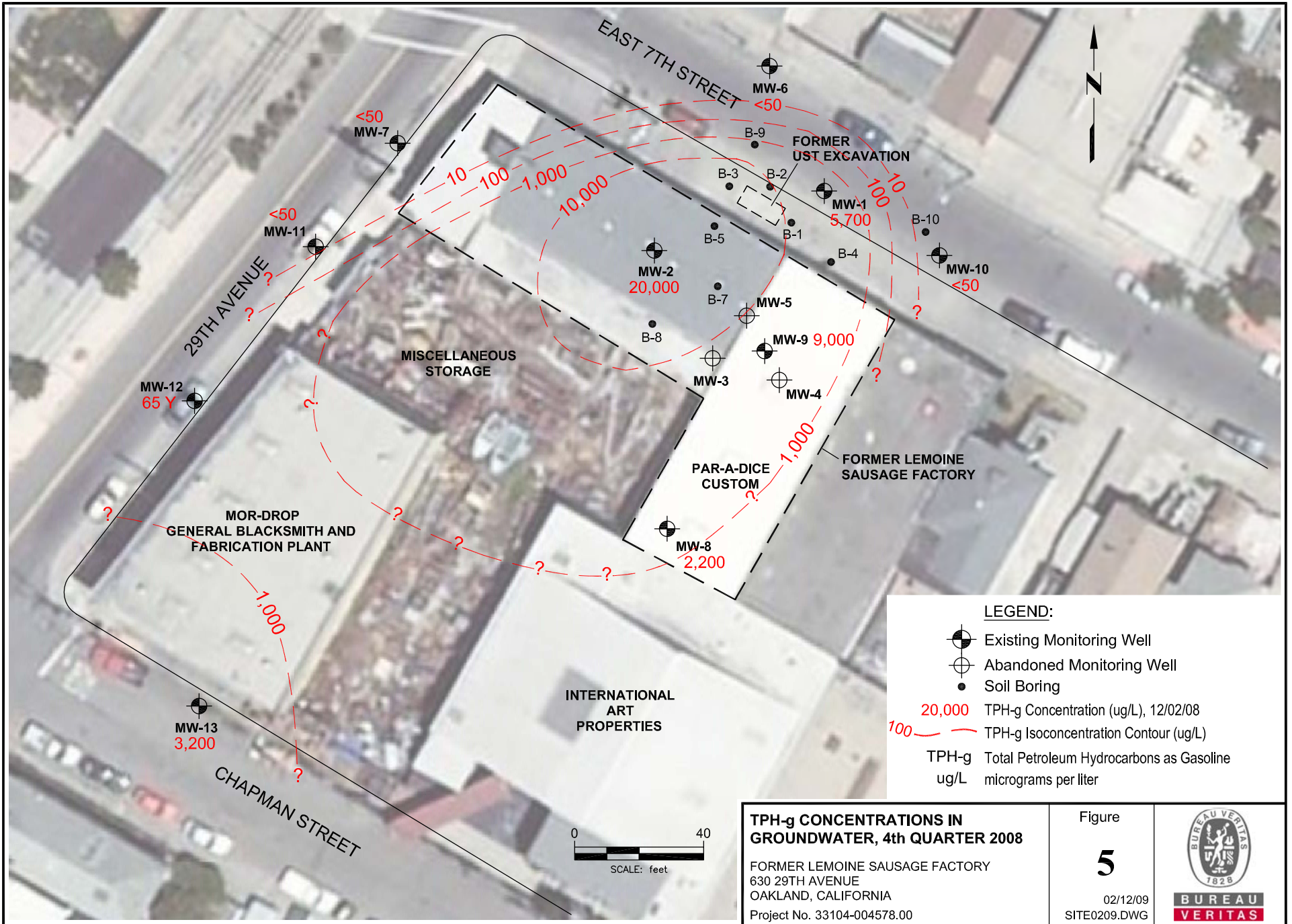
?

?

?

?

10-

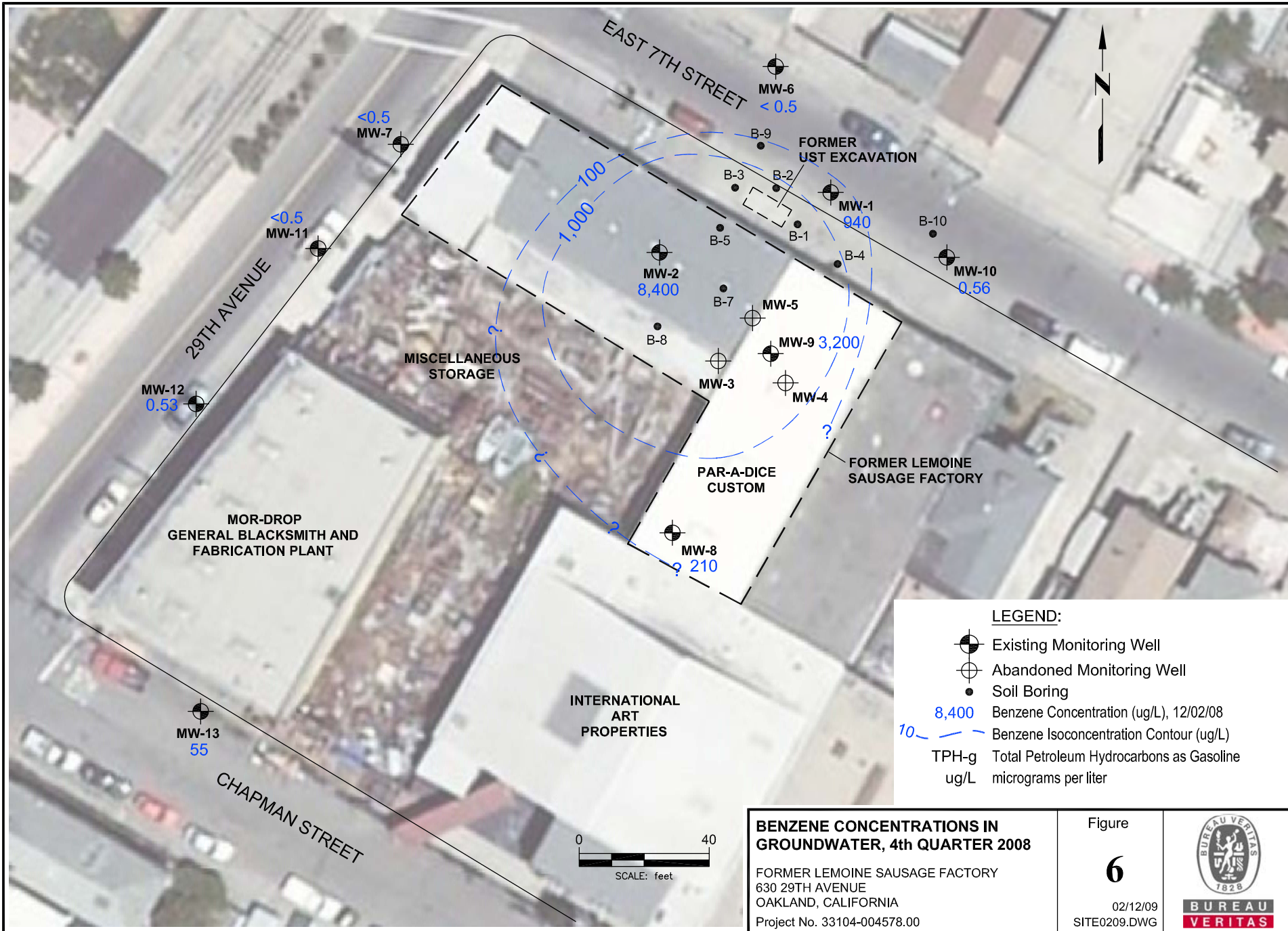


**TPH-g CONCENTRATIONS IN GROUNDWATER, 4th QUARTER 2008**

FORMER LEMOINE SAUSAGE FACTORY  
 630 29TH AVENUE  
 OAKLAND, CALIFORNIA  
 Project No. 33104-004578.00

Figure  
**5**  
 02/12/09  
 SITE0209.DWG





EAST 7TH STREET

29TH AVENUE

CHAPMAN STREET

MW-7 <0.5

MW-11 <0.5

MW-12 0.53

MW-13 55

MW-6 <0.5

MW-1 940

MW-10 0.56

MW-2 8,400

MW-5

MW-9 3,200

MW-3

MW-4

MW-8 ? 210

B-9

B-3

B-2

B-1

B-4

B-5

B-7

B-8

MISCELLANEOUS STORAGE

PAR-A-DICE CUSTOM

FORMER LEMOINE SAUSAGE FACTORY

MOR-DROP GENERAL BLACKSMITH AND FABRICATION PLANT

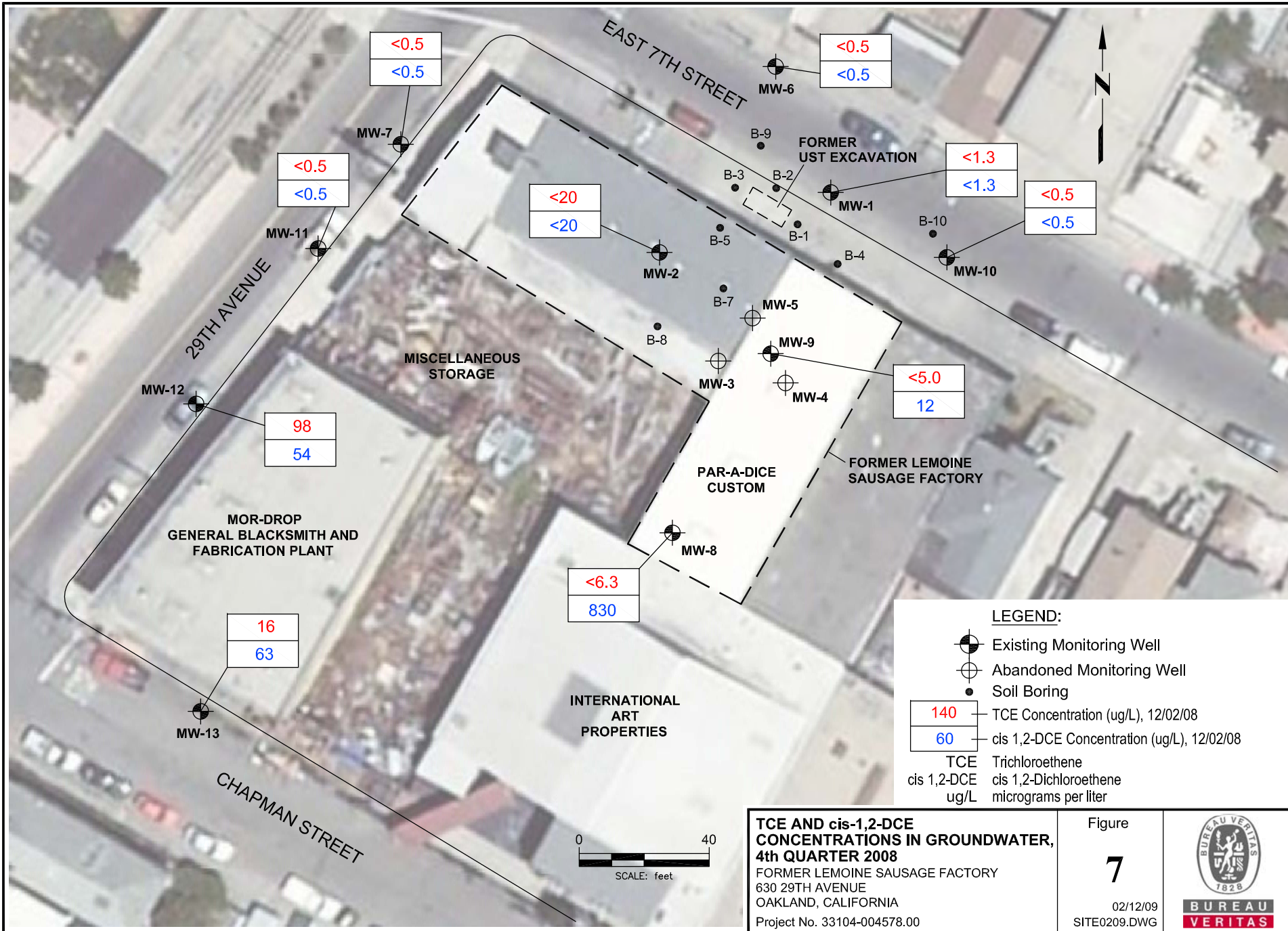
INTERNATIONAL ART PROPERTIES

FORMER UST EXCAVATION

100

1,000

10



<0.5  
<0.5

<0.5  
<0.5

<0.5  
<0.5

<20  
<20

<1.3  
<1.3

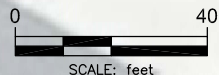
<0.5  
<0.5

98  
54

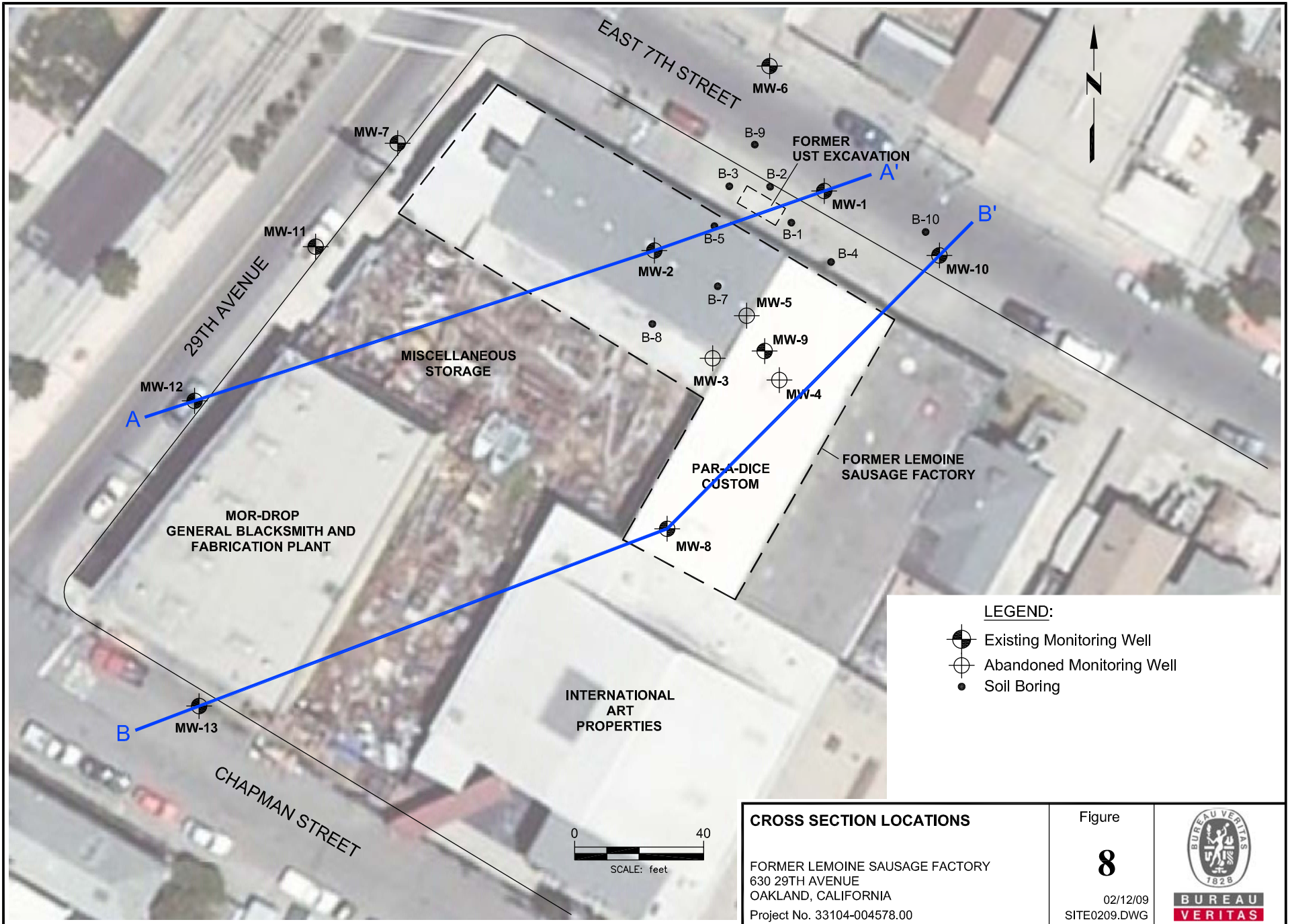
<5.0  
12

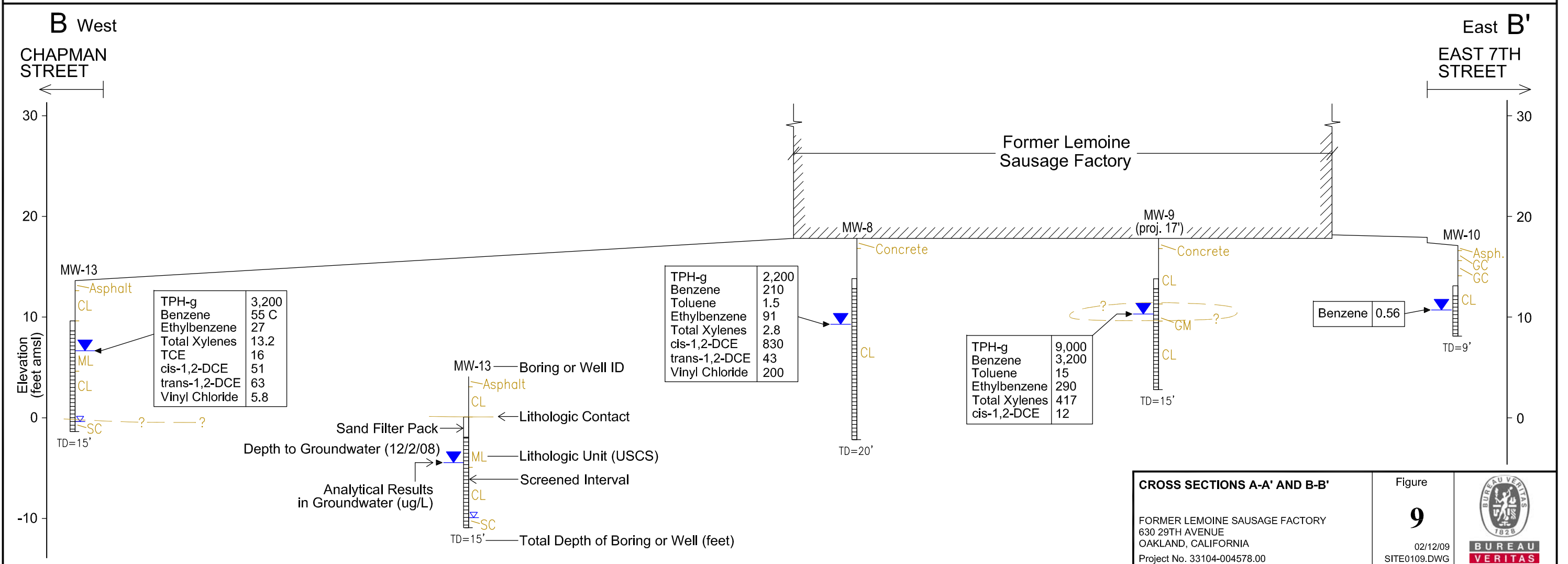
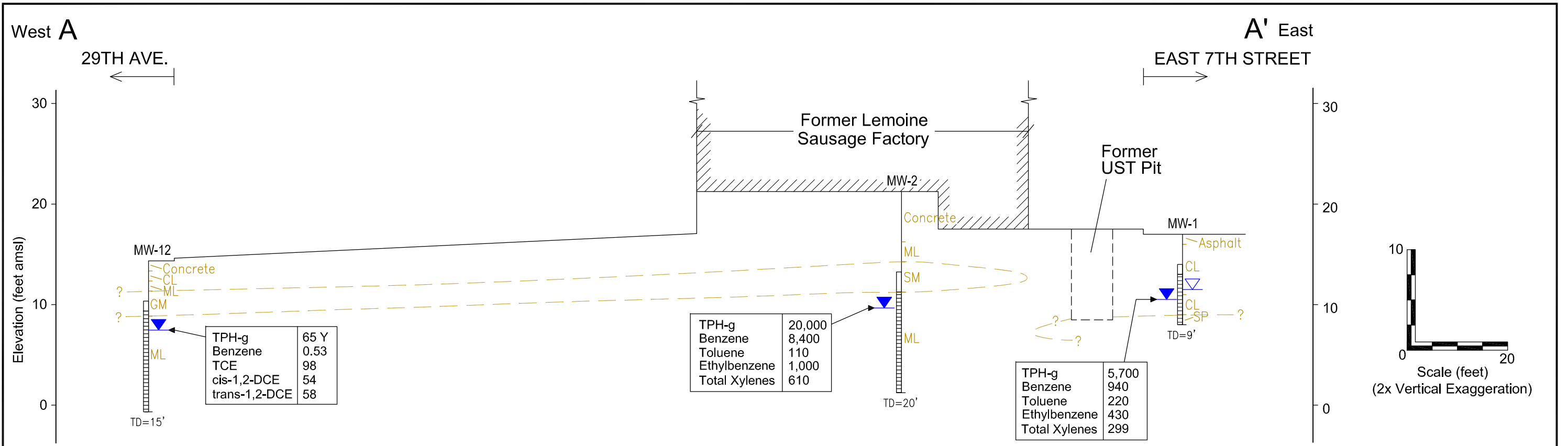
<6.3  
830

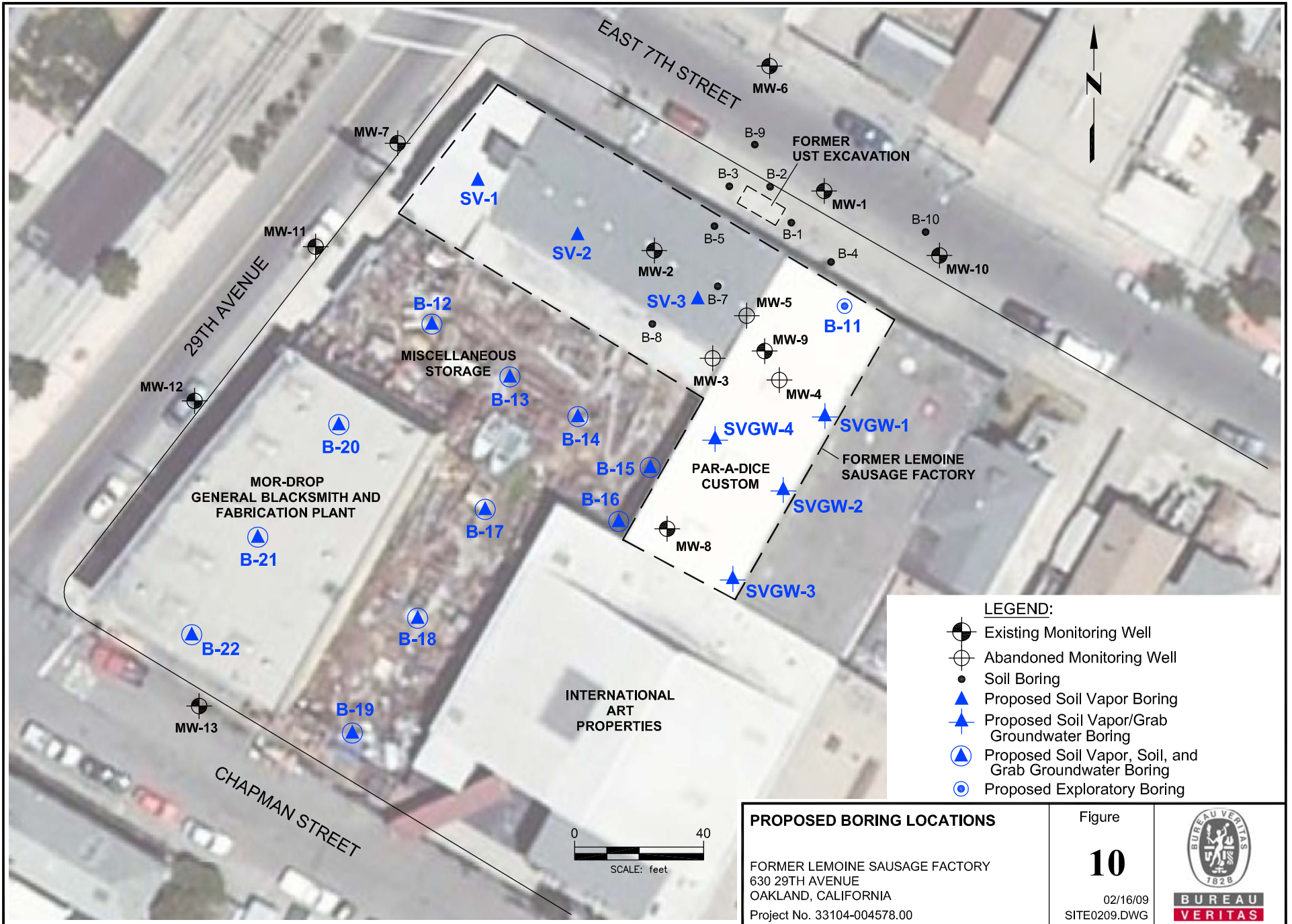
16  
63











**LEGEND:**

- Existing Monitoring Well
- Abandoned Monitoring Well
- Soil Boring
- Proposed Soil Vapor Boring
- Proposed Soil Vapor/Grab Groundwater Boring
- Proposed Soil Vapor, Soil, and Grab Groundwater Boring
- Proposed Exploratory Boring

**PROPOSED BORING LOCATIONS**

FORMER LEMOINE SAUSAGE FACTORY  
 630 29TH AVENUE  
 OAKLAND, CALIFORNIA  
 Project No. 33104-004578.00

Figure

**10**

02/16/09  
 SITE0209.DWG





## **APPENDIX A**

### **BORING LOGS AND MONITORING WELL CONSTRUCTION DETAILS**

**Clayton**  
Environmental Consultants

**LOG OF BORING B-7**


(Page 1 of 1)

**SITE INVESTIGATION**  
**FORMER LEMOINE SAUSAGE FACTORY**  
**630 29TH AVENUE**  
**OAKLAND, CALIFORNIA**

Date Started : 1-27-99  
Date Completed : 1-27-99  
Hole Diameter : 2 in.  
Drilling Method : Geoprobe  
Sampling Method :

Driller : Vironex  
Logged By : M. Hanko

Clayton Project No.: 70-97066.00


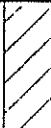

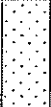
Depth in Feet	Surf. Elev. 18	USCS	GRAPHIC	DESCRIPTION
0	18			CONCRETE Floor
		CC		
5	13	ML		Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic
		SM		Silty SAND (SM) with gravel (5,60,30,5), brown (10YR 5/3), moist, dense, angular 1/4" gravel, fine sand
10	8	ML		Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic, HC odor in soil
15	3			
20				

Notes: Arbitrary surface datum set at 18 feet.



<h2 style="margin:0;">Clayton</h2> <p style="margin:0;">Environmental Consultants</p>	<h2 style="margin:0;">LOG OF BORING B-9</h2> <p style="margin:0; text-align: right;">(Page 1 of 1)</p>
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<p style="margin:0;">SITE INVESTIGATION FORMER LEMOINE SAUSAGE FACTORY 630 29TH AVENUE OAKLAND, CALIFORNIA</p>	<p style="margin:0;">Date Started : 1-28-99 Date Completed : 1-28-99 Hole Diameter : 2 in. Drilling Method : Geoprobe Sampling Method :</p>	<p style="margin:0;">Driller : Vironex Logged By : M. Hanko</p>
Clayton Project No.: 70-97066.00		

Depth in Feet	Surf. Elev. 18	USCS	GRAPHIC	DESCRIPTION
0	18	AS/FL		Asphalt and Base Material
		CL		Sandy CLAY (CL) with gravel (10,30,25,35), dark brown (10YR 4/2), very stiff, <1/4" angular gravel
5	13			Static water at 3.6 feet bgs
				saturated gravel lens at 5.5-6.0 feet bgs
		CL		Silty CLAY (CL) with gravel (10,10,35,45), dark gray (10YR 3/1), very stiff, 1-inch gravel, strong HC odor
		SP		SAND (SP) (0,100,0,0), dark gray (10YR 3/1), very stiff, saturated, strong HC odor
10	8			Refusal at 9 feet bgs due to sanitary sewer pipeline .
15	3			
20				

Notes: Arbitrary surface datum set at 18 feet.

03-03-1999 C:\mech\sp\97066\97066b9 bor

**Clayton**  
Environmental Consultants




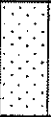
**LOG OF BORING B-10**  
  
(Page 1 of 1)

**SITE INVESTIGATION**  
**FORMER LEMOINE SAUSAGE FACTORY**  
**630 29TH AVENUE**  
**OAKLAND, CALIFORNIA**

Date Started : 1-28-99  
Date Completed : 1-28-99  
Hole Diameter : 2 in.  
Drilling Method : Geoprobe  
Sampling Method :

Driller : Vironex  
Logged By : M. Hanko

Clayton Project No.: 70-97066.00

Depth in Feet	Surf. Elev. 18	USCS	GRAPHIC	DESCRIPTION
0	18	AS/FL		Asphalt and Base Material
		CL		Sandy CLAY (CL) with gravel (10,30,25,35), dark brown (10YR 4/2), very stiff, <1/4" angular gravel
				Static water at 3.6 feet bgs
5	13			saturated gravel lens at 5.5-6.0 feet bgs
		CL		Silty CLAY (CL) with gravel (10,10,35,45), dark gray (10YR 3/1), very stiff, 1-inch gravel, strong HC odor
		SP		SAND (SP) (0,100,0,0), dark gray (10YR 3/1), very stiff, saturated, strong HC odor
10	8			Refusal at 9 feet bgs due to sanitary sewer pipeline.
15	3			
20				

Notes: Arbitrary surface datum set at 18 feet.

03-03-1999 C:\mtech5\p97066\97066b 10.bor


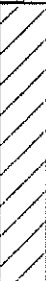




**SITE INVESTIGATION**  
**FORMER LEMOINE SAUSAGE FACTORY**  
630 29TH AVENUE  
OAKLAND, CALIFORNIA

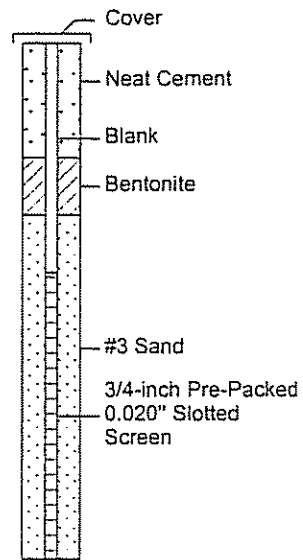
Date Started : 1-28-99  
Date Completed : 1-28-99  
Hole Diameter : 2 in.  
Drilling Method : Geoprobe  
Sampling Method :

Driller : Vironex  
Logged By : M. Hanko  
Surface (Rim) Elevation : 16.99 ft.msl  
Top of Well Casing : 16.69 ft.msl  
Survey By : V. Chavez

Clayton Project No.: 70-97066.00

Depth in Feet	Surf. Elev. 16.99	USCS	GRAPHIC	DESCRIPTION
0		AS/FL		Asphalt and Base Material
16		CL		Sandy CLAY (CL) with gravel (10,30,25,35), dark brown (10YR 4/2), very stiff, <1/4" angular gravel, saturated gravel lens at 5.5-6.0 feet bgs
5		CL		Silty CLAY (CL) with gravel (10,10,35,45), dark gray (10YR 3/1), very stiff, 1-inch gravel, strong HC odor
11		SP		SAND (SP) (0,100,0,0), dark gray (10YR 3/1), loose, saturated, strong HC odor
10		Refusal at 9 feet bgs due to concrete.		
6				
15				
1				
20				

Well1: MW-1  
Elev.: 16.99



Notes:

<h1 style="margin:0;">Clayton</h1> <p style="margin:0;">Environmental Consultants</p>	<h2 style="margin:0;">LOG OF BORING MW_2</h2> <p style="text-align: right; margin:0;">(Page 1 of 1)</p>
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<p style="margin:0;"><b>SITE INVESTIGATION</b>  <b>FORMER LEMOINE SAUSAGE FACTORY</b>          630 29TH AVENUE          OAKLAND, CALIFORNIA</p> <p style="margin:0;">Clayton Project No.: 70-97066.00</p>	<p style="margin:0;">Date Started : 1-27-99          Date Completed : 1-27-99          Hole Diameter : 2 in.          Drilling Method : Geoprobe          Sampling Method :</p>	<p style="margin:0;">Driller : Vironex          Logged By : M. Hanko          Surface (Rim) Elevation: 21.24 ft.msl          Top of Well Casing : 20.79 ft.msl          Survey By : V. Chavez</p>
---	---	---

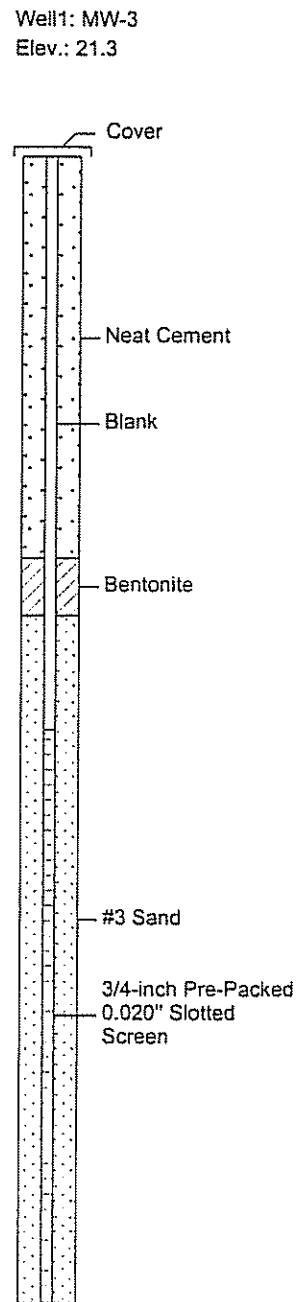
Depth in Feet	Surf. Elev. 21.24	USCS	GRAPHIC	DESCRIPTION	
0	21	CC	+	Suspended Slab, various layers of concrete slabs, wood slabs, steel slabs, and rubble	<p style="margin:0;">Well1: MW-2 Elev.: 21.24</p>
5	16	ML	-	Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic	
10	11	SM	.	Silty SAND (SM) with gravel (5,60,30,5), brown (10YR 5/3), moist, dense, angular 1/4" gravel, fine sand	
15	6	ML	-	Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic	
20					

Notes: Petroleum odor @ 13' bgs, retained sample @ 13'.

<h1 style="margin:0;">Clayton</h1> <p style="margin:0;">Environmental Consultants</p>	<h2 style="margin:0;">LOG OF BORING MW_3</h2> <p style="margin:0;">(Page 1 of 1)</p>
---	--

<p style="margin:0;">SITE INVESTIGATION FORMER LEMOINE SAUSAGE FACTORY 630 29TH AVENUE OAKLAND, CALIFORNIA</p>	<p style="margin:0;">Date Started : 1-27-99 Date Completed : 1-27-99 Hole Diameter : 2 in. Drilling Method : Geoprobe Sampling Method :</p>	<p style="margin:0;">Driller : Vironex Logged By : M. Hanko Surface (Rim) Elevation: 21.30 ft.msl Top of Well Casing : 21.10 ft.msl Survey By : V. Chavez</p>
<p style="margin:0;">Clayton Project No.: 70-97066.00</p>		

Depth in Feet	Surf. Elev. 21.30	USCS	GRAPHIC	DESCRIPTION
0	21	CC	[Symbol]	Suspended Slab, various layers of concrete slabs, wood slabs, steel slabs, and rubble
5	16	ML	[Symbol]	Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic
10	11	SC	[Symbol]	Clayey SAND (SC) with gravel, brown (10YR 5/3), slightly moist, saturated at 11.5 - 12.5 feet below the warehouse floor
15	6	ML	[Symbol]	Silty CLAY (CL) (0,5,45,50), light brown (10YR5/3), very stiff to hard, slightly moist
20				



Notes:

# Clayton

Environmental Consultants

# LOG OF BORING MW\_4

(Page 1 of 1)

**SITE INVESTIGATION**  
**FORMER LEMOINE SAUSAGE FACTORY**  
 630 29TH AVENUE  
 OAKLAND, CALIFORNIA

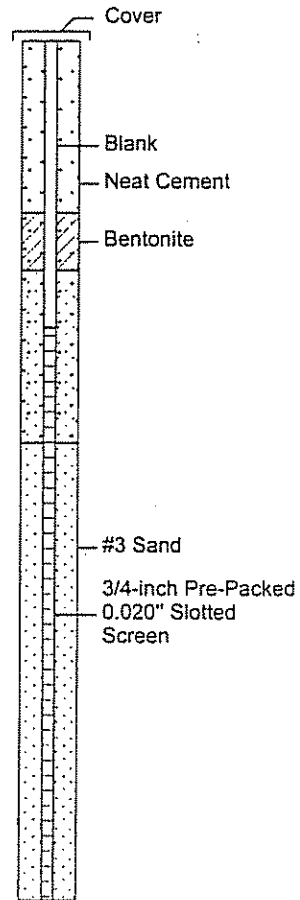
Clayton Project No.: 70-97066.00

Date Started : 1-28-99  
 Date Completed : 1-28-99  
 Hole Diameter : 2 in.  
 Drilling Method : Geoprobe  
 Sampling Method :

Driller : Vironex  
 Logged By : M. Hanko  
 Surface (Rim) Elevation: 17.92 ft.msl  
 Top of Well Casing : 17.78 ft.msl  
 Survey By : V. Chavez

Depth in Feet	Surf. Elev. 17.92	USCS	GRAPHIC	DESCRIPTION
0		CC		CONCRETE Floor
17		ML		Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic
5		SC		Clayey SAND (SC) with gravel, brown (10YR 5/3), slightly moist, saturated at 8.5 - 9.5 feet bgs
12		CL		Silty CLAY (CL) (0,5,45,50), light brown (10YR5/3), very stiff to hard, slightly moist
10	7			
15				
20				

Well1: MW-4  
 Elev.: 17.92



Notes:

# Clayton

Environmental Consultants

# LOG OF BORING MW\_5

(Page 1 of 1)

**SITE INVESTIGATION**  
**FORMER LEMOINE SAUSAGE FACTORY**  
**630 29TH AVENUE**  
**OAKLAND, CALIFORNIA**

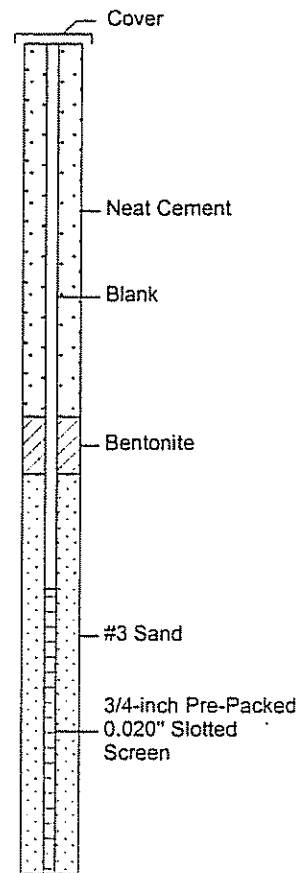
Clayton Project No.: 70-97066.00

Date Started : 1-27-99  
 Date Completed : 1-27-99  
 Hole Diameter : 2 in.  
 Drilling Method : Geoprobe  
 Sampling Method :

Driller : Vironex  
 Logged By : M. Hanko  
 Surface (Rim) Elevation not determined  
 Top of Well Casing : 21.12 ft.msl  
 Survey By : V. Chavez

Depth in Feet	Surf. Elev. 21.5	USCS	GRAPHIC	DESCRIPTION
0	21	CC	+	Suspended Slab, various layers of concrete slabs, wood slabs, steel slabs, and rubble
5	16	ML		Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic
10	11	SM	.....	Silty SAND (SM) with gravel (5,60,30,5), brown (10YR 5/3), moist, dense, angular 1/4" gravel, fine sand
15	6	ML		Clayey SILT (ML) (5,10,50,35), stiff, slightly moist, very plastic
15				Borehole collapsed from 16 to 14.5 feet bgs prior to installation of casing.
20				

Well1: MW-5  
 Elev.: 21.5



Notes: Arbitrary surface datum set at 21.5 feet.



# LOG OF BORING MW\_6

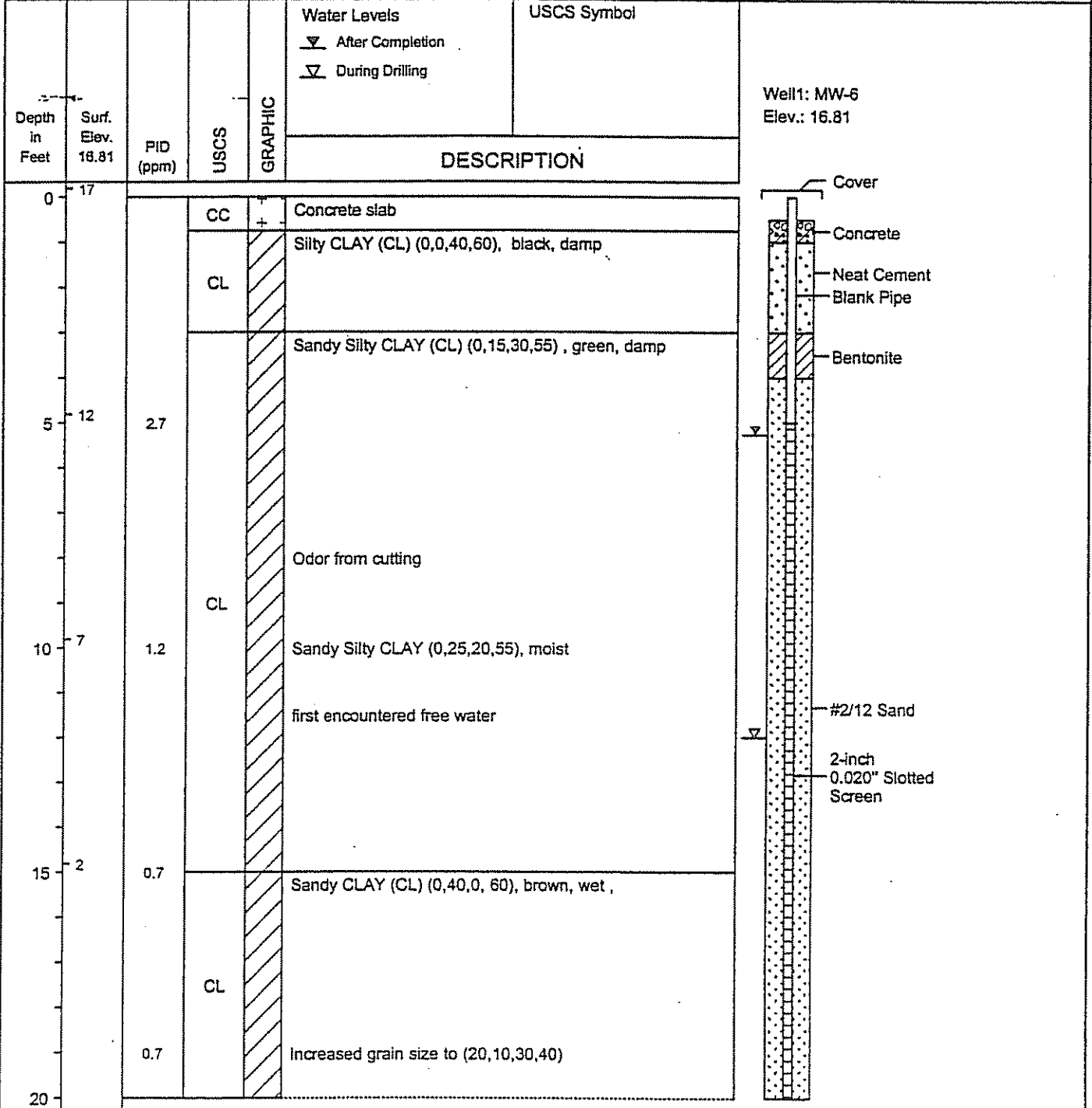
(Page 1 of 1)

**SITE INVESTIGATION**  
**FORMER LEMOINE SAUSAGE FACTORY**  
**630 29TH AVENUE**  
**OAKLAND, CALIFORNIA**

Date Started : 5-23-00  
 Date Completed : 5-23-00  
 Hole Diameter : 8 in.  
 Drilling Method : HSA  
 Sampling Method : Cal Split Spoon

Driller : Gregg  
 Logged By : M. Mulaney  
 Surface (Rim) Elevation: 16.81 ft. msl  
 Top of Well Casing : 16.60 ft. msl  
 Survey By : V. Chavez

Clayton Project No.: 70-97066.00



Notes:



# LOG OF BORING MW\_7

(Page 1 of 1)

**SITE INVESTIGATION**  
**FORMER LEMOINE SAUSAGE FACTORY**  
 630 29TH AVENUE  
 OAKLAND, CALIFORNIA

Date Started : 5-23-00  
 Date Completed : 5-23-00  
 Hole Diameter : 8 in.  
 Drilling Method : HSA  
 Sampling Method : Cal Split Spoon

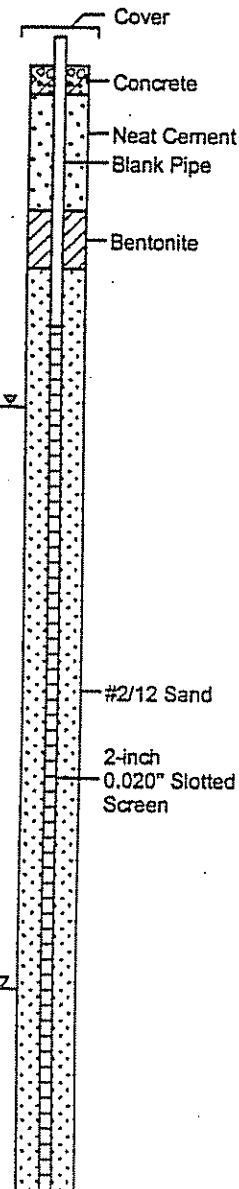
Driller : Gregg  
 Logged By : M. Mulaney  
 Surface (Rim) Elevation 15.67 ft, msl  
 Top of Well Casing : 15.47 ft, msl  
 Survey By : V. Chavez

Clayton Project No.: 70-97066.00

Depth in Feet	Surf. Elev. 15.67	PID (ppm)	USCS	GRAPHIC	Water Levels		USCS Symbol
					After Completion	During Drilling	
DESCRIPTION							

0			CC	+	Concrete slab		
14			CL	Diagonal lines	Silty CLAY (CL) (0,0,30,70), black, damp		
			CL	Diagonal lines	Sandy Silty CLAY (CL) (0,10,40,55), green, damp		
5		1.7	CL	Diagonal lines	Silty CLAY (CL) (0,0,30,70), black, damp		
9					Pebbly Sandy Silty CLAY (CL) (20,20,10,50), dark green, damp Sandy Silty CLAY (CL) (0,20,30,50), brown, damp, carbon, root structures		
10		2.7					
4			CL	Diagonal lines	Sandy CLAY (CL), damp		
15		0.7					
					Sandy Silty CLAY (CL) (0,30,10,60), brown, damp, root structures, green staining		
20		1.7	GW	Circle pattern	Silty Sandy GRAVEL (GC) (60,30,10,0), brown, saturated		

Well1: MW-7  
 Elev.: 15.67



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09-18-2000

Notes:



# LOG OF BORING MW\_8

(Page 1 of 1)

**SITE INVESTIGATION**  
**FORMER LEMOINE SAUSAGE FACTORY**  
**630 29TH AVENUE**  
**OAKLAND, CALIFORNIA**

Date Started : 5-23-00  
 Date Completed : 5-23-00  
 Hole Diameter : 8 in.  
 Drilling Method : HSA  
 Sampling Method : Cal Split Spoon

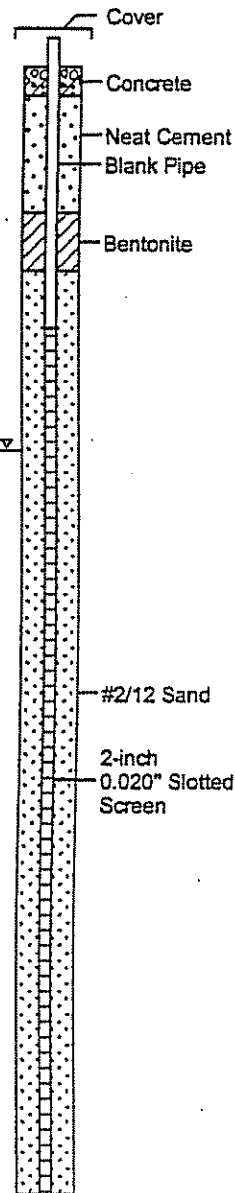
Driller : Gregg  
 Logged By : M. Mulaney  
 Surface (Rim) Elevation 17.83 ft. msl  
 Top of Well Casing : 17.58 ft. msl  
 Survey By : V. Chavez

Clayton Project No.: 70-97066.00

Depth in Feet	Surf. Elev. 17.83	PID (ppm)	USCS	GRAPHIC	Water Levels		USCS Symbol
					▼ After Completion	▽ During Drilling	
DESCRIPTION							

Well1: MW-8  
 Elev.: 17.83

0	18		CC	+	Concrete slab
5	13	6.1			Pebbly Sandy Silty CLAY (CL) (25,10,25,40), black and green, moist
10	8	6.6	CL		Sandy Silty CLAY (CL) (0,20,30,50), brown, moist, 1-2 mm carbon, root structures, green staining
15	3	46.4			Sandy Silty CLAY (CL) (0,20,35,45), light brown, moist, 1 mm carbon
20		6.1			Pebbly Sandy Silty CLAY (CL) (30,10,20,40), tan, wet



Notes:





# LOG OF BORING MW-9

(Page 1 of 1)

Former Lemoine Sausage Factory  
Groundwater Evaluation  
630 29th Avenue  
Oakland, CA

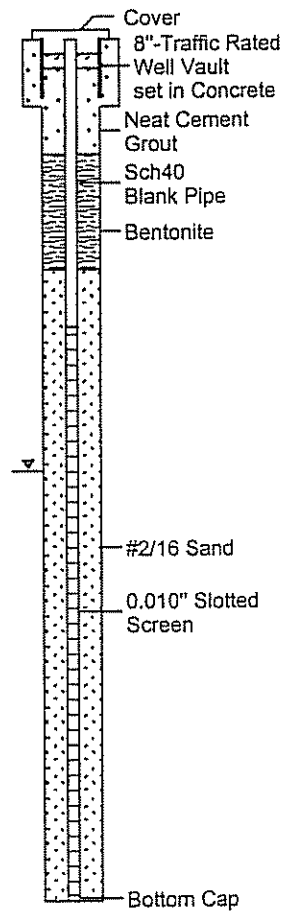
Date Started : 10/5/01  
Date Completed : 10/5/01  
Hole Diameter : 8 in.  
Drilling Method : H.S.A.  
Sampling Method : Split Spoon

Driller : Gregg Drilling  
Logged By : M. Mullaney  
Top of Well Casing : 17.81 feet, msl  
Survey By : V. Chavez

Clayton Project No.: 70-97066.00

Depth in Feet	Surf. Elev. 18	Blow Count	PID (ppm)	Samples	USCS	GRAPHIC	DESCRIPTION
0	18						Concrete
							Silty CLAY (0,0,35,65), Black, Damp.
					CL		Gravelly silty CLAY (30,0,30,40), Tan, Damp
5	13						Silty Clayey GRAVEL (50, 0, 30, 20) green stain and slight HC odor
		0.6			GM		
							Gravelly Silty CLAY (20,0, 30,50), Tan, moist, HC odor
10	8						sandy silty clay (0,15,20,65), Tan, moist, very fine sand
		2.1			CL		
15	3						
		15.5					
20							

Well1: MW-9  
Elev.: 18



Notes:



# LOG OF BORING MW-10

(Page 1 of 1)

Former Lemoine Sausage Factory  
Groundwater Evaluation  
630 29th Avenue  
Oakland, CA

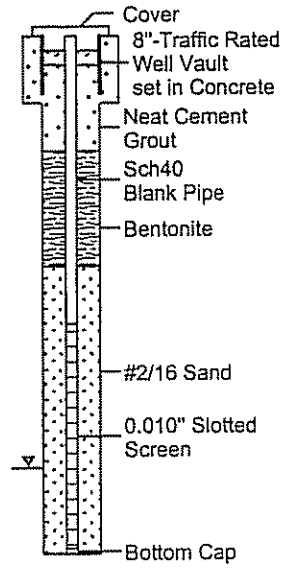
Date Started : 10/5/01  
Date Completed : 10/5/01  
Hole Diameter : 8 in.  
Drilling Method : H.S.A.  
Sampling Method : Split Spoon

Driller : Gregg Drilling  
Logged By : M. Mulaney  
Top of Well Casing : 16.92 feet, msl  
Survey By : V. Chavez

Clayton Project No.: 70-97066.00

Depth in Feet	Surf. Elev. 17	Blow Count	PID (ppm)	Samples	USCS	GRAPHIC	DESCRIPTION
0	17				GC		Asphalt and baserock
					GC		Gravelly Silty CLAY (40,0,20,40), Orange brown, damp
							Silty CLAY (0,5,35,65), green, damp
5	12		0.0		CL		Gravelly Silty CLAY (30,0,30,40), tan, damp
10	7						Refusal at 9-feet bgs due to concrete.
15	2						
20							

Well1: MW-10  
Elev.: 17



Notes:

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# LOG OF BORING MW-11

(Page 1 of 1)

Former Lemoine Sausage Factory  
Groundwater Evaluation  
630 29th Avenue  
Oakland, CA

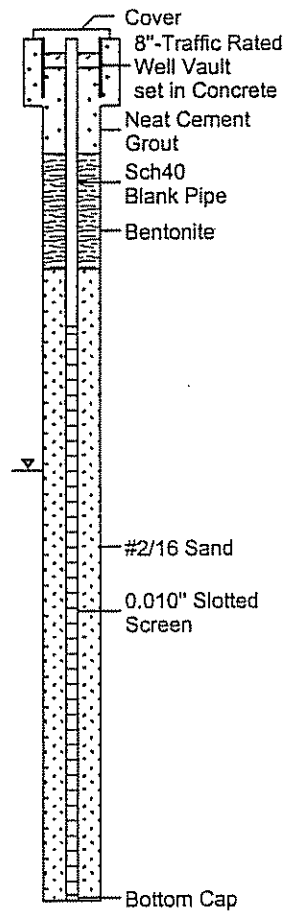
Date Started : 10/5/01  
Date Completed : 10/5/01  
Hole Diameter : 8 in.  
Drilling Method : H.S.A.  
Sampling Method : Split Spoon

Driller : Gregg Drilling  
Logged By : M. Mullaney  
Top of Well Casing : 14.87 feet, msl  
Survey By : V. Chavez

Clayton Project No.: 70-97066.00

Depth in Feet	Surf. Elev. 15	Blow Count	PID (ppm)	Samples	USCS	GRAPHIC	DESCRIPTION
0 - 15					GP		Asphalt and baserock
					GM		Gravelly SILT (40,0,10,50), Orange brown, damp
5 - 10		8.8					Silty CLAY (0,5,35,65), Tan, Damp.
10 - 5		0.0			CL		Sandy silty CLAY (0,15,15,70), green/gray, moist
15 - 0		0.0					Silty CLAY (0,5,25,70), Brown, moist
20							

Well1: MW-11  
Elev.: 15



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Notes:



# LOG OF BORING MW-12

(Page 1 of 1)

Former Lemoine Sausage Factory  
Groundwater Evaluation  
630 29th Avenue  
Oakland, CA

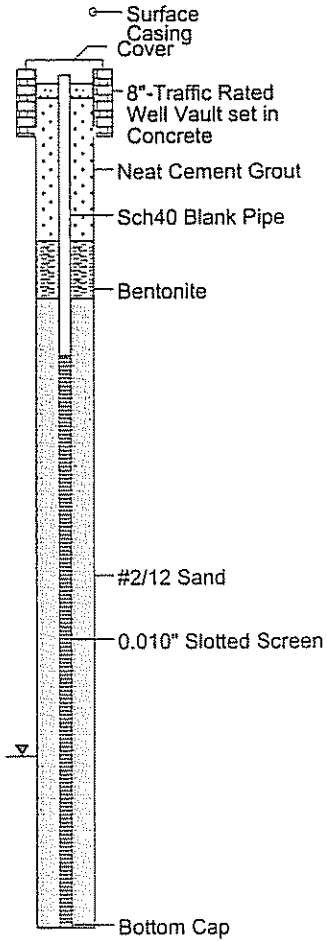
Date Started : 5-16-02  
Date Completed : 5-16-02  
Hole Diameter : 8 in.  
Drilling Method : H.S.A.  
Sampling Method : Split Spoon

Driller : Gregg Drilling  
Logged By : M. Krzeminski  
Top of Well Casing : XX.YY feet, msl  
Survey By : V. Chavez

Clayton Project No.: 70-97066.01

Depth in Feet	Surf. Elev. 15	Samples	USCS	GRAPHIC	DESCRIPTION
0	15		CC		Concrete and baserock
			CL		CLAY (0,0,0,100) dark brown, stiff, dry.
			ML		Clayey SILT (0,0,80,20), light brown, stiff, dry
			GM		Silty Clayey GRAVEL (70,0,15,15), orange brown, loose, dry.
5	10				Clayey SILT (0,0,90,10) greenish grey, dry.
					light brown
			ML		trace fine sand
10	5				moist
15	0				
20					

Well: MW-12  
Elev.: 15



05-20-2002 s:\vest\boring\_logs\97066\MW-12.BOR

Notes:



# LOG OF BORING MW-13

(Page 1 of 1)

Former Lemoine Sausage Factory  
Groundwater Evaluation  
630 29th Avenue  
Oakland, CA

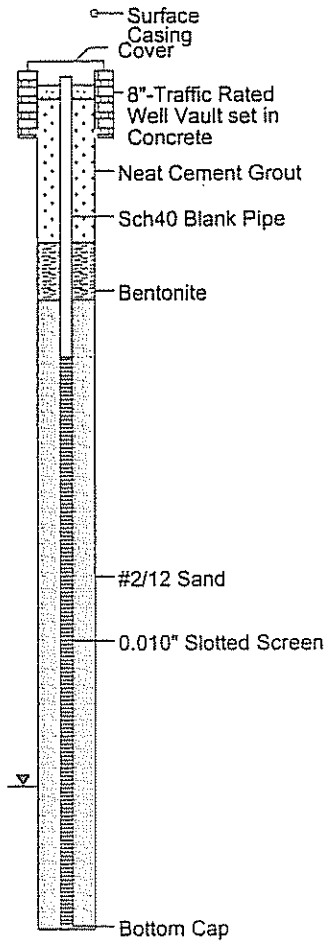
Date Started : 5-16-02  
Date Completed : 5-16-02  
Hole Diameter : 8 in.  
Drilling Method : H.S.A.  
Sampling Method : Split Spoon

Driller : Gregg Drilling  
Logged By : M. Krzeminski  
Top of Well Casing : XX.YY feet, msl  
Survey By : V. Chavez

Clayton Project No.: 70-97066.01

Depth in Feet	Surf. Elev. 15	Samples	USCS	GRAPHIC	DESCRIPTION
0	15		AC		Asphalt and baserock
			CL		Silty CLAY (0,0,20,80) dark brown, stiff, dry.
5	10		ML		Clayey SILT (0,0,90,10), light brown - greenish grey, stiff, dry.
10	5		CL		CLAY (0,0,5,95), greyish green- yellow orange, loose, dry, damp, hydrocarbon odor.
			SC		Clayey SAND (5,80,0,15) greenish grey- yellowish orange, saturated, hydrocarbon odor.
15	0				
20					

Well: MW-13  
Elev.: 15



Notes:



**BUREAU  
VERITAS**

# LOG OF MONITORING WELL

Project No.: 70-04578.02  
 Client: AIG  
 Location: 630 29th Avenue, Oakland, California  
 Logged By: P. McLaughlin

**BORING NO.**

**T-1**

Start Date: 8/19/2005 Start Time: Elevation: N/A  
 Finish Date: 8/19/2005 Finish Time: Boring Dia.: 7"

Driller: Exploration Geoservices Drill Method: Hollow Stem Auger  
 Hammer Weight: N/A Drop: N/A

Borehole Completion Data: Boring completed as test well

SAMPLE INTERVAL	SAMPLE RECOVERY (in)	SAMPLE ID.	PID READING (ppm)	TIME	DEPTH (ft)	SAMPLE GRAPHIC LOG	USCS	DESCRIPTION	WELL CONSTRUCTION
								Concrete Slab, 0.75' thick	Traffic cover with well plug
					1		ML	CLAYEY SILT dark brown, damp, soft	
		2.5			2		SM	SILTY SAND brown, damp, loose, trace fine gravel up to 3/8" dia.	Portland Type II Neat Cement from 0.5 to 3 feet bgs
					3		SM		Bentonite Seal from 3 to 4 feet bgs
		5.0			4		SM	SILTY SAND WITH GRAVEL grayish brown, damp, loose, with fine gravel up to 3/4" dia.	2" Blank SCH-40 PVC Riser Casing from 0 to 5 feet bgs
					5		SM		
		7.5			6		SM	SILTY SAND light brown, moist, loose, trace fine gravel up to 3/8" dia.	Lonestar 2/12 Sand from 4 to 15 feet bgs
					7		SM		
		10.0			8		SM	hydrocarbon odor from ~9.0' - 15.0'	2-inch diameter PVC Well Screen (0.010-in. Slot) from 5 to 15 feet bgs
					9		SM		
		12.5			10		SM		
					11		SM		
		15.0			12		SM		
					13		SM		
					14		SM		
					15		SM		
					16			EOB at 15 feet bgs	
					17			No Groundwater Encountered During Drilling.	
					18				
					19				



**BUREAU  
VERITAS**

# LOG OF MONITORING WELL

Project No.: 70-04578.02  
 Client: AIG  
 Location: 630 29th Avenue, Oakland, California  
 Logged By: P. McLaughlin

**BORING NO.**

**T-2**

Start Date: 8/19/2005 Start Time: Elevation: N/A  
 Finish Date: 8/19/2005 Finish Time: Boring Dia.: 7"

Driller: Exploration Geoservices Drill Method: Hollow Stem Auger  
 Hammer Weight: N/A Drop: N/A

Borehole Completion Data: Boring completed as test well

SAMPLE INTERVAL	SAMPLE RECOVERY (in)	SAMPLE ID.	PID READING (ppm)	TIME	DEPTH (ft)	GRAPHIC LOG	USCS	DESCRIPTION	WELL CONSTRUCTION
								Concrete Slab, 0.75' thick	Traffic cover with well plug
					1		ML	CLAYEY SILT dark brown, damp, soft	
					2			SILTY SAND brown, damp, loose, trace fine gravel up to 3/8" dia.	Portland Type II Neat Cement from 0.5 to 3 feet bgs
		2.5			3		SM		Bentonite Seal from 3 to 4 feet bgs
					4			SILTY SAND WITH GRAVEL grayish brown, damp, loose, with fine gravel up to 3/4" dia.	2" Blank SCH-40 PVC Riser Casing from 0 to 5 feet bgs
		5.0			5		SM		
					6				
					7			SILTY SAND light brown, moist, loose, trace fine gravel up to 3/8" dia.	Lonestar 2/12 Sand from 4 to 15 feet bgs
		7.5			8				
					9			hydrocarbon odor from ~9.0' - 15.0'	
					10				
		10.0			11		SM		2-inch diameter PVC Well Screen (0.010-in. Slot) from 5 to 15 feet bgs
					12				
		12.5			13				
					14				
		15.0			15				
					16			EOB at 15 feet bgs	
					17			No Groundwater Encountered During Drilling.	
					18				
					19				



**APPENDIX B**

**HISTORICAL GROUNDWATER ELEVATION DATA**





APPENDIX B

HISTORICAL GROUNDWATER ELEVATION DATA  
 FORMER LEMOINE SAUSAGE FACTORY  
 630 29TH AVENUE  
 OAKLAND, CALIFORNIA

Well Identification	Date Measured	Top of Casing Elevation (ft,msl)	Depth to Water (feet)	Groundwater Elevation (ft,msl)
MW-1	2/8/1999	16.69	3.60	13.09
	6/15/2000	16.69	4.82	11.87
	9/22/2000	16.69	6.30	10.39
	12/19/2000	16.69	5.50	11.19
	3/21/2001	16.69	4.29	12.40
	6/20/2001	16.69	5.85	10.84
	9/25/2001	16.69	6.76	9.93
	12/3/2001	16.69	4.17	12.52
	3/25/2002	16.69	2.77	13.92
	6/28/2002	16.69	5.61	11.08
	9/11/2002	16.69	6.17	10.52
	12/16/2002	16.69	3.91	12.78
	3/28/2003	16.69	4.44	12.25
	6/24/2003	16.69	5.29	11.40
	9/26/2003	16.69	6.88	9.81
	12/16/2003	16.69	NM	NM
	4/6/2004	16.69	3.57	13.12
	6/23/2004	16.69	5.96	10.73
	9/15/2004	16.69	NM	NM
	12/16/2004	16.69	4.40	12.29
	3/22/2005	16.69	3.44	13.25
	6/24/2005	16.69	4.45	12.24
	9/13/2005	16.69	6.03	10.66
	12/2/2005	16.69	4.95	11.74
	3/2/2006	16.69	3.74	12.95
	6/15/2006	16.69	4.58	12.11
	9/14/2006	16.69	5.15	11.54
	1/11/2007	16.69	4.01	12.68
	4/9/2007	16.69	4.67	12.02
	9/17/2007	16.69	6.39	10.30
12/19/2007	16.69	5.40	11.29	
3/11/2008	16.69	4.21	12.48	
6/10/2008	16.69	5.68	11.01	
9/9/2008	16.69	6.67	10.02	
12/2/2008	16.69	6.17	10.52	
MW-2	2/8/1999	20.79	14.20	6.59
	6/15/2000	20.79	10.46	10.33
	9/22/2000	20.79	11.49	9.30
	12/19/2000	20.79	11.38	9.41
	3/21/2001	20.79	10.01	10.78
	6/20/2001	20.79	10.92	9.87
	9/25/2001	20.79	11.78	9.01
	12/3/2001	20.79	11.13	9.66
	3/25/2002	20.79	9.21	11.58
	6/28/2002	20.79	10.65	10.14
	9/11/2002	20.79	10.89	9.90
	12/16/2002	20.79	11.15	9.64
	3/28/2003	20.79	10.27	10.52
	6/24/2003	20.79	10.24	10.55
	9/26/2003	20.79	11.20	9.59
	12/16/2003	20.79	11.50	9.29



APPENDIX B

HISTORICAL GROUNDWATER ELEVATION DATA  
 FORMER LEMOINE SAUSAGE FACTORY  
 630 29TH AVENUE  
 OAKLAND, CALIFORNIA

Well Identification	Date Measured	Top of Casing Elevation (ft,msl)	Depth to Water (feet)	Groundwater Elevation (ft,msl)
MW-2	4/6/2004	20.79	9.40	11.39
	6/23/2004	20.79	11.60	9.19
	9/15/2004	20.79	10.94	9.85
	12/16/2004	20.79	NM	NM
	3/22/2005	20.79	9.26	11.53
	6/24/2005	20.79	10.03	10.76
	9/13/2005	20.79	10.58	10.21
	12/2/2005	20.79	NM	NM
	3/2/2006	20.79	9.45	11.34
	6/15/2006	20.79	9.84	10.95
	9/14/2006	20.79	10.27	10.52
	1/11/2007	20.79	10.45	10.34
	4/9/2007	20.79	10.03	10.76
	9/17/2007	20.79	10.85	9.94
	12/19/2007	20.79	10.71	10.08
	3/11/2008	20.79	9.76	11.03
	6/10/2008	20.79	10.64	10.15
9/9/2008	20.79	11.04	9.75	
12/2/2008	20.79	11.13	9.66	
MW-3	2/8/1999	21.10	7.45	13.65
	6/15/2000	21.10	10.56	10.54
	9/22/2000	21.10	15.30	5.80
	12/19/2000	21.10	9.72	11.38
	3/21/2001	21.10	8.95	12.15
	6/20/2001	21.10	10.14	10.96
	9/25/2001	21.10	10.74	10.36
	Removed from monitoring program in October 2001			
MW-4	2/8/1999	17.78	4.13	13.65
	6/15/2000	17.78	6.30	11.48
	9/22/2000	17.78	6.90	10.88
	12/19/2000	17.78	6.40	11.38
	3/21/2001	17.78	5.77	12.01
	6/20/2001	17.78	6.78	11.00
	9/25/2001	17.78	7.40	10.38
	Removed from monitoring program in October 2001			
MW-5	2/8/1999	21.12	7.62	13.50
	6/15/2000	21.12	10.36	10.76
	9/22/2000	21.12	9.99	11.13
	12/19/2000	21.12	9.99	11.13
	3/21/2001	21.12	8.68	12.44
	6/20/2001	21.12	9.90	11.22
	9/25/2001	21.12	10.34	10.78
	Removed from monitoring program in October 2001			
MW-6	6/15/2000	16.60	5.47	11.13
	9/22/2000	16.60	6.54	10.06
	12/19/2000	16.60	5.93	10.67
	3/21/2001	16.60	4.70	11.90
	6/20/2001	16.60	6.13	10.47
	9/25/2001	16.60	6.68	9.92



APPENDIX B

HISTORICAL GROUNDWATER ELEVATION DATA  
FORMER LEMOINE SAUSAGE FACTORY  
630 29TH AVENUE  
OAKLAND, CALIFORNIA

Well Identification	Date Measured	Top of Casing Elevation (ft,msl)	Depth to Water (feet)	Groundwater Elevation (ft,msl)
MW-6	12/3/2001	16.60	4.72	11.88
	3/25/2002	16.60	3.93	12.67
	6/28/2002	16.60	5.83	10.77
	9/11/2002	16.60	5.43	11.17
	12/16/2002	16.60	3.93	12.67
	3/28/2003	16.60	NM	NM
	6/24/2003	16.60	5.52	11.08
	9/26/2003	16.60	6.70	9.90
	12/16/2003	16.60	4.99	11.61
	4/6/2004	16.60	4.85	11.75
	6/23/2004	16.60	5.76	10.84
	9/15/2004	16.60	6.56	10.04
	12/16/2004	16.60	4.56	12.04
	3/22/2005	16.60	3.63	12.97
	6/24/2005	16.60	4.84	11.76
	9/13/2005	16.60	6.15	10.45
	12/2/2005	16.60	5.24	11.36
	3/2/2006	16.60	3.41	13.19
	6/15/2006	16.60	5.09	11.51
	9/14/2006	16.60	5.68	10.92
	1/11/2007	16.60	4.71	11.89
	4/9/2007	16.60	5.25	11.35
	9/17/2007	16.60	6.56	10.04
	12/19/2007	16.60	5.41	11.19
	3/11/2008	16.60	4.89	11.71
	6/10/2008	16.60	6.01	10.59
	9/9/2008	16.60	6.75	9.85
	12/2/2008	16.60	6.36	10.24
MW-7	12/16/2002	15.47	5.01	10.46
	12/17/2002	15.47	6.95	8.52
	12/18/2002	15.47	6.94	8.53
	12/19/2002	15.47	6.04	9.43
	12/20/2002	15.47	6.48	8.99
	12/21/2002	15.47	7.25	8.22
	12/22/2002	15.47	6.90	8.57
	12/23/2002	15.47	5.53	9.94
	12/24/2002	15.47	7.20	8.27
	12/25/2002	15.47	7.51	7.96
	12/26/2002	15.47	6.40	9.07
	3/28/2003	15.47	5.68	9.79
	6/24/2003	15.47	6.13	9.34
	9/26/2003	15.47	7.22	8.25
	12/16/2003	15.47	5.68	9.79
	4/6/2004	15.47	5.60	9.87
	6/23/2004	15.47	6.20	9.27
	9/15/2004	15.47	6.70	8.77
	12/16/2004	15.47	5.15	10.32
	3/22/2005	15.47	NM	NM
	6/24/2005	15.47	NM	NM
	9/13/2005	15.47	6.45	9.02
	12/2/2005	15.47	5.93	9.54
3/2/2006	15.47	4.65	10.82	



APPENDIX B

HISTORICAL GROUNDWATER ELEVATION DATA  
FORMER LEMOINE SAUSAGE FACTORY  
630 29TH AVENUE  
OAKLAND, CALIFORNIA

Well Identification	Date Measured	Top of Casing Elevation (ft,msl)	Depth to Water (feet)	Groundwater Elevation (ft,msl)
MW-7	6/15/2006	15.47	5.71	9.76
	9/14/2006	15.47	6.10	9.37
	1/11/2007	15.47	6.04	9.43
	4/9/2007	15.47	5.68	9.79
	9/17/2007	15.47	6.93	8.54
	12/19/2007	15.47	5.81	9.66
	3/11/2008	15.47	5.54	9.93
	6/10/2008	15.47	6.49	8.98
	9/9/2008	15.47	7.08	8.39
	12/2/2008	15.47	6.79	8.68
MW-8	6/15/2000	17.58	7.14	10.44
	9/22/2000	17.58	8.33	9.25
	12/19/2000	17.58	7.71	9.87
	3/21/2001	17.58	6.40	11.18
	6/20/2001	17.58	7.96	9.62
	9/25/2001	17.58	8.89	8.69
	12/3/2001	17.58	6.58	11.00
	3/25/2002	17.58	5.40	12.18
	6/28/2002	17.58	7.71	9.87
	9/11/2002	17.58	8.40	9.18
	12/16/2002	17.58	5.63	11.95
	3/28/2003	17.58	6.62	10.96
	6/24/2003	17.58	7.44	10.14
	9/26/2003	17.58	8.71	8.87
	12/16/2003	17.58	6.69	10.89
	4/6/2004	17.58	6.74	10.84
	6/23/2004	17.58	7.98	9.60
	9/15/2004	17.58	8.52	9.06
	12/16/2004	17.58	5.61	11.97
	3/22/2005	17.58	5.54	12.04
	6/24/2005	17.58	6.77	10.81
	9/13/2005	17.58	7.92	9.66
	12/2/2005	17.58	7.36	10.22
	3/2/2006	17.58	5.83	11.75
	6/15/2006	17.58	6.99	10.59
	9/14/2006	17.58	7.58	10.00
1/11/2007	17.58	6.30	11.28	
4/9/2007	17.58	7.05	10.53	
9/17/2007	17.58	8.26	9.32	
12/19/2007	17.58	6.95	10.63	
3/11/2008	17.58	6.57	11.01	
6/10/2008	17.58	7.73	9.85	
9/9/2008	17.58	8.48	9.10	
12/2/2008	17.58	8.29	9.29	
MW-9	12/3/2001	17.61	5.79	11.82
	3/25/2002	17.61	4.98	12.63
	6/28/2002	17.61	7.71	9.90
	9/11/2002	17.61	6.91	10.70
	12/16/2002	17.61	6.58	11.03
3/28/2003	17.61	6.08	11.53	



APPENDIX B

HISTORICAL GROUNDWATER ELEVATION DATA  
FORMER LEMOINE SAUSAGE FACTORY  
630 29TH AVENUE  
OAKLAND, CALIFORNIA

Well Identification	Date Measured	Top of Casing Elevation (ft,msl)	Depth to Water (feet)	Groundwater Elevation (ft,msl)
MW-9	6/24/2003	17.61	6.42	11.19
	9/26/2003	17.61	8.14	9.47
	12/16/2003	17.61	6.76	10.85
	4/6/2004	17.61	5.97	11.64
	6/23/2004	17.61	7.80	9.81
	9/15/2004	17.61	7.14	10.47
	12/16/2004	17.61	5.73	11.88
	3/22/2005	17.61	5.31	12.30
	6/24/2005	17.61	6.05	11.56
	9/13/2005	17.61	6.70	10.91
	12/2/2005	17.61	6.92	10.69
	3/2/2006	17.61	5.83	11.78
	6/15/2006	17.61	6.32	11.29
	9/14/2006	17.61	6.79	10.82
	1/11/2007	17.61	5.59	12.02
	4/9/2007	17.61	6.35	11.26
	9/17/2007	17.61	7.26	10.35
	12/19/2007	17.61	6.81	10.80
	3/11/2008	17.61	5.95	11.66
	6/10/2008	17.61	6.98	10.63
9/9/2008	17.61	7.34	10.27	
12/2/2008	17.61	7.31	10.30	
MW-10	12/3/2001	16.92	4.22	12.70
	3/25/2002	16.92	3.00	13.92
	6/28/2002	16.92	5.65	11.27
	9/11/2002	16.92	6.16	10.76
	12/16/2002	16.92	3.74	13.18
	3/28/2003	16.92	4.54	12.38
	6/24/2003	16.92	5.40	11.52
	9/26/2003	16.92	6.98	9.94
	12/16/2003	16.92	4.94	11.98
	4/6/2004	16.92	4.54	12.38
	6/23/2004	16.92	5.96	10.96
	9/15/2004	16.92	6.86	10.06
	12/16/2004	16.92	4.45	12.47
	3/22/2005	16.92	3.56	13.36
	6/24/2005	16.92	4.58	12.34
	9/12/2005	16.92	6.08	10.84
	12/2/2005	16.92	4.94	11.98
	3/2/2006	16.92	3.90	13.02
	6/15/2006	16.92	4.74	12.18
	9/14/2006	16.92	5.27	11.65
1/11/2007	16.92	4.37	12.55	
4/9/2007	16.92	4.81	12.11	
9/17/2007	16.92	6.48	10.44	
12/19/2007	16.92	5.21	11.71	
3/11/2008	16.92	4.60	12.32	
6/10/2008	16.92	5.77	11.15	
9/9/2008	16.92	6.71	10.21	
12/2/2008	16.92	6.22	10.70	



APPENDIX B

HISTORICAL GROUNDWATER ELEVATION DATA  
FORMER LEMOINE SAUSAGE FACTORY  
630 29TH AVENUE  
OAKLAND, CALIFORNIA

Well Identification	Date Measured	Top of Casing Elevation (ft,msl)	Depth to Water (feet)	Groundwater Elevation (ft,msl)
MW-11	12/3/2001	14.87	5.67	9.20
	3/25/2002	14.87	4.68	10.19
	6/28/2002	14.87	6.35	8.52
	9/11/2002	14.87	6.91	7.96
	12/16/2002	14.87	3.92	10.95
	3/28/2003	14.87	5.17	9.70
	6/24/2003	14.87	5.86	9.01
	9/26/2003	14.87	7.16	7.71
	12/16/2003	14.87	5.61	9.26
	4/6/2004	14.87	5.49	9.38
	6/23/2004	14.87	5.68	9.19
	12/16/2004	14.87	4.69	10.18
	3/22/2005	14.87	4.20	10.67
	6/24/2005	14.87	5.41	9.46
	9/13/2005	14.87	6.23	8.64
	9/15/2005	14.87	6.45	8.42
	12/2/2005	14.87	5.95	8.92
	3/2/2006	14.87	4.31	10.56
	6/15/2006	14.87	5.40	9.47
	9/14/2006	14.87	5.94	8.93
	1/11/2007	14.87	5.45	9.42
	4/9/2007	14.87	5.52	9.35
	9/17/2007	14.87	NM	NM
	12/19/2007	14.87	5.74	9.13
	3/11/2008	14.87	4.82	10.05
	6/10/2008	14.87	6.17	8.70
	9/9/2008	14.87	6.98	7.89
	12/2/2008	14.87	6.71	8.16
MW-12	6/28/2002	14.05	6.13	7.92
	9/11/2002	14.05	6.82	7.23
	12/16/2002	14.05	4.94	9.11
	3/28/2003	14.05	5.08	8.97
	6/24/2003	14.05	5.73	8.32
	9/26/2003	14.05	6.94	7.11
	12/16/2003	14.05	4.99	9.06
	4/6/2004	14.05	5.04	9.01
	6/23/2004	14.05	5.78	8.27
	9/15/2004	14.05	6.43	7.62
	12/16/2004	14.05	4.34	9.71
	3/22/2005	14.05	3.50	10.55
	6/24/2005	14.05	4.9	9.15
	9/12/2005	14.05	6.11	7.94
	12/2/2005	14.05	5.13	8.92
	3/2/2006	14.05	3.83	10.22
	6/15/2006	14.05	5.18	8.87
	9/14/2006	14.05	5.86	8.19
	1/11/2007	14.05	6.97	7.08
	4/9/2007	14.05	5.31	8.74
	9/17/2007	14.05	6.59	7.46
	12/19/2007	14.05	5.24	8.81
3/11/2008	14.05	4.80	9.25	
6/10/2008	14.05	6.13	7.92	



APPENDIX B

HISTORICAL GROUNDWATER ELEVATION DATA  
FORMER LEMOINE SAUSAGE FACTORY  
630 29TH AVENUE  
OAKLAND, CALIFORNIA

Well Identification	Date Measured	Top of Casing Elevation (ft,msl)	Depth to Water (feet)	Groundwater Elevation (ft,msl)
MW-12	9/9/2008	14.05	6.84	7.21
	12/2/2008	14.05	6.59	7.46
MW-13	6/28/2002	13.39	6.21	7.18
	9/11/2002	13.39	6.66	6.73
	12/16/2002	13.39	3.90	9.49
	3/28/2003	13.39	5.34	8.05
	6/24/2003	13.39	5.99	7.40
	9/26/2003	13.39	6.99	6.40
	12/16/2003	13.39	5.01	8.38
	4/6/2004	13.39	5.35	8.04
	6/23/2004	13.39	6.12	7.27
	9/15/2004	13.39	6.63	6.76
	12/16/2004	13.39	4.69	8.70
	3/22/2005	13.39	4.86	8.53
	6/24/2005	13.39	5.13	8.26
	9/12/2005	13.39	6.33	7.06
	12/2/2005	13.39	5.25	8.14
	3/2/2006	13.39	4.33	9.06
	6/15/2006	13.39	5.44	7.95
	9/14/2006	13.39	6.03	7.36
	1/11/2007	13.39	5.41	7.98
	4/9/2007	13.39	5.71	7.68
9/17/2007	13.39	6.65	6.74	
12/19/2007	13.39	5.37	8.02	
3/11/2008	13.39	5.32	8.07	
6/10/2008	13.39	6.40	6.99	
9/9/2008	13.39	7.03	6.36	
12/2/2008	13.39	6.73	6.66	

**Notes:**

1. Top of casing elevations are referenced to mean sea level (msl) and surveyed with reference to the benchmark located at Peterson Street and East 7th Street.
2. NM refers to Not Measured.
3. ft, msl refers to feet above mean sea level.



## **APPENDIX C**

### **HISTORICAL GROUNDWATER ANALYTICAL DATA**



APPENDIX C



HISTORICAL GROUNDWATER ANALYTICAL RESULTS  
 FORMER LEMOINE SAUSAGE FACTORY  
 630 29TH AVENUE  
 OAKLAND, CALIFORNIA

Well Location	Date Sampled	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	TCE (ug/L)	1,2-DCA (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
MW-1	2/8/1999	48,000	3,900	6,300	970	4,300	NA	<30	NA	NA	NA
	6/15/2000	29,000	3,900	<100	1,900	4,200	<5.0	<5.0	<5.0	<5.0	<5.0
	9/22/2000	25,000	3,100	1,800	470	3,600	NA	NA	NA	NA	NA
	12/19/2000	25,000	3,200	1,900	480	3,300	<2.5	<2.5	<2.5	<2.5	<2.5
	3/21/2000	21,000	3,200	1,700	290	2,600	<2.5	<2.5	<2.5	<2.5	<2.5
	6/21/2001	12,000	2,000	880	180	1,180	<0.5	3.0	<0.5	<0.5	<0.5
	9/26/2001	16,000	1,100	130	< 10	320	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	12/3/2001	15,000	2,800	1,200	310	1,660	<3.1	<3.1	<3.1	<3.1	<3.1
	3/25/2002	11,000	3,200	1,200	73	1,860	<5	<5	<5	<5	<5
	6/28/2002	26,000	3,200	1,800	640	2,900	<3.1	<3.1	<3.1	<3.1	<3.1
	9/11/2002	27,000	3,200	1,900	720	3,500	<4.2	<4.2	<4.2	<4.2	<4.2
	12/16/2002	20,000	2,800	490	500	2,300	<4.2	<4.2	<4.2	<4.2	<4.2
	3/28/2003	20,000	2,700	1,500	650	2,300	<3.6	<3.6	<3.6	<3.6	<3.6
	6/24/2003	14,000	2,400	1,400	500	2,100	<4.2	<4.2	<4.2	<4.2	<4.2
	9/26/2003	11,000	1,200	960	370	1,600	<1.0	<1.0	<1.0	<1.0	<1.0
	12/16/2003	Not Sampled									
	4/6/2004	18,000	2,400	1,300	550	1,730	<2.0	<2.0	<2.0	<2.0	<2.0
	6/23/2004	25,000	2,700	1,700	680	2,300	<2.5	<2.5	<2.5	<2.5	<2.5
	9/15/2004	Not Sampled									
	12/16/2004	1,800	260	89	32	119	<2.5	<2.5	<2.5	<2.5	<2.5
	3/22/2005	19,000	2,400	960	530	1,330	<3.6	<3.6	<3.6	<3.6	<3.6
	6/24/2005	12,000	2,400	450	470	940	<3.6	<3.6	<3.6	<3.6	<3.6
	9/13/2005	17,000	2,700	1,000	740	1,760	<1.0	<1.0	<1.0	<1.0	<1.0
	12/2/2005	9,300	1,500	500	420	1,060	<3.6	<3.6	<3.6	<3.6	<3.6
	3/2/2006	6,200	1,400	200	180	370	<3.6	<3.6	<3.6	<3.6	<3.6
	6/15/2006	10,000	2,500	200	440	570	<4.2	<4.2	<4.2	<4.2	<4.2
	9/14/2006	13,000	2,300	320	450	870	<4.2	<4.2	<4.2	<4.2	<4.2
	1/11/2007	14,000	1,200	270	450	850	<2.0	<2.0	<2.0	<2.0	<2.0
	4/9/2007	12,000	1,800	270	520	750	<2.0	<2.0	<2.0	<2.0	<2.0
	9/17/2007	9,000	1,200	230	450	471	<2.0	<2.0	<2.0	<2.0	<2.0
12/19/2007	12,000	1,400	290	670	746	<2.5	<2.5	<2.5	<2.5	<2.5	
3/11/2008	10,000	1,900	280	550	650	<2.5	<2.5	<2.5	<2.5	<2.5	
6/10/2008	8,700	1,700	170	430	373	<2.5	<2.5	<2.5	<2.5	<2.5	
9/9/2008	7,600	830	230	540	350	<1.7	<1.7	<1.7	<1.7	<1.7	
12/2/2008	5,700	940	220	430	299	<1.3	<1.3	<1.3	<1.3	<1.3	
MW-2	2/8/1999	41,000	11,000	4,900	650	1,720	NA	60	NA	NA	NA
	6/29/2000	31,000	11,000	930	4,400	250	<5.0	25	<5.0	<5.0	<5.0
	9/22/2000	24,000	10,000	2,700	370	1,200	NA	NA	NA	NA	NA
	12/19/2000	43,000	9,800	4,000	810	2,430	<13	21	<13	<13	<13
	3/23/2001	34,000	10,000	3,200	410	1,220	<13	14	<13	<13	<13
	6/21/2001	30,000	8,600	2,600	440	1,230	<0.5	5.6	<0.5	<0.5	<0.5
	9/26/2001	26,000	12,000	3,900	590	1,960	< 10	11	< 10	< 10	< 10
	12/3/2001	45,000	13,000	5,100	950	2,930	<7.1	14	<7.1	<7.1	<7.1
	3/25/2002	21,000	11,000	3,700	1,000	2,790	<17	<17	<17	<17	<17
	6/28/2002	8,400	2,200	680	21	220	<3.1	8.8	<3.1	<3.1	<3.1
	9/11/2002	23,000	6,600	1,000	600	1,320	<6.3	10	<6.3	<6.3	<6.3
	12/16/2002	6,000	1,600	410	150	402	4.5	2.7	69	6.9	<2.5
	3/28/2003	30,000	9,300	920	930	2,000	<13	14	<13	<13	<13
	6/24/2003	19,000	10,000	1,700	1,100	2,530	<13	<13	<13	<13	<13
	9/26/2003	20,000	10,000	2,100	960	2,520	<17	<17	<17	<17	<17
	12/16/2003	22,000	10,000	2,700	1,200	2,920	<25	<25	<25	<25	<25
	4/6/2004	27,000	7,600	1,700	630	1,420	<10	<10	<10	<10	<10
6/23/2004	33,000	8,200	1,800	870	1,930	<17	<17	<17	<17	<17	
9/15/2004	46,000	13,000	1,300	1,400	2,710	<17	<17	<17	<17	<17	
12/16/2004	Not Sampled										
3/22/2005	42,000	9,900	1,200	1,200	2,530	<17	<17	<17	<17	<17	

APPENDIX C



HISTORICAL GROUNDWATER ANALYTICAL RESULTS  
FORMER LEMOINE SAUSAGE FACTORY  
630 29TH AVENUE  
OAKLAND, CALIFORNIA

Well Location	Date Sampled	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	TCE (ug/L)	1,2-DCA (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)	
MW-2	6/24/2005	31,000	12,000	1,200	810	1,380	<20	<20	<20	<20	<20	
	9/13/2005	35,000	13,000	1,100	1,300	2,260	<7.1	<7.1	<7.1	<7.1	<7.1	
	12/2/2005	Not Sampled										
	3/2/2006	25,000	7,900	620	740	1,260	<7.1	<7.1	<7.1	<7.1	<7.1	
	6/15/2006	47,000	11,000	800	1,200	2,230	<20	<20	<20	<20	<20	
	9/14/2006	50,000	11,000	470	1,200	2,330 C	<10	<10	<10	<10	<10	
	1/11/2007	29,000	10,000	240	1,100	1,340	<13	<13	<13	<13	<13	
	4/9/2007	33,000	9,200	1,000	1,200	1,510	<13	<13	<13	<13	<13	
	9/17/2007	11,000	9,200	410	1,100	1,300	<13	<13	<13	<13	<13	
	12/19/2007	32,000	9,900	240	1,100	770	<17	<17	<17	<17	<17	
	3/11/2008	40,000	12,000	270	1,500	1,290	<13	<13	<13	<13	<13	
	6/10/2008	26,000	9,700	160	990	890	<13	<13	<13	<13	<13	
	9/9/2008	34,000	12,000	130	1,600	790	<13	<13	<13	<13	<13	
12/2/2008	20,000	8,400	110	1,000	610	<20	<20	<20	<20	<20		
MW-3	2/8/1999	35,000	1,200	3,400	1,400	4,900	NA	<30	NA	NA	NA	
	6/29/2000	39,000	7,800	630	8,000	3,400	<5.0	600	<5.0	<5.0	<5.0	
	9/22/2000	83,000	16,000	20,000	1,300	7,000	NA	NA	NA	NA	NA	
	12/19/2000	50,000	1,200	1,600	510	1,810	<8.3	350	<8.3	<8.3	<8.3	
	3/22/2001	1,300	98	67	51	104	<0.5	2.3	<0.5	<0.5	<0.5	
	6/21/2001	34,000	5,900	6,200	340	1,550	2.4	120	0.8	<0.5	<0.5	
	9/26/2001	59,000	12,000	13,000	780	3,680	< 8.3	990	< 8.3	< 8.3	< 8.3	
	Removed from sampling program in October 2001											
MW-4	2/8/1999	15,000	670	90	780	940	NA	<30	NA	NA	NA	
	6/15/2000	2,300	230	<5	10	94	<0.5	0.88	2.1	<0.5	<0.5	
	9/22/2000	12,000	2,800	82	1,100	1,300	NA	NA	NA	NA	NA	
	12/19/2000	2,200	200	2.9	100	81.4	<0.5	<0.5	<0.5	<0.5	<0.5	
	3/22/2001	5,600	1,100	13	310	303	<0.5	<0.5	1.6	<0.5	<0.5	
	6/21/2001	11,000	2,300	26	570	641	<0.5	1.4	3.3	<0.5	<0.5	
	9/26/2001	17,000	7,900	< 50	440	581	< 0.5	1.9	8.1	< 0.5	< 0.5	
	Removed from sampling program in October 2001											
MW-5	2/8/1999	4,900	780	440	230	370	<0.5	<0.5	<0.5	<0.5	<0.5	
	6/29/2000	3,900	1,500	28	330	260	<0.5	36	<0.5	<0.5	<0.5	
	9/27/2000	16,000	4,300	3,100	420	1,600	NA	NA	NA	NA	NA	
	12/19/2000	21,000	3,200	1,100	1,100	1,300	<4.2	15	<4.2	<4.2	<4.2	
	3/22/2001	6,200	1,500	360	310	288	<0.5	3.3	<0.5	<0.5	<0.5	
	6/21/2001	18,000	3,400	2,300	350	1,020	<0.5	21	<0.5	<0.5	<0.5	
	9/26/2001	5,100	2,400	1,200	< 10	460	< 3.6	22	< 3.6	< 3.6	< 3.6	
	Removed from sampling program in October 2001											
MW-6	6/15/2000	1,100	3.8	2.2	2.1	4.8	< 0.5	0.78	< 0.5	< 0.5	< 0.5	
	9/22/2000	71	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	
	12/19/2000	320	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	3/21/2001	820	< 0.5	< 0.5	1.4	0.52	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	6/21/2001	420	< 0.5	< 0.5	0.59	1	< 0.5	0.9	< 0.5	< 0.5	< 0.5	
	9/25/2001	760	< 0.5	< 0.5	< 0.5	2.9	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	12/3/2001	72	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	1.6	< 0.5	< 0.5	< 0.5	
	3/25/2002	1,200	22	8.0	5.7	13.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	6/28/2002	120	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5	< 0.5	
	9/11/2002	120	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	12/16/2002	62	< 0.5	0.54	3.0	8.39	0.7	1	< 0.5	< 0.5	< 0.5	
	3/28/2003	Not Sampled										
	6/24/2003	130	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
9/26/2003	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.7	< 0.5	< 0.5		
12/16/2003	<50	< 0.5	< 0.5	< 0.5	< 0.5	0.88	1.7	< 0.5	0.6	< 0.5		

APPENDIX C



HISTORICAL GROUNDWATER ANALYTICAL RESULTS  
 FORMER LEMOINE SAUSAGE FACTORY  
 630 29TH AVENUE  
 OAKLAND, CALIFORNIA

Well Location	Date Sampled	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	TCE (ug/L)	1,2-DCA (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
MW-6	4/6/2004	260	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	<0.5	<0.5	<0.5
	6/23/2004	63	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	0.8	<0.5	<0.5	<0.5
	9/15/2004	<50	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	<0.5	<0.5	<0.5
	12/16/2004	240	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	3/22/2005	420	< 0.5	< 0.5	< 0.5	0.95	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	6/24/2005	91	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	9/13/2005	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	12/2/2005	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.7	< 0.5	< 0.5	< 0.5
	3/2/2006	120	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	6/15/2006	51	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	9/14/2006	57	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	1/11/2007	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	4/9/2007	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	9/17/2007	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12/19/2007	<50	<0.5	0.51	<0.5	0.96	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	3/11/2008	64 Y	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	6/10/2008	<50	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
9/9/2008	<50	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
12/2/2008	<50	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	
MW-7	6/15/2000	1,000	250	< 10	<10	16	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	9/22/2000	<50	2	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA
	12/19/2000	<50	1.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	3/21/2001	160	59	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	6/21/2001	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	9/25/2001	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	12/3/2001	82	24	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	3/25/2002	<50	0.56	0.75	<0.5	0.69	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	6/28/2002	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	9/11/2002	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	12/16/2002	<50	< 0.5	< 0.5	1.6	3.7	0.5	<0.5	<0.5	<0.5	<0.5
	3/28/2003	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	6/24/2003	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	9/26/2003	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	12/16/2003	<50	< 0.5	< 0.5	< 0.5	0.75	1.8	< 0.5	0.6	< 0.5	< 0.5
	4/6/2004	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	6/23/2004	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	9/15/2004	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	12/16/2004	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	3/22/2005	Not Sampled									
	6/24/2005	Not Sampled									
	9/12/2005	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	12/2/2005	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
3/2/2006	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
6/15/2006	<50	< 0.5	< 0.5	< 0.5	< 0.5	0.62	< 0.5	< 0.5	< 0.5	< 0.5	
9/14/2006	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
1/11/2007	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
4/9/2007	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
9/17/2007	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
12/19/2007	<50	0.93	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	
3/11/2008	<50	2.6	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	
6/10/2008	<50	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	
9/9/2008	<50	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	
12/2/2008	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-8	6/15/2000	5,400	150	<5	8.9	8.7	210	<13	1,100	73	25
	9/22/2000	1,800	340	<2.5	<2.5	<2.5	NA	NA	NA	NA	NA

APPENDIX C



HISTORICAL GROUNDWATER ANALYTICAL RESULTS  
 FORMER LEMOINE SAUSAGE FACTORY  
 630 29TH AVENUE  
 OAKLAND, CALIFORNIA

Well Location	Date Sampled	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	TCE (ug/L)	1,2-DCA (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
MW-8	12/19/2000	2,700	410	<2.5	4.8	<2.5	130	9.1	1,000	67	48
	3/21/2001	3,500	530	<2.5	21	<2.5	32	<3.6	760	39	58
	6/21/2001	2,400	490	<2.5	29	<2.5	28	4.9	910	48	75
	9/25/2001	1,500	170	4.3	1.6	2.7	36	5.0	820	59	53
	12/3/2001	1,200	190	14	2.7	11.3	100	<2.5	650	44	31
	3/25/2002	990	280	7.2	1.4	6.8	10	3.6	790	33	49
	6/28/2002	2,200	410	<1.0	40	<1.0	18	4.9	900	54	80
	9/11/2002	2,000	390	1.6	39	<1.0	17	<3.6	1,000	60	91
	12/16/2002	95	26	<0.5	1	<0.5	17	2.2	330	36	4.7
	3/28/2003	1,500	400	<0.5	50	0.62	3.5	<2.5	700	39	41
	6/24/2003	3,300	520	<0.5	58	0.63	6.4	3.7	1,000	49	61
	9/26/2003	1,300	280	3.9	38	0.85	20	<3.6	890	49	47
	12/16/2003	1,100	310	<2.5	14	<2.5	12	4.3	1,200	53	110
	4/6/2004	3,800	420	<0.5	53	1.2	4.4	3.7	1,100	39	58
	6/23/2004	4,600	570	2.9	100	1.5	<8.3	<8.3	1,300	50	80
	9/15/2004	4,900	710	<1.0	100	<1.0	<7.1	<7.1	1,200	49	100
	12/16/2004	3,800	450	<0.5	75	6.5	<8.3	<8.3	1,500	60	86
	3/22/2005	1,700	120	<1.0	9.8	<1.0	<3.6	<3.6	620	27	38
	6/24/2005	1,400	100	<1.0	37	<1.0	<5.0	<5.0	770	29	51
	9/13/2005	2,700	250	<1.0	110	<1.0	<7.1	<7.1	1,000	35	60
	12/2/2005	1,500	160	<1.0	33	<1.0	13	<5.0	930	46	80
	3/2/2006	2,000 L	210	<0.5	36	<0.5	<6.3	<6.3	890	34	50
	6/15/2006	1,400	78	<0.5	21	<0.5	6.9	<5.0	700	28	41
	9/14/2006	1,600	120	<0.5	42	<0.5	7.6	<6.3	800	37	43
	1/11/2007	1,100 Y	130	<0.5	49	1.1 C	<6.3	<6.3	820	32	58
	4/9/2007	2,200 L	160	<0.5	65	1.1	<6.3	<6.3	820	24	55
9/17/2007	3,300 L Y	230	<0.5	140	<0.5	<6.3	<6.3	900	28	91	
12/19/2007	3,300	280	<0.5	120	<0.5	<10	<10	1,200	36	150	
3/11/2008	1,700	180	2.1 C	110	3.5	1.0	<0.5	890	28	67	
6/10/2008	4,000	300	5.0 C	220	3.3 C	<6.3	<6.3	940	27	70	
9/9/2008	4,100	300	<0.5	230	<0.5	<6.3	<6.3	1,200	36	190	
12/2/2008	2,200	210	1.5	91	2.8	<6.3	<6.3	830	43	200	
MW-9	12/3/2001	90,000	15,000	15,000	2,200	9,100	<10	<10	<10	<10	<10
	3/25/2002	71,000	15,000	17,000	1,900	8,000	<31	<31	<31	<31	<31
	6/28/2002	60,000	5,800	7,400	1,100	5,400	<13	<13	<13	<13	<13
	9/11/2002	57,000	8,300	6,100	340	4,700	<10	18	<10	<10	<10
	12/16/2002	29,000	5,500	3,900	300	1,860	<5	8.9	<5	<5	<5
	3/28/2003	61,000	13,000	8,600	860	4,800	<20	<20	<20	<20	<20
	6/24/2003	45,000	15,000	9,600	1,100	5,200	<5	10	<5	<5	<5
	9/26/2003	34,000	12,000	5,600	880	4,700	<17	<17	<17	<17	<17
	12/16/2003	34,000	14,000	4,900	940	4,700	<42	<42	<42	<42	<42
	4/6/2004	60,000	14,000	3,100	1,300	5,500	<17	<17	<17	<17	<17
	6/23/2004	53,000	12,000	2,600	1,100	4,800	<20	<20	<20	<20	<20
	9/15/2004	76,000	17,000	2,200	1,500	6,600	<20	<20	<20	<20	<20
	12/16/2004	63,000	15,000	1,700	1,300	5,900	<20	<20	<20	<20	<20
	3/22/2005	66,000	13,000	2,000	1,200	5,800	<17	<17	<17	<17	<17
	6/24/2005	54,000	16,000	780	1,300	5,200	<20	<20	<20	<20	<20
	9/13/2005	48,000	11,000	4,800	470	4,110	<17	<17	<17	<17	<17
	12/2/2005	39,000	12,000	3,800	650	3,470 C	<20	<20	<20	<20	<20
	3/2/2006	51,000	12,000	3,500	750	4,170	<20	<20	<20	<20	<20
	6/15/2006	67,000	16,000	5,000	1,900	5,790	<36	<36	<36	<36	<36
	9/14/2006	49,000	13,000	620	1,000	3,680	<13	<13	<13	<13	<13
1/11/2007	45,000	13,000	460	1,100	3,050	<17	<17	<17	<17	<17	
4/9/2007	49,000	13,000	580	1,100	3,020	<17	<17	<17	<17	<17	
9/17/2007	19,000	9,600	250	1,000	2,540	<17	<17	<17	<17	<17	
12/19/2007	44,000	9,500	170	800	1,880	<20	<20	<20	<20	<20	

APPENDIX C



HISTORICAL GROUNDWATER ANALYTICAL RESULTS  
 FORMER LEMOINE SAUSAGE FACTORY  
 630 29TH AVENUE  
 OAKLAND, CALIFORNIA

Well Location	Date Sampled	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	TCE (ug/L)	1,2-DCA (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
MW-9	3/11/2008	17,000	12,000	300	1,100	2,350	<42	<42	<42	<42	<42
	6/10/2008	9,500	2,500	54	400	494	<5.0	<5.0	<5.0	<5.0	<5.0
	9/9/2008	45,000	14,000	91	1,700	1,940	<10	<10	<10	<10	<10
	12/2/2008	9,000	3,200	15	290	417	<5.0	<5.0	12	<5.0	<5.0
MW-10	12/3/2001	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	3/25/2002	51	2.5	3.6	0.53	2.27	<0.5	<0.5	<0.5	<0.5	<0.5
	6/28/2002	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	9/11/2002	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12/16/2002	<50	<0.5	0.65	3.0	7.53	0.8	<0.5	<0.5	<0.5	<0.5
	3/28/2003	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6/24/2003	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	9/26/2003	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12/16/2003	<50	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5
	4/6/2004	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6/23/2004	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	9/15/2004	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12/16/2004	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	3/22/2005	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6/24/2005	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	9/12/2005	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12/2/2005	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	3/2/2006	<50	0.74	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6/15/2006	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	9/14/2006	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1/11/2007	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4/9/2007	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
9/17/2007	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
12/19/2007	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
3/11/2008	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
6/10/2008	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
9/9/2008	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
12/2/2008	<50	0.56	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-11	12/3/2001	1,600	470	<0.5	3.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	3/25/2002	130	11	20	3.3	14.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6/28/2002	<50	7.7	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
	9/11/2002	120	66	<0.5	0.74	<0.5	<0.5	<0.5	0.6	<0.5	<0.5
	12/16/2002	160	42	0.89	4.8	11.1	3.6	<0.5	1.1	<0.5	<0.5
	3/28/2003	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6/24/2003	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	9/26/2003	<50	1.2	0.69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12/16/2003	91	4.7	<0.5	<0.5	0.51	2.9	<0.5	0.9	0.6	<0.5
	4/6/2004	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6/23/2004	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	9/15/2004	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12/16/2004	<50	1.3	<0.5	<0.5	0.59	<0.5	<0.5	<0.5	<0.5	<0.5
	3/22/2005	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6/24/2005	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	9/13/2005	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12/2/2005	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	3/2/2006	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6/15/2006	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	9/14/2006	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1/11/2007	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4/9/2007	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
9/17/2007	Not Sampled										

APPENDIX C



HISTORICAL GROUNDWATER ANALYTICAL RESULTS  
 FORMER LEMOINE SAUSAGE FACTORY  
 630 29TH AVENUE  
 OAKLAND, CALIFORNIA

Well Location	Date Sampled	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	TCE (ug/L)	1,2-DCA (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
MW-11	12/19/2007	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	3/11/2008	52 Y	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6/10/2008	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	9/9/2008	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12/2/2008	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-12	6/28/2002	71	<0.5	<0.5	<0.5	<0.5	170	<0.5	42	47	0.9
	9/11/2002	89	<0.5	<0.5	<0.5	<0.5	180	<0.5	46	51	0.9
	12/16/2002	130	<0.5	0.9	4.2	9.9	200	<0.5	57	60	0.9
	3/28/2003	110	<0.5	<0.5	<0.5	<0.5	190	<0.7	53	53	0.9
	6/24/2003	140	<0.5	<0.5	<0.5	<0.5	220	<1.0	58	66	<1.0
	9/26/2003	230	2.9	1.1	3.8	6.71	210	<0.7	60	63	<0.7
	12/16/2003	120	<0.5	<0.5	<0.5	0.65	140	<0.5	44	44	<0.5
	4/6/2004	76	<0.5	<0.5	<0.5	<0.5	160	<0.5	49	54	<0.5
	6/23/2004	99	<0.5	<0.5	<0.5	<0.5	200	<0.5	65	74	<0.5
	9/15/2004	130	<0.5	<0.5	<0.5	<0.5	290	<1.7	73	83	<1.7
	12/16/2004	110	0.94	<0.5	<0.5	<0.5	240	<2.0	80	77	<2.0
	3/22/2005	61	<0.5	<0.5	<0.5	<0.5	95	<0.5	26	42	<0.5
	6/24/2005	59	<0.5	<0.5	<0.5	<0.5	120	<1.0	31	39	<1.0
	9/12/2005	64	<0.5	<0.5	<0.5	<0.5	130	<0.7	34	42	<0.7
	12/2/2005	80 Y,Z	<0.5	<0.5	<0.5	<0.5	170	<1.0	43	49	<1.0
	3/2/2006	54 Y,Z	<0.5	<0.5	<0.5	<0.5	84	<0.8	27	31	<0.8
	6/15/2006	58 Y,Z	<0.5	<0.5	<0.5	<0.5	99	<0.5	30	38	<0.5
	9/14/2006	81 Y,Z	<0.5	<0.5	<0.5	<0.5	110	<1.0	41	47	<1.0
	1/11/2007	76 Y,Z	<0.5	<0.5	<0.5	<0.5	140	<1.0	47	53	<1.0
	4/9/2007	70 Y,Z	1.4	<0.5	<0.5	<0.5	130	<1.0	43	48	<1.0
	9/17/2007	84 L,Y	<0.5	<0.5	<0.5	<0.5	160	<1.0	61	63	<1.0
	12/19/2007	68 Y	<0.5	<0.5	<0.5	<0.5	140	<0.7	55	57	<0.7
	3/11/2008	72 Y	<0.5	<0.5	<0.5	<0.5	90	<0.7	29	32	<0.7
6/10/2008	63 Y	<0.5	<0.5	<0.5	<0.5	110	<0.7	44	44	<0.7	
9/9/2008	89 Y,Z	1.2	<0.5	<0.5	<0.5	140	<0.7	60	59	<0.7	
12/2/2008	65 Y	0.53	<0.5	<0.5	<0.5	98	<0.5	54	58	<0.5	
MW-13	6/28/2002	5,600	120	55	130	9.5	61	<0.5	430	14	4.4
	9/11/2002	4,500	58	7.5	150	14	63	<0.5	410	13	<1.3
	12/16/2002	4,800	90	<0.5	85	24	76	<0.5	250	9.4	1.8
	3/28/2003	4,400	55	<0.5	51	14.3	85	<0.5	150	13	1.8
	6/24/2003	8,300	100	<0.5	94	12	68	<1.0	250	19	4.2
	9/26/2003	7,200	150	<1.0	89	57	51	<1.0	270	23	5.1
	12/16/2003	8,100	120	36	72	26.6	66	<0.7	240	23	10
	4/6/2004	3,300	22	<1.0	37	9.0	90	<0.5	190	23	8
	6/23/2004	7,000	140	25	88	21	53	<2.0	350	31	25
	9/15/2004	6,700	84	<1.0	78	7.2	37	<1.7	300	40	31
	12/16/2004	4,300	61	<0.5	44	11.5	69	<2.0	240	32	15
	3/22/2005	3,000	24	<0.5	20	7.6	72	<0.5	120	23	6.6
	6/24/2005	2,600	63	<0.5	25	4.3	42	<1.0	150	36	16
	9/12/2005	2,500	20 C	<0.5	33	6.7 c	25	<1.3	170	38	22
	12/2/2005	4,200 Y	70 C	<0.5	21 C	15.5 C	17	<1.3	140	40	24
	3/2/2006	3,200 L,Y	67 C	<0.5	27	5.19 C	43	<0.8	110	32	16
	6/15/2006	3,400	92 C	<0.5	26	3.4 C	43	<0.8	120	39	18
	9/14/2006	2,000	<0.5	<0.5	64 C	38 C	15	<0.8	93	45	17
	1/11/2007	25,000 Y	44	<5.0	160	69 C	24	<0.8	87	45	11
	4/9/2007	5,800 Y	42 C	<5.0	41	21.2 C	34	<0.8	82	43	14
	9/17/2007	3,800 L	52 C	4.0	25	8.2 C	11	<0.8	56	65	11
	12/19/2007	8,400	<0.5	<0.5	41	23.2 C	21	<0.5	77	61	10
	3/11/2008	6,300 Y	<0.5	<0.5	59	8.8 C	22	<1.0	49	41	7.4
6/10/2008	7,000	87 C	<0.5	37	9.0 C	9.5	<1.0	31	51	4.7	

APPENDIX C



HISTORICAL GROUNDWATER ANALYTICAL RESULTS  
 FORMER LEMOINE SAUSAGE FACTORY  
 630 29TH AVENUE  
 OAKLAND, CALIFORNIA

Well Location	Date Sampled	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	TCE (ug/L)	1,2-DCA (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
MW-13	9/9/2008	4,300	29 C	<0.5	41	9.5 C	17	<0.5	52	<0.5	6.5
	12/2/2008	3,200	55 C	<0.5	27	13.2	16	<0.5	51	63	5.8
<b>CDPH MCL</b>		-	1	150	300	1,750	5	0.5	6	10	0.5

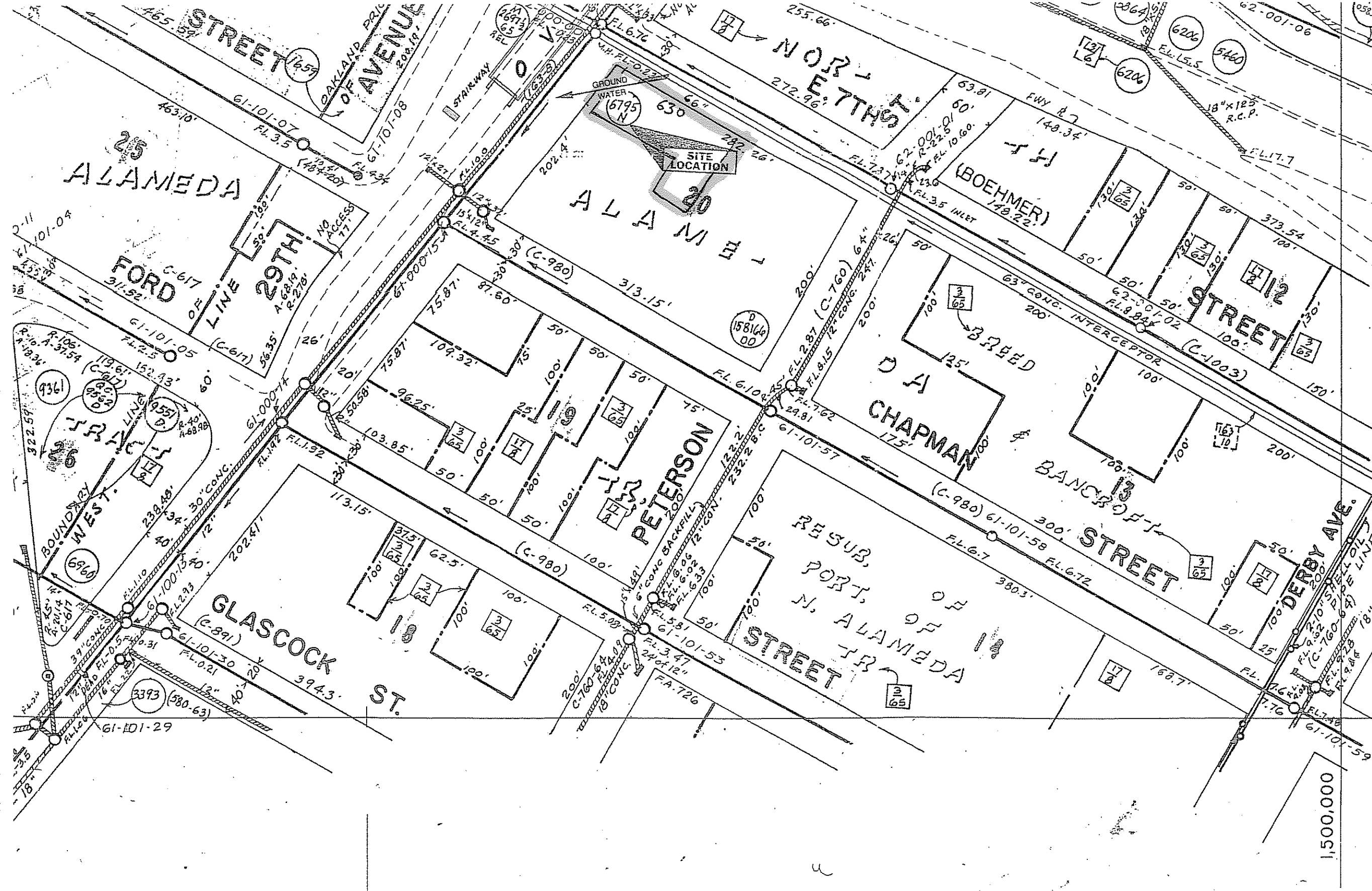
**Notes:**

1. Results are reported in micrograms per liter (µg/L).
2. NA refers to Not Analyzed.
3. TPH-g refers to Total Petroleum Hydrocarbons as Gasoline.
4. TCE refers to Trichloroethene.
5. trans-1,2-DCE refers to trans-1,2-dichloroethene.
6. cis-1,2-DCE refers to cis-1,2-dichloroethene.
7. VC refers to vinyl chloride.
8. 1,2-DCA refers to 1,2-dichloroethane.
9. Y = Sample exhibits chromatographic pattern which does not resemble standard.
10. Z = Sample exhibits unknown single peak or peaks.
11. C = Presence confirmed, but RPD between columns exceed 40%.
12. L = Lighter hydrocarbons contributed to the quantitation.
13. CDPH MCL refers to California Department of Public Health Maximum Contaminant Level.




**APPENDIX D**  
**UNDERGROUND UTILITY LOCATIONS**








NORTH





**LEGEND**


SANITARY SEWER 


STORM CONDUIT 


FLOW MONITOR 


MANHOLE 

LAMP HOLE 

CLEAN OUT 

INLET 

DEED REFERENCE 

MAP REFERENCE 

1497 B 468