



August 22, 2000

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ASSESSMENT
SECTION

FINAL REPORT
for an
ASSESSMENT OF LEAD IN SOIL
at
Former Clawson School
3420 Peralta Street
Oakland, CA 94608

Submitted by:
AQUA SCIENCE ENGINEERS, INC.
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Danville, California 94525
(925) 820-9391

1.0 INTRODUCTION

This report details Aqua Science Engineers, Inc. (ASE)'s methods and findings of a soil assessment performed on a portion of the former Clawson School property located at 3420 Peralta Street in Oakland, California (Figure 1). The site assessment activities were initiated by Ms. Betsey Costello of Fox Point, Ltd., a prospective purchaser of a portion of the subject site.

2.0 BACKGROUND INFORMATION

March 1996

Elevated lead concentrations (up to 500 parts per million (ppm)) were detected in shallow soil at the site by previous consultants (see ACC Environmental Consultants (ACC) Phase II Report dated March 1996), see Figure 2. The lead contamination was identified, for the most part, west of the main school building in the shallow, exposed soil. The lead contamination was attributed to lead-based paint used for decades on the building.

January 1998

ASE prepared a workplan for a more-defined assessment of the lead-contaminated soil identified by ACC west of the main school building. Based on information provided to ASE from the ACHCSA at that time, a cleanup level of 320 ppm was set as a cleanup goal for the site. The workplan was subsequently approved by the ACHCSA.

Also in January 1998, ASE drilled twenty (20) shallow borings on 25-foot centers using a Geoprobe for the collection of soil samples ranging from depths of 6-inches below ground surface (bgs) to 36-inches bgs, see Figure 3. The results of this investigation identified an area totaling an estimated 160 cubic yards of lead-bearing soil with concentrations exceeding 320 ppm total lead. See the ASE Assessment Report dated February 25, 1998.

March 1998

ASE prepared a workplan for the overexcavation and off-site removal of the lead-bearing soil identified in the area west of the main school building. The workplan scoped out the methods of excavation, stockpiling, confirmation soil sample collection, analyses, and eventual loading and off-site disposal of the affected soil. This workplan was subsequently approved by the ACHCSA.

May and June 1998

ASE overexcavated approximately 200 cubic yards of soil from the area west of the main school building. Confirmation samples verified that all of the lead-bearing soil above 320 ppm total lead had been removed, see Figure 4.

Also in May and June 1998, the stockpiled soil was sampled on several occasions to determine its total, WET, and TCLP lead concentrations. The results indicated that the soil contained California hazardous characteristics, and would require out-of-state disposal.

July 1998

On July 22, 1998, the stockpiled soil, weighing 236.98 tons, was transported by Roger's Trucking, US EPA ID number CAD 046824910, to the East Carbon Development Company (ECDC) facility at the Pier 96 Railyard in San Francisco, California, where it was transferred onto Union Pacific Railroad cars for disposal at ECDC's Landfill in East Carbon, Utah, US EPA ID number UTC093012201.

September 1998

ASE prepared its Final Report, dated September 10, 1998, detailing all of our on-site activities as they related to the lead-contaminated soil west of the main school building.

Early 1999

The ACHCSA and RWQCB issued a No Further Action Letter for the site.

3.0 SCOPE OF WORK (SOW)

The 1996 ACC assessment identified an area of subsurface soil containing 410 ppm total lead at 6-inches bgs south of the main school building, beneath an asphalt surface, see boring (S23) on Figure 2. ASE's work in 1998 did not address this area because this portion of the property was not intended for use for anything other than parking. At this point in time, our client, Fox Point, Ltd. has proposed purchasing the property for redevelopment as a residential community. Therefore, ASE recommended to our client that the area previously identified by ACC be more-definitively assessed and remediated, if necessary, to meet the site cleanup goal of 320 ppm total lead, see Figure 5. ASE's scope of work for this project was to complete the following:

- 1) Prepare a workplan and site specific health and safety plan for approval by Ms. Susan Hugo of the Alameda County Health Care Services Agency (ACHCSA).
- 2) Using a hand auger, drill five soil borings to a depth of 24-inches below grade in the immediate vicinity of boring S23. One of the five borings will be drilled within 2-feet of S23; the other four will be drilled approximately 25-feet from S23 in the north, south, east and west directions.
- 3) Collect soil samples continuously as drilling progresses for chemical analysis. Soil samples from 8-inches, 16-inches, and 24-inches below grade will be sealed for potential analyses.
- 4) At a minimum, two soil samples from each boring (the 2 shallowest) will be analyzed at a CAL-EPA certified environmental laboratory for total lead by EPA Method 6010B. The deeper soil samples will be placed on HOLD at the laboratory. If the shallow samples show total lead concentrations exceeding 320 ppm, then the next deeper sample will be analyzed.
- 5) Backfill the borings with neat cement.
- 6) Prepare a report detailing the methods and findings of the assessment activities. The report will include tabulated analytical results, drawings, and recommendations for remediation as necessary.

Details of the assessment are presented below.

4.0 DRILL SOIL BORINGS AND COLLECT SAMPLES

On August 14, 2000, ASE project engineer David Allen drilled five (5) soil borings at the site (BH-A through BH-E) using a hand auger (Figure 5). These borings were drilled surrounding former ACC boring S23 where 410 ppm total lead was previously identified at 6-inches bgs. Soil samples were collected continuously as drilling progressed for possible chemical analysis. The samples were collected by hand-driving a sampler lined with brass tubes. Soil samples from 6 or 8-inches, 16-inches and 24-inches bgs were trimmed, sealed with Teflon tape, plastic end caps and duct tape, labeled, sealed in plastic bags and stored on ice for transport to Chromalab, Inc. of Pleasanton, California (ELAP #1094) under chain of custody.

Drilling equipment was cleaned with a TSP solution between sampling intervals and between borings to prevent potential cross-contamination.

From just below the asphalt and base rock surface, sediments encountered during drilling generally consisted of dark brown/black silty clay from the surface to the total depth explored of 24-inches bgs. Groundwater was not encountered in any of the borings. Due to the shallow nature of the drilling, boring logs were not prepared for each individual boring.

5.0 ANALYTICAL RESULTS FOR SOIL

Soil samples collected during this assessment were analyzed by Chromalab for total lead by EPA Method 6010B.

Shallow Soil Samples

The soil samples collected from BH-A at 6-inches bgs and BH-B through BH-E at 8-inches bgs contained total lead at concentrations ranging from 77 ppm to 170 ppm.

Mid-Depth Soil Samples

The soil samples collected at 16-inches bgs in all five borings contained total lead at concentrations ranging from 6.4 ppm to 320 ppm. The lead concentrations of 320 ppm were identified in borings BH-A and BH-D.

Deep Soil Samples

Since borings BH-A and BH-D contained total lead concentrations at the pre-established cleanup goal of 320 ppm, ASE had the 24-inch bgs soil sample from these two borings analyzed. Soil sample BH-A, 24" contained 300 ppm total lead. Soil sample BH-D, 24" contained 240 ppm total lead.

The analytical results are tabulated in Table One, and the certified analytical report and chain of custody forms are included in Appendix A.

6.0 CONCLUSIONS AND RECOMMENDATIONS

A total of twelve soil samples were analyzed for total lead during this assessment to define the extent of elevated lead concentrations in the immediate vicinity of ACC soil boring S23. None of the twelve samples contained lead concentrations exceeding the pre-established cleanup goal of 320 ppm total lead. Although two soil samples contained 320 ppm total lead, the deeper soil samples in those two borings contained only 300 and 240 ppm total lead.

ASE recommends no further assessment activities related to this issue. Since the total lead analytical results for this assessment were at or below the pre-established cleanup goal of 320 ppm for the entire site (see ACHCSA letter dated March 24, 1998 to Clawson Project Associates), and the US EPA Region IX preliminary remediation goal (PRG) for total lead in a residential scenario is 400 ppm, ASE believes this area of concern is suitable for residential development and usage.

Since this portion of the property is currently in negotiation for sale, ASE and our client, Fox Point, Ltd., respectfully request a written response as soon as possible releasing this portion of the property from further assessment or remediation activities related to the historical lead contamination.

7.0 REPORT LIMITATIONS

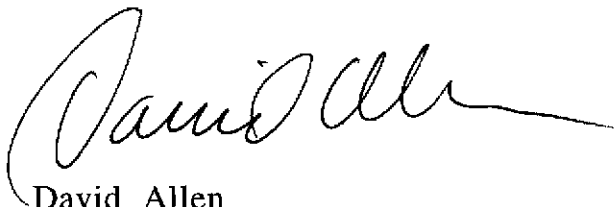
The results of this assessment represent conditions at the time of the soil sampling, at the specific locations where the samples were collected, and for the specific parameters analyzed by the laboratory.

This report does not fully characterize the site for contamination resulting from unknown sources or for parameters not analyzed by the laboratory. All of the laboratory work cited in this report was prepared under the direction of an independent CAL-EPA certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

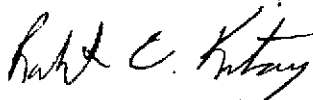
Should you have any questions or comments, please call us at (510) 820-9391.

Respectfully submitted,

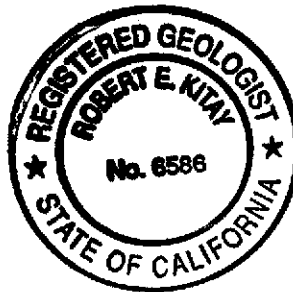
AQUA SCIENCE ENGINEERS, INC.



David Allen
Senior Project Manager



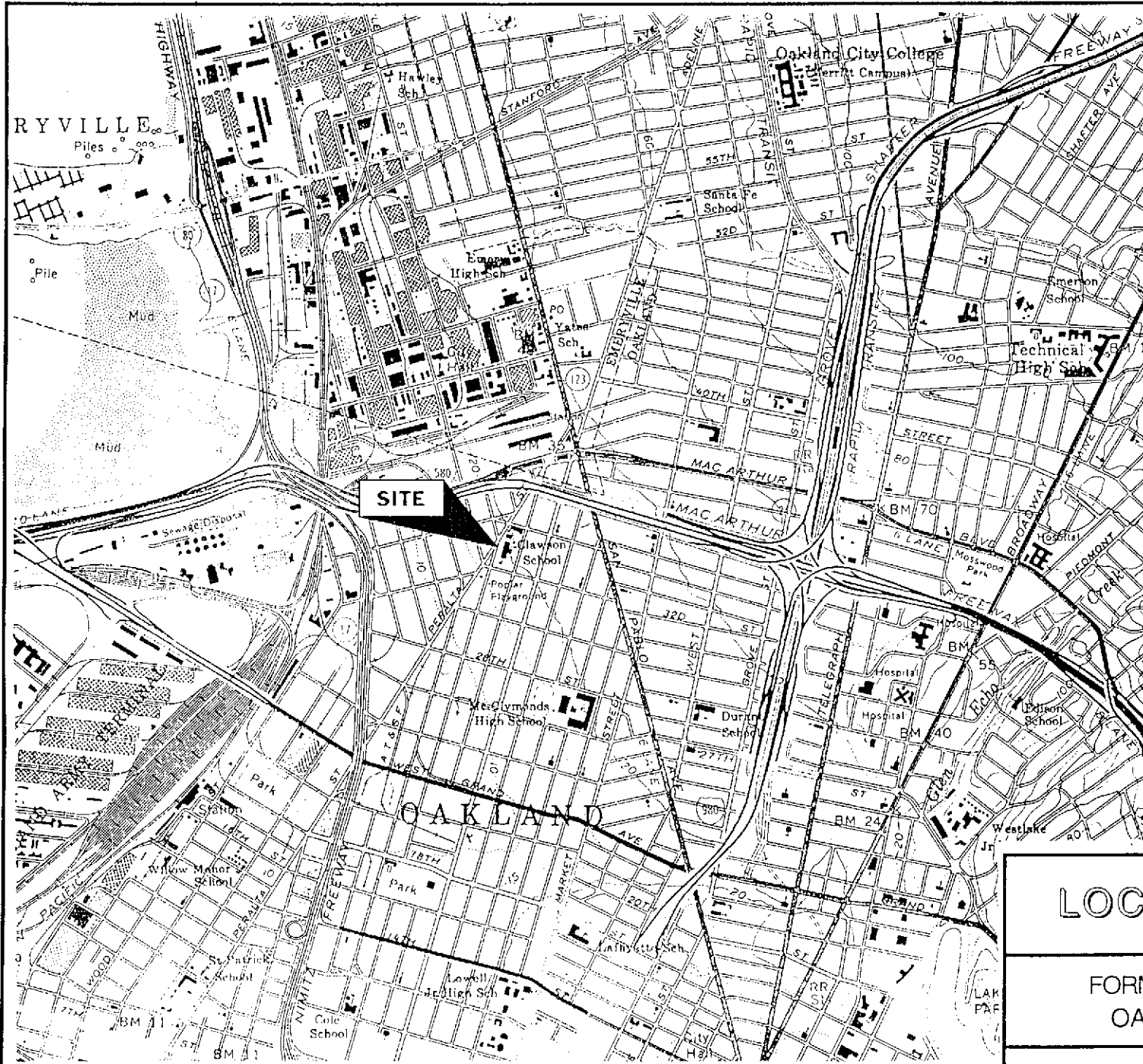
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Senior Geologist



cc: Ms. Betsey Costello, Fox Point, Ltd., 9 Redfield Alley, San Francisco, CA 94133

Ms. Susan Hugo, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502-6577

California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, CA 94612



NORTH

LOCATION MAP

FORMER CLAWSON SCHOOL
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

Figure 1

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PHASE II ENVIRONMENTAL SITE INVESTIGATION REPORT

**Former Clawson School
3420 Peralta Street
Oakland, California**

ACC Job No. 96-6287-2.1

Prepared for:

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March 1996

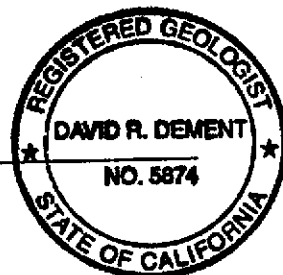
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Prepared by:

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EXECUTIVE SUMMARY

This report presents the procedures and findings of the soil investigation conducted by ACC Environmental Consultants, Inc., (ACC) for the property known as the Former Clawson School, located at 3420 Peralta Street, Oakland, California (Figure 1). The project objective was to investigate existing conditions at the site to further evaluate subsurface impact from previous site usage.

In accordance with the signed proposal dated March 12, 1996, ACC performed the following scope of work: developed and sampled the existing three groundwater monitoring wells; sampled the existing stockpiled soil; and collected soil samples from a shallow depth throughout the site to evaluate lead content.

In 1993, the 2,500-gallon heating oil tank was removed. Soil samples collected from the excavation indicated up to 420 mg/kg total petroleum hydrocarbons as diesel (TPHd). A total of 130 cubic yards of soil was removed from the excavation and stockpiled on site. Currently, the former tank excavation is open and the stockpiled soil remains on the site.

The three existing groundwater monitoring wells have not been sampled since June 1991. To evaluate groundwater conditions at the property and determine whether additional investigation is warranted with regards to the former heating oil tank, the wells were surveyed and sampled. Analytical results of the groundwater samples collected from the wells indicated low to nondetectable concentrations of petroleum hydrocarbons and lead.

Eight samples were collected from stockpiled soil and composited into two samples for analysis. Laboratory results indicated low to nondetectable concentrations of TPHd, benzene, toluene, ethylbenzene, and total xylenes, and total lead in the stockpiled material. Based on these results, ACC proposes to use the existing stockpiled material as backfill for the excavation.

Shallow soil samples were collected throughout the site to evaluate the extent of total lead in the soil. Laboratory results indicate that concentrations of lead in the soil are within California Title 22 Total Threshold Limit Concentrations for lead. The 95% and 90% upper confidence limits (UCL) were calculated for the lead sample results. Results of the calculations indicated that there is a 95% confidence that additional soil samples collected on site will contain lead in concentrations less than 34 mg/kg. This concentration has been determined by Alameda County Health Care Services Agency to pose no significant human health risk.

According to the Environmental Protection Agency (EPA), Region IX Preliminary Remediation Goals, lead concentrations in soil should not exceed 400 mg/kg in residential settings or 1,000 mg/kg in industrial settings. Lead concentrations in borings S23, S24, S25 exceeded the EPA's acceptable levels for residential settings. These three areas may require remediation or further investigation to avoid land use restrictions.

PHASE II ENVIRONMENTAL SITE INVESTIGATION REPORT

Former Clawson School
3420 Peralta Street
Oakland, California

1.0 INTRODUCTION

This report presents the procedures and findings of the soil investigation conducted by ACC Environmental Consultants, Inc., (ACC) for the property known as the Former Clawson School located at 3420 Peralta Street, Oakland, California (Figure 1). The project objective was to investigate existing conditions to further evaluate subsurface impact from previous site usage.

1.1 Scope of Work

In accordance with the signed proposal dated March 12, 1996, ACC was contracted to further evaluate groundwater impact from previous underground storage of petroleum hydrocarbons, evaluate the existing stockpiled soil, and collect shallow soil samples throughout the site to evaluate lead impact.

2.0 BACKGROUND

2.1 Site Description

The site is located at 3420 Peralta Street and 3315 Magnolia Street in Oakland, California. The site is relatively level, measures approximately 250 feet by 500 feet, and comprises approximately 2.8 acres. It is bordered by Peralta and Union Streets to the west, 32nd Street to the south, Magnolia Street to the east, and residences to the north. The site surface elevation is approximately 20 feet above mean sea level (MSL).

The site consists of a three-story building and three one-story buildings located along the northern edge of the property. The southern and western portions of the property consist of an asphalt-paved playground. Groundwater occurs at the site at a depth of approximately 7 feet below ground surface (bgs).

2.2 Site History

Based on previous investigations performed at the site, the property has been used as a school since 1878. In 1878, a four-room school known as Watts Tract School opened. The school was later renamed as Clawson School in 1882. During this time, the school occupied the area adjacent to Magnolia Street. The rest of the site was occupied by residences. Additions were added to the school by 1911. The entire school was destroyed by fire in 1914. An 18-room school building was constructed to replace the destroyed structure. By 1941, Clawson School was expanded to its current size. The Clawson School building remained in use until the 1970s.

2.2.1 Previous Site Investigation

In June 1991, Subsurface Consultants, Inc., (Subsurface) conducted a preliminary site assessment on the property. During the investigation, a 2,500-gallon, underground heating oil tank was discovered on the site. Borings were drilled adjacent to the tank, and three groundwater monitoring wells were installed. In addition, 10 shallow borings were drilled within the landscaped areas west of the school building to evaluate the near surface soils for lead and fire related contaminants, including polynuclear aromatic hydrocarbons (PNA). The boring and well locations are illustrated on Figure 2.

Laboratory analytical results of soil samples collected adjacent to the underground tank indicated up to 1,100 mg/kg of total petroleum hydrocarbons as diesel (TPHd). No detectable concentrations of TPHd were reported in groundwater samples collected from the monitoring wells. Low detectable concentrations of toluene (up to 3 $\mu\text{g/L}$) were reported in the groundwater samples collected from each well.

Laboratory results indicated up to 347 mg/kg total lead and soluble lead concentrations up to 12.5 mg/L. Laboratory results indicated PNA concentrations up to 0.2 mg/kg. The reported PNA concentrations were within acceptable levels. Background or typical lead concentrations for the region, according to the United States Geological Survey Professional Paper 1270, are from 30 to 300 mg/kg total lead (Shacklett, H.T. and Boerngen, J.G., 1984). The California Code of Regulations, Title 26, Division 22 defines the total threshold limit concentration (TTLC) and the soluble threshold limit concentration (STLC) values for lead as 1,000 mg/kg and 5.0 mg/L, respectively. Based on Title 26, the reported soluble lead level within the soil meets the criteria for classification as a hazardous waste when transported. However, a majority of samples collected on site indicated total lead levels within acceptable concentrations. *Hagen*

In April 1993, the heating oil tank was removed by Applied Geotechnology, Inc. The tank excavation was overexcavated, and approximately 130 cubic yards of material were removed during the work. Laboratory analysis of soil samples collected from the tank excavation indicated concentrations up to 430 mg/kg TPHd. Results of soil samples collected from the stockpiled material indicated concentrations up to 4,200 mg/kg TPHd.

Based on the preliminary investigation and underground storage tank (UST) closure, additional investigation was recommended to evaluate the soil and groundwater impact from the former UST and elevated concentrations of lead in the soil.

2.3 Geology and Hydrogeology

The site is located within a lowland area on an alluvial plain, approximately 0.67 mile east of the San Francisco Bay. The site is underlain by the Temescal formation (Radbruch, 1969), which consists of alluvial fan deposits comprising of interfingering lenses of clayey sand, and sand-clay-silt mixtures. The formation is reportedly 5 to 60 feet thick and covers most of the surface

between the Berkeley Hills and the San Francisco Bay. Soil at the site reportedly consist of clays and clayey sands overlying fill material of sandy clay. During well installation, Subsurface reported encountering groundwater at a depth of approximately 14 to 16 feet bgs. Groundwater reportedly flows west (Subsurface, 1991).

3.0 FIELD PROCEDURES

3.1 Summary of Activities

Based on the proposed scope of work, the investigation included evaluating three areas of concern: 1) groundwater impact from previous underground storage of petroleum hydrocarbons; 2) existing stockpiled soil; and 3) lead concentrations in soil throughout the site.

3.2 Groundwater Monitoring and Sampling

Elevations for the onsite monitoring wells were surveyed by Ron Archer Civil Engineer, Inc., to an accuracy of 0.01 foot. The well elevations were surveyed at the top of the polyvinyl chloride (PVC) well casing relative to MSL from a nearby benchmark. A copy of the surveyor's elevations and plot plan are included as Appendix 1.

Groundwater samples were collected from three onsite monitoring wells (MW-1, MW-2, and MW-3) on March 13, 1996. Work at the site included measuring depth to water, subjectively evaluating groundwater in the wells, and purging and sampling the wells for laboratory analysis. Information regarding well elevations and groundwater level measurements is summarized in Table 1.

TABLE 1 - GROUNDWATER DEPTH INFORMATION

Well No.	Date Sampled	Well Elevation* (above MSL)	Depth to Groundwater	Groundwater Elevation
MW-1	03/13/96	17.52	6.16	11.36
MW-2	03/13/96	17.76	7.21	10.55
MW-3	03/13/96	19.72	7.32	12.40

Notes: All measurements in feet
MSL = Mean sea level
*Well elevation measured to top of casing

After water level measurements were collected, each onsite well was purged by hand using a designated disposable Teflon® bailer. Groundwater pH, temperature, and electrical conductivity were monitored during well purging. Each well was considered to be purged when these

parameters stabilized. Three to four well volumes were removed to purge each well. The worksheet of conditions monitored during purging is attached in Appendix 2.

After the groundwater level had recovered to a minimum of approximately 80 percent of its static level, water samples were obtained for analysis. Wells were sampled using a clean, disposable polyethylene bailer attached to new, clean string. From each monitoring well, laboratory supplied sample vials and bottles were filled to overflowing and sealed so that not air was trapped in the vial or bottle. Once filled, vials were inverted and tapped to test for air bubbles. Two 40 milliliter VOA vials, without headspace, and 1-liter amber bottles were filled from the water collected from each monitoring well.

The samples were preserved on ice and submitted to Chromalab, Inc., under chain of custody protocol. Laboratory results with chain of custody forms for groundwater analyses are included as Appendix 3. A summary of the results is presented in Table 2.

3.3 Stockpile Soil Sampling

On March 13, 1996, soil samples were collected from the 130 cubic yards of stockpiled material. A total of eight soil samples was collected and submitted to Chromalab, Inc., for compositing into two samples (SP-1,2,3,4 and SP-5,6,7,8) for analysis of TPHd by EPA Method 8015 Modified, benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8020, and total lead by EPA Method 3050A/7420. Sample results indicated non-detectable concentrations of TPHd and BTEX. The laboratory reported hydrocarbon concentrations in the diesel range up to 94 mg/kg. Laboratory results indicated up to 20 mg/kg total lead. A copy of the laboratory results is attached in Appendix 3. Based on the sample results, ACC proposes to use the stockpiled material as backfill for the existing excavation.

3.4 Lead Impact Study

On March 14, 1996, 25 shallow borings (S1 through S25) were drilled throughout the school grounds to evaluate potential lead impact in the shallow subsurface soil. Boring locations were chosen based on review of previous investigation work and ACC's site reconnaissance. The sample locations are illustrated on Figures 2 and 3.

The borings were drilled with the use of a Geoprobe® pneumatic-driven sampler equipped with a 2-foot-long clear acetate liner. Samples were collected by driving the sampler continuously 2 feet into undisturbed soil, starting from below the surface to a depth of 24 to 36 inches bgs. The liner was divided into two samples for analysis. Upon completion, the sample was retrieved, examined, measured, and cut into 6-inch-long sections. Each section was capped with Teflon® sheeting and plastic end caps, labeled with a unique sample number and pertinent sample information, placed in a plastic, resealable bag, and placed in a pre-chilled, insulated container pending transport to a state-certified laboratory. Two samples per boring were submitted for analysis of total lead by EPA Method 3050A/7420.

After collection, each sample was examined visually for obvious staining and the type of material encountered. Because the samples were considered to be mostly fill material, the encountered materials were described in general terms of the fill and soil description. A list of the soil type and depth of each sample within each boring is summarized in Table 3.

All sampling equipment was precleaned prior to use and between sample drives by washing with a trisodium phosphate solution, a potable water rinse, and distilled water rinse. Chain of custody records were initiated in the field by the geologist, updated throughout handling of the samples, and sent with the samples to the analytical laboratory.

4.0 FINDINGS

4.1 Groundwater Sample Results

4.1.1 Analytical Results - Groundwater

On March 13, 1996, one groundwater sample from each monitoring well was collected and submitted to Chromalab, Inc., for analysis of TPHd by EPA Method 8015 Modified, BTEX by EPA Method 8020, and total lead by EPA Method 6010. Analytical results from the groundwater samples are summarized in Table 2. Analytical results with chain of custody for groundwater samples are included in Appendix 3.

TABLE 2 - GROUNDWATER SAMPLE ANALYTICAL RESULTS

Well No.	Date Sampled	TPHd ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethylbenzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	Total Lead (mg/L)
MW-1	03/13/96	<54	<0.5	<0.5	<0.5	<0.5	<0.005
MW-2	03/13/96	<50	<0.5	<0.5	<0.5	<0.5	<0.005
MW-3	03/13/96	<50*	<0.5	<0.5	<0.5	<0.5	<0.005

Notes: $\mu\text{g/L}$ = micrograms per liter (approximately equivalent to parts per billion)

* Unidentified hydrocarbons within diesel range, quantified as 850 ppb, using diesel standard

4.1.2 Groundwater Gradient

The groundwater gradient was calculated using the onsite monitoring wells. The location of the wells and groundwater flow direction are shown on Figure 3. Groundwater elevations were calculated from data collected from the wells on March 13, 1996.

The gradient was evaluated by triangulation using the elevation of the potentiometric surface measured with respect to MSL datum. As shown in Figure 3, general direction of flow is west at a gradient of 0.013 foot/foot.

4.2 Soil Sample Collection

Soil samples were collected on March 14, 1996. Sample designations indicate the sample number and depth at which the sample was collected. The depths are reported as inches bgs. Soil description and corresponding analytical results are summarized in Table 3 and illustrated on Figure 4. The laboratory results with chain of custody record are included as Appendix 3.

TABLE 3 - SOIL SAMPLES

Boring No./ Sample Depth <i>inches</i>	Total Lead (mg/kg)	Description of Materials
S1-6	18	Approximately 3 inches of asphalt, above 3 inches of baserock. Below the baserock fill consisted of very dark brown silty clay with trace sand, which became slightly mottled with depth.
S1-20	<5.0	
S2-6	<5.0	2 to 3 inches of baserock below asphalt. Fill material consisted of black clay, very plastic, stiff, which became slightly mottled with depth.
S2-22	<5.0	
S3-6	<5.0	2 to 3 inches of baserock below asphalt. Fill material consisted of black clay, very plastic, stiff, which became slightly mottled with depth.
S3-24	<5.0	
S4-6	<5.0	1 to 2 inches of baserock below asphalt. Fill material consisted of black silty clay with trace sand. Mottling increased with depth.
S4-24	<5.0	
S5-6	<5.0	1 to 2 inches baserock below asphalt. Fill material consisted of black silty clay with few brick pieces, which graded into dark gray mottled silty clay.
S5-24	<5.0	
S6-6	<5.0	1 to 2 inches of baserock below asphalt. Fill material consisted of black silty clay with trace sand. Mottling increased with depth.
S6-24	<5.0	
S7-9	76	6 inches of baserock below asphalt. Fill material consisted of black sandy clay.
S7-24	7.6	

Boring No./ Sample Depth	Total Lead (mg/kg)	Description of Materials
S8-10	5.4	5 inches of no recovery, black sandy fill with organic matter.
S8-24	<5.0	
S9-6	59	3 inches of baserock below asphalt. Shallow fill material consisted of black clay.
S9-24	9.4	
S10-9	<5.0	Dark sandy clay fill material.
S10-24	<5.0	
S11-6	<5.0	1-2 inches of baserock below asphalt. Fill material consisted of black silty clay with trace sand. Mottling increased with depth.
S11-24	<5.0	
S12-6	<5.0	2 to 3 inches of baserock below asphalt. Fill material consisted of black clay, very plastic, stiff, which became slightly mottled with depth.
S12-24	<5.0	
S13-18	<5.0	No recovery to 18 inches bgs. Dark brown to black clay fill material encountered to 36 inches bgs.
S13-36	<5.0	
S14-9	15	6 inches baserock below asphalt. Black sandy clay fill material with organic debris and brick pieces.
S14-24	<5.0	
S15-7	17	Very dark brown silty clay with sand with organic debris and brick pieces.
S15-24	<5.0	
S16-6	120	Brown sandy clay with construction debris (brick, concrete), trace paint chips.
S16-24	<5.0	
S17-6	100	6 inches construction debris (brick, concrete, fill). Below, very dark brown to black silty clay with trace brick pieces.
S17-24	<5.0	
S18-6	<5.0	3 inches sand above black plastic clay.
S18-24	<5.0	
S19-6	<5.0	3 inches baserock above black clay with construction debris (brick, concrete), trace paint chips.
S19-24	<5.0	

Boring No./ Sample Depth	Total Lead (mg/kg)	Description of Materials
S20-6	39	6 inches brown sandy clay with brick pieces above clay with trace brick pieces and organic matter.
S20-24	< 5.0	
S21-6	28	2 inches baserock above black silty clay with trace brick pieces, few roots.
S21-24	5.8	
S22-6	6.7	2 inches dark brown sand with trace paint chips above brown clay with sand, few brick pieces.
S22-24	< 5.0	
S23-6	410	2 inches baserock above black silty clay with trace brick pieces, few roots.
S23-24	< 5.0	
S24-6	320	Dark brown silty clay with approximately 50% roots
S24-24	430	
S25-6	500	Brown clayey sand with roots grading into sandy clay with few brick pieces and organic debris.
S25-24	5.4	

4.3 Upper Confidence Limit Calculations

The 90% and 95% upper confidence limits (UCLs) were calculated for the lead sample results. The UCL calculations were made on the assumptions of a log-normal distribution of sample locations and that one-half of the limit of detection values for samples reported as "non-detect" would be used. The calculations included results from previous sampling and the current sampling. Summary of the calculations for the lead results is presented as Appendix 4. Results of the calculations indicated that there is a 95% confidence that additional soil samples collected on site will contain lead in concentrations less than 34 mg/kg. This concentration has been determined by Alameda County Health Care Services Agency (ACHCSA) to pose no significant human health risk.

5.0 DISCUSSION

Soil investigations conducted previously on site indicated elevated concentrations of petroleum hydrocarbons as diesel from a former underground heating oil storage tank. In addition, elevated concentrations of lead were reported in the shallow subsurface soil. ACC was contracted to further evaluate whether groundwater has been impacted from petroleum hydrocarbons and the extent of lead impact in the soil.

5.1 Groundwater Investigation

During previous investigations, three groundwater wells were installed on the property. The wells had not been sampled since 1991. To evaluate current groundwater conditions, ACC collected samples from the three wells. Laboratory results of the groundwater indicated nondetectable concentrations of TPHd, BTEX, and lead. The laboratory reported unknown hydrocarbons in the range of diesel at 850 ug/L in a sample collected from well MW-3 located within 5 feet downgradient to the tank excavation. The tank excavation is currently open and contains approximately 3.5 feet of water. The water within the excavation is likely surface runoff water from recent precipitation. The unknown hydrocarbons reported in the sample collected from well MW-3 are likely due to oily residues in the surface runoff water draining into the open excavation. To prevent additional impact to the shallow groundwater from impacted surface runoff, the existing excavation should be backfilled and capped.

5.2 Stockpiled Soil

Two composite soil samples were collected from the approximately 130 cubic yards of stockpiled soil on site. Sample results indicated nondetectable concentrations of TPHd and BTEX. Total lead concentrations were reported to be within acceptable levels and considered to be background levels. The laboratory reported detectable concentrations of petroleum hydrocarbons within the diesel range up to 94 mg/kg, which likely represents degraded diesel previously detected in the stockpiled soil. The minor concentrations of petroleum hydrocarbons reported in the stockpiled soil should not act as a hydrocarbon source. Therefore, recommendation for reuse of the soil as backfill material within the excavation should be made to ACHCSA.

5.3 Lead Impact Study

Previous investigation indicated elevated concentrations of lead in the shallow soil (less than 14 inches bgs) located west of the existing building. ACC performed additional shallow soil sampling throughout the site to evaluate the extent of lead in the soil and verify previous sample results. One sample was collected approximately every 60 square feet for a total of 50 soil samples collected and analyzed for total lead. Laboratory analysis of samples collected from three borings (S23, S24, and S25) exceeded 400 mg/kg lead which is the Environmental Protection Agency's (EPA), Region IX Preliminary Remediation Goal for lead concentrations in the soil for residential settings. The highest elevated lead concentrations were reported in samples located west, adjacent to the building, within the landscaped area. Previous samples collected 5 feet farther west of the building indicated concentrations of lead within EPA's Preliminary Remediation Goals. Therefore, the most elevated concentrations of lead in the soil appear to be isolated in the landscaped areas located adjacent to the existing building and may be more representative of lead paint debris within 12 inches in depth bgs. Additional samples collected within the western area of the site indicated concentrations of lead ranging from 12.5 mg/kg to 410 mg/kg which appear to be representative of natural geologic conditions in the soil.

Lead concentrations reported in shallow soil samples collected throughout the site were evaluated to determine the 95% and 90% UCLs. Results of the calculations indicate that there is a 95% confidence that additional soil samples collected on site will contain lead in concentrations less than 34 mg/kg which has been determined by ACHCSA to pose no significant human health risk. Within the exception of three areas of elevated lead concentrations, overall the concentrations of lead in the shallow soil on site appear to be representative of natural geologic conditions.

6.0 CONCLUSIONS

The data and observations discussed herein indicate that shallow soil and groundwater has been impacted from previous underground storage of petroleum fuel; however, these impacts are minor and below actionable levels. The unknown hydrocarbons reported in the sample collected from well MW-3 are likely due to hydrocarbon residues in shallow soils in contact with surface runoff water draining into the open excavation. Minor concentrations of dissolved hydrocarbons should naturally degrade with time.

The excavation should be backfilled and capped to prevent surface water infiltration. Currently, approximately 130 cubic yards of soil is stockpiled on site. ACC believes stockpiled soil on site is suitable for use as backfill material.

Shallow soil samples collected throughout the site indicate that concentrations of lead in the soil are within California Title 22 Total Threshold Limit Concentrations for lead. The 95% and 90% UCLs were calculated for the lead sample results. Results of the calculations indicated that there is a 95% confidence that additional soil samples collected on site will contain lead in concentrations less than 34 mg/kg.

According to EPA Region IX Preliminary Remediation Goals, lead concentrations in the soil should not exceed 400 mg/kg in residential settings or 1,000 mg/kg in industrial settings. Lead concentrations in borings S23, S24, S25 exceeded the EPA's acceptable levels for residential settings. Lead concentrations in soils in these three areas may require remediation or further investigation to avoid land use restrictions.

7.0 REFERENCES

Shacklett, H.T. and Boerngen, J.G., 1984, *Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States*, United States Geological Survey Professional Paper 1270.

Radbruch, Dorothy, H., 1957, *Aerial and Engineering Geology of the Oakland East Quadrangle, California*, United States Geological Survey Quadrangle Map I-239.

Subsurface Consultants, Inc., *Preliminary Environmental Assessment, Clawson School Site, 3420 Peralta and 3315 Magnolia Streets, Oakland, California, SCI 272.023*, September 27, 1991.

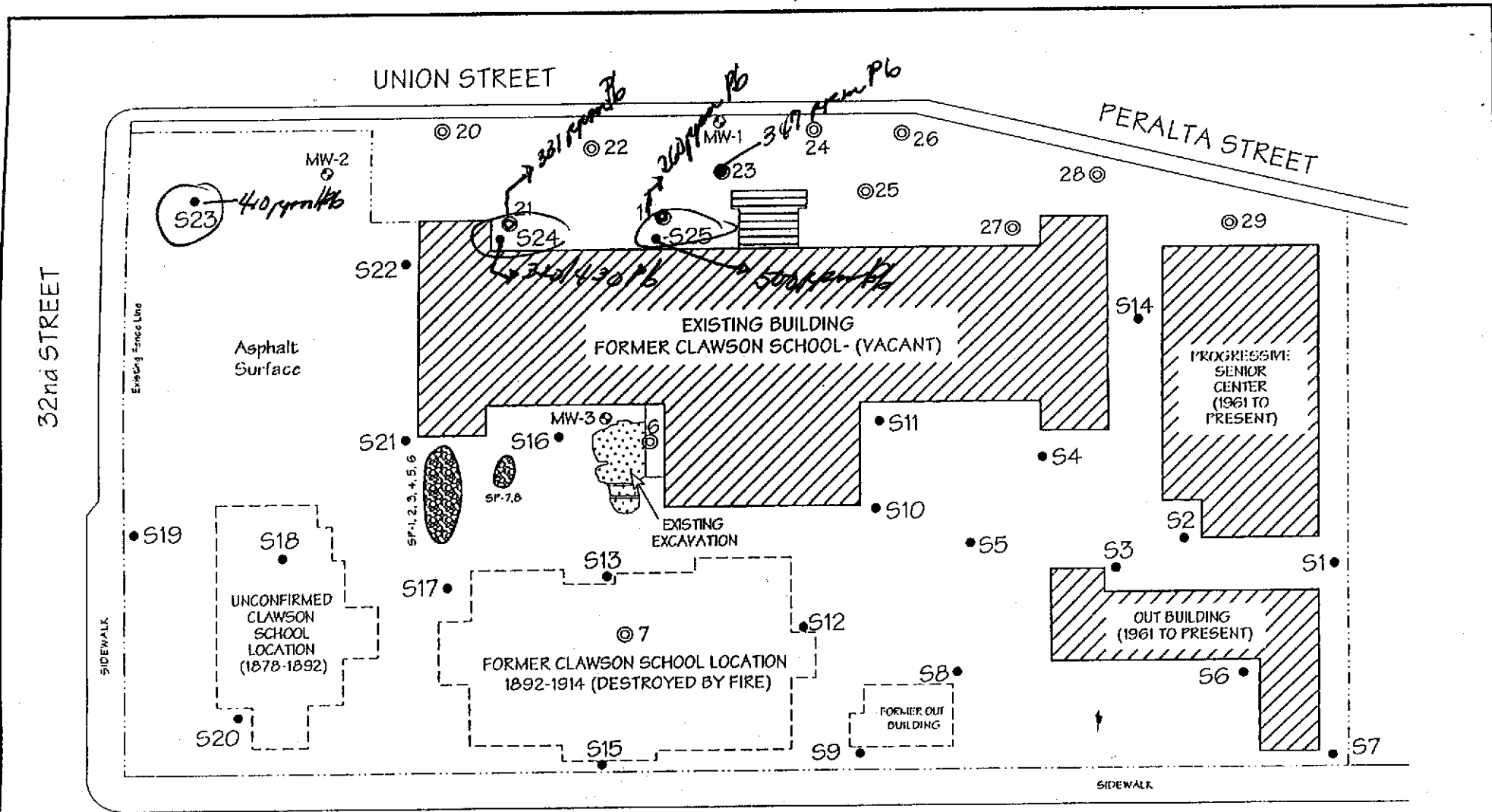
Applied Geotechnology, Inc., *UST Closure Report and Phase II Environmental Assessment, Clawson School, 3420 Peralta and 3315 Magnolia Streets, Oakland, California, AGI Project NO. 15,692.001*, August 11, 1993.

8.0 LIMITATIONS

The service performed by ACC has been conducted in a manner consistent with the levels of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area. No other warranty, expressed or implied, is made.

The conclusions presented in this report are professional opinions based on the indicated data described in this report and applicable regulations and guidelines currently in place. They are intended only for the purpose, site, and project indicated. Opinions and recommendations presented herein apply to site conditions existing at the time of our study.

ACC has included analytical results from a state-certified laboratory, which performs analyses according to procedures suggested by the U.S. Environmental Protection Agency and the State of California. ACC is not responsible for laboratory errors in procedure or result reporting.

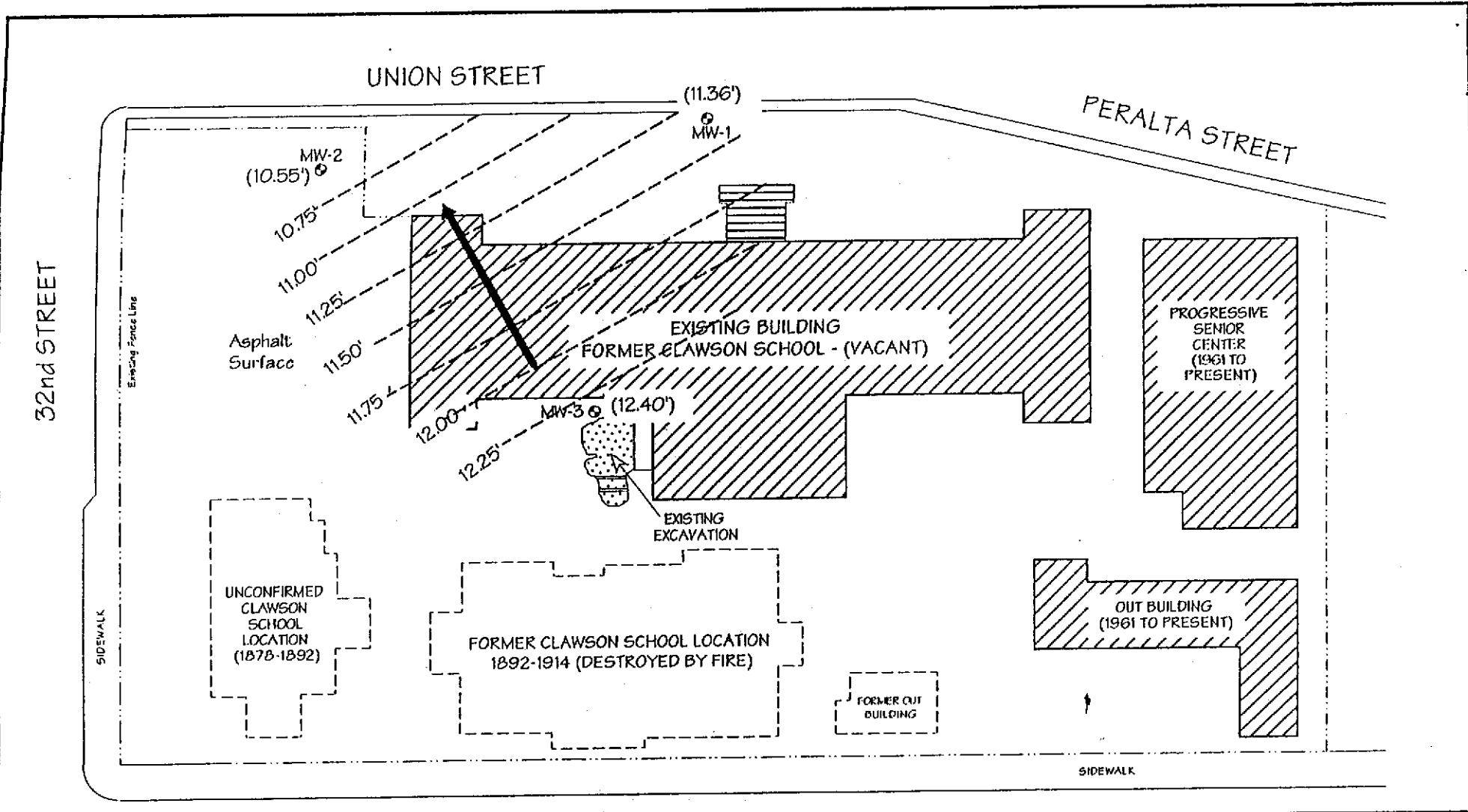


MAGNOLIA STREET

LEGEND

- MW-2 ● - Existing Groundwater Monitoring Well
- S15 ● - Soil Boring Location (March 14, 1996)
- 20 ⊙ - Previous Soil Boring Location to investigate lead
- - Existing Soil Stockpile

Title: Site Plan Clawson School Site Oakland, California	
Figure Number: 2.0	Scale: 1" = 60'
Drawn By: JYC / MCR	Date: 3/19/96
Project Number: 6287-2.1	
ACC Environmental Consultants 7977 Capwell Drive, Suite 100 Oakland, California 94621 (510) 638-8400 Fax: (510) 638-8404	



MAGNOLIA STREET

LEGEND

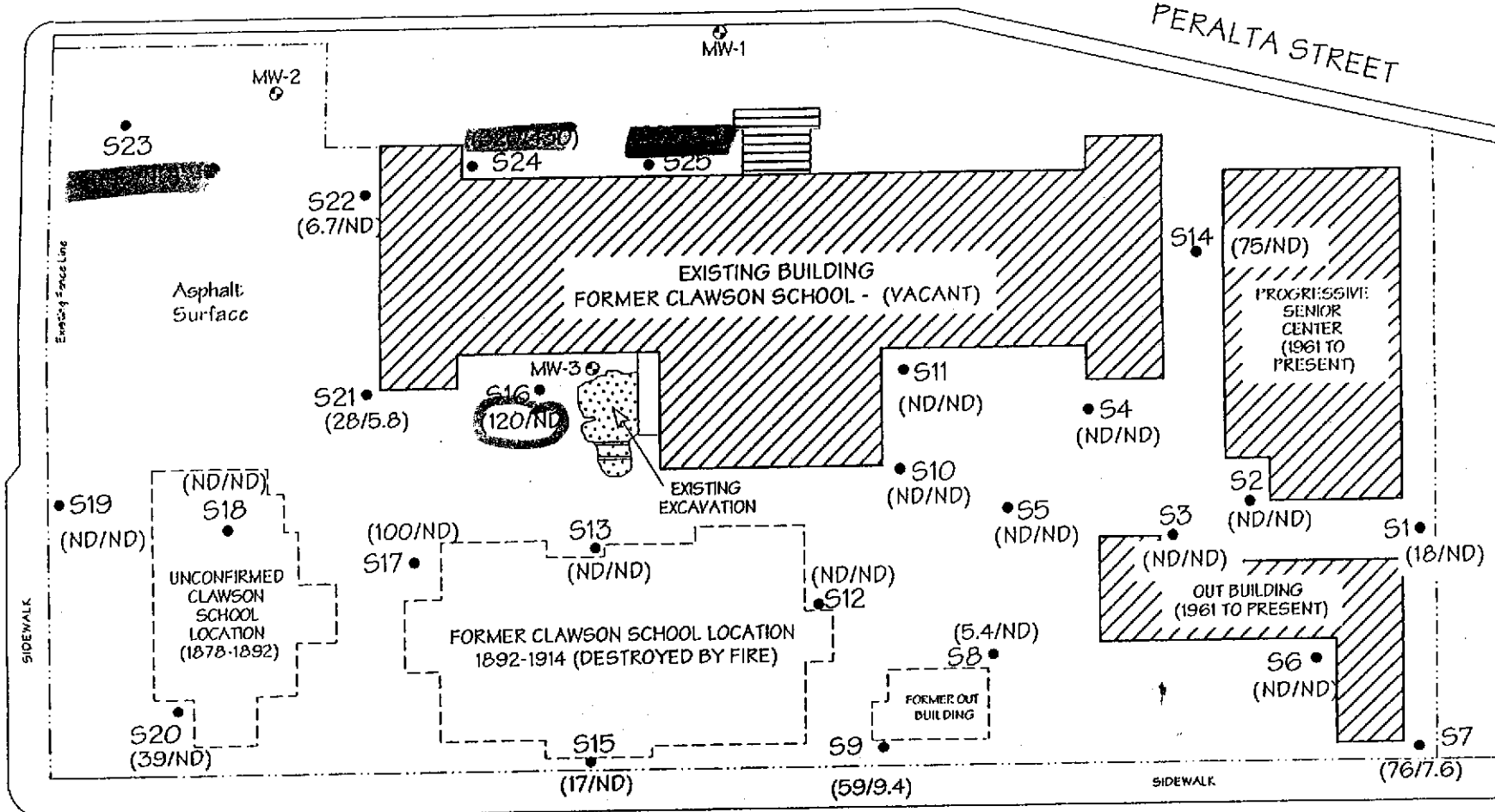
- MW-2 ◉ - Existing Groundwater Monitoring Well
- (#) - Groundwater elevation as calculated from levels measured on March 13, 1996
- ↘ - Groundwater Flow Direction

Title: Groundwater Gradient Clawson School Site Oakland, California	
Figure Number: 3.0	Scale: 1" = 60"
Drawn By: JYC / MCR	Date: 3/19/96
Project Number: 6287-2.1	
ACC Environmental Consultants 7977 Capwell Drive, Suite 100 Oakland, California 94621 (510) 638-8400 Fax: (510) 638-8404	

32nd STREET

UNION STREET

PERALTA STREET



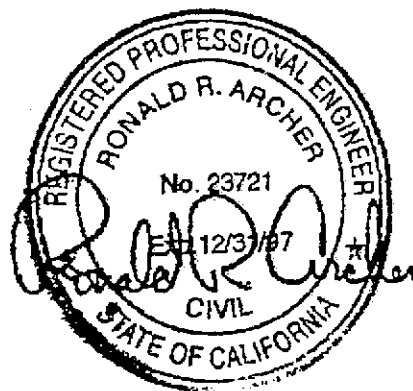
MAGNOLIA STREET

LEGEND

- MW-2 ● - Existing Groundwater Monitoring Well
- S15 ● - Soil Boring Location (March 14, 1996)
- (#/#) - Total lead concentration from samples collected at a (shallow/deeper) depth below ground surface (in parts per million)
- ND - Not detected above reporting limit of 5.0 mg/kg

Title: Lead Results Clawson School Site Oakland, California	
Figure Number: 4.0	Scale: 1" = 60"
Drawn By: JVC / MCR	Date: 3/19/96
Project Number: 6287-2.1	
ACC Environmental Consultants 7977 Capwell Drive, Suite 100 Oakland, California 94621 (510) 638-8400 Fax: (510) 638-8404	

RON ARCHER

CIVIL ENGINEER INC.**CONSULTING • PLANNING • DESIGN • SURVEYING**4133 Mohr Ave., Suite E • Pleasanton, CA 94566
Phone: (510) 462-8372 Fax: (510) 462-4464

MARCH 15, 1996

JOB NO 2388

ELEVATIONS OF EXISTING MONITORING WELLS AT THE FORMER
CLAWSON SCHOOL SITE LOCATED AT 3420 PERALTA STREET AT UNION
STREET, CITY OF OAKLAND, ALAMEDA COUNTY, CALIFORNIA.

FOR: **ACC ENVIRONMENTAL CONSULTANTS****BENCHMARK: # 2962**

A FOUND CUT SQUARE IN TOP OF CONCRETE CURB AT MID RETURN AT
THE NORTHEAST CORNER OF INTERSECTION OF PERALTA STREET AND
32ND STREET. ELEVATION TAKEN AS 15.714 M.S.L. (N.G.V.D.)

MONITORING WELL DATA TABLE

WELL DESIGNATION	TOP OF CASING ELEVATION	TOP OF BOX ELEVATION
MW-1	17.52	17.85
MW-2	17.76	18.29
MW-3	19.72	20.06

UNION STREET

MAGNOLIA STREET

EXISTING BUILDING
(CLAWSON SCHOOL)

EXISTING
EXCAVATION

MW-1

MW-3

MW-2

EXISTING ASPHALT
SURFACE.

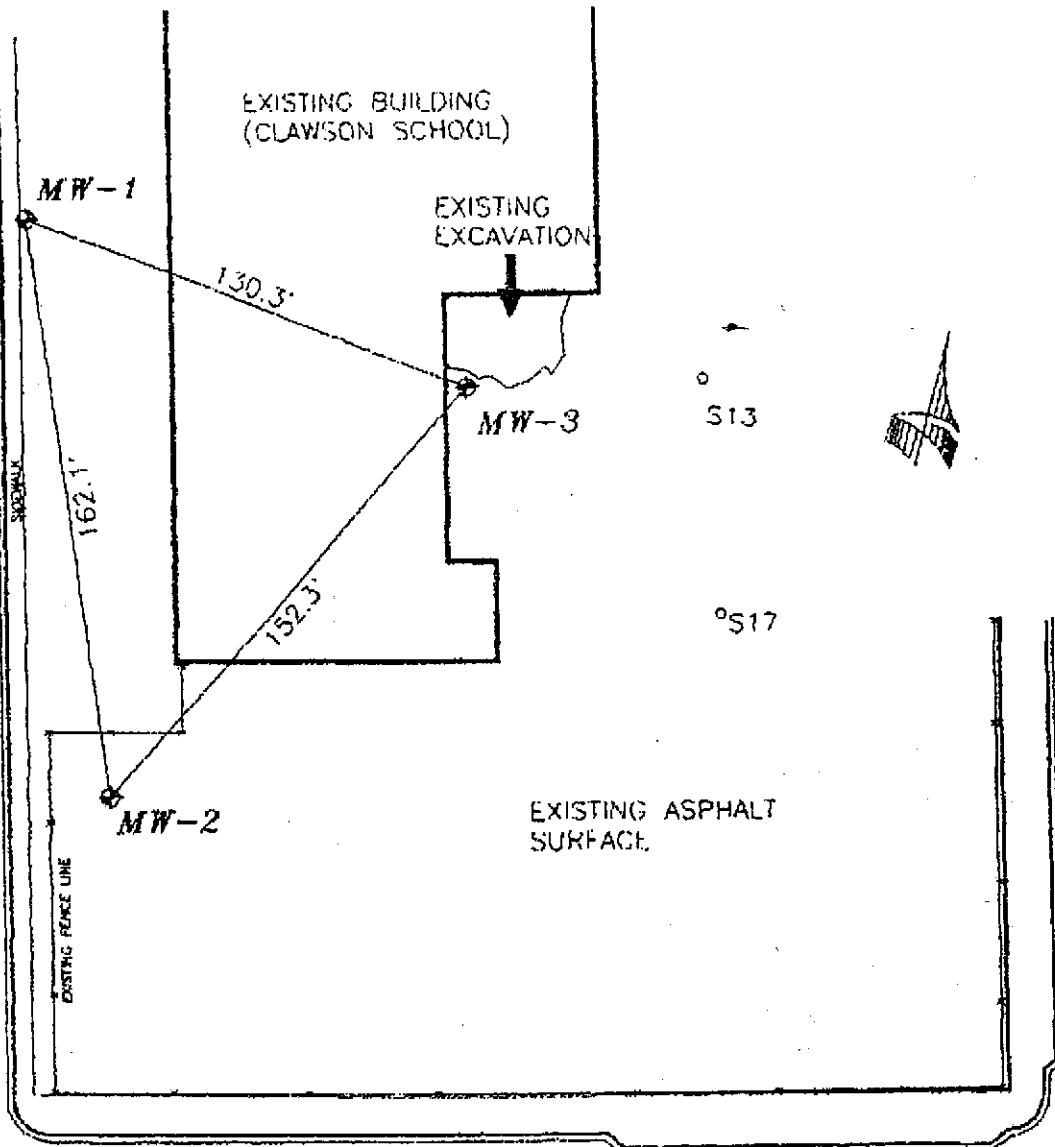
130.3'

152.3'

162.1'

513

517



32ND STREET

GRAPHIC SCALE

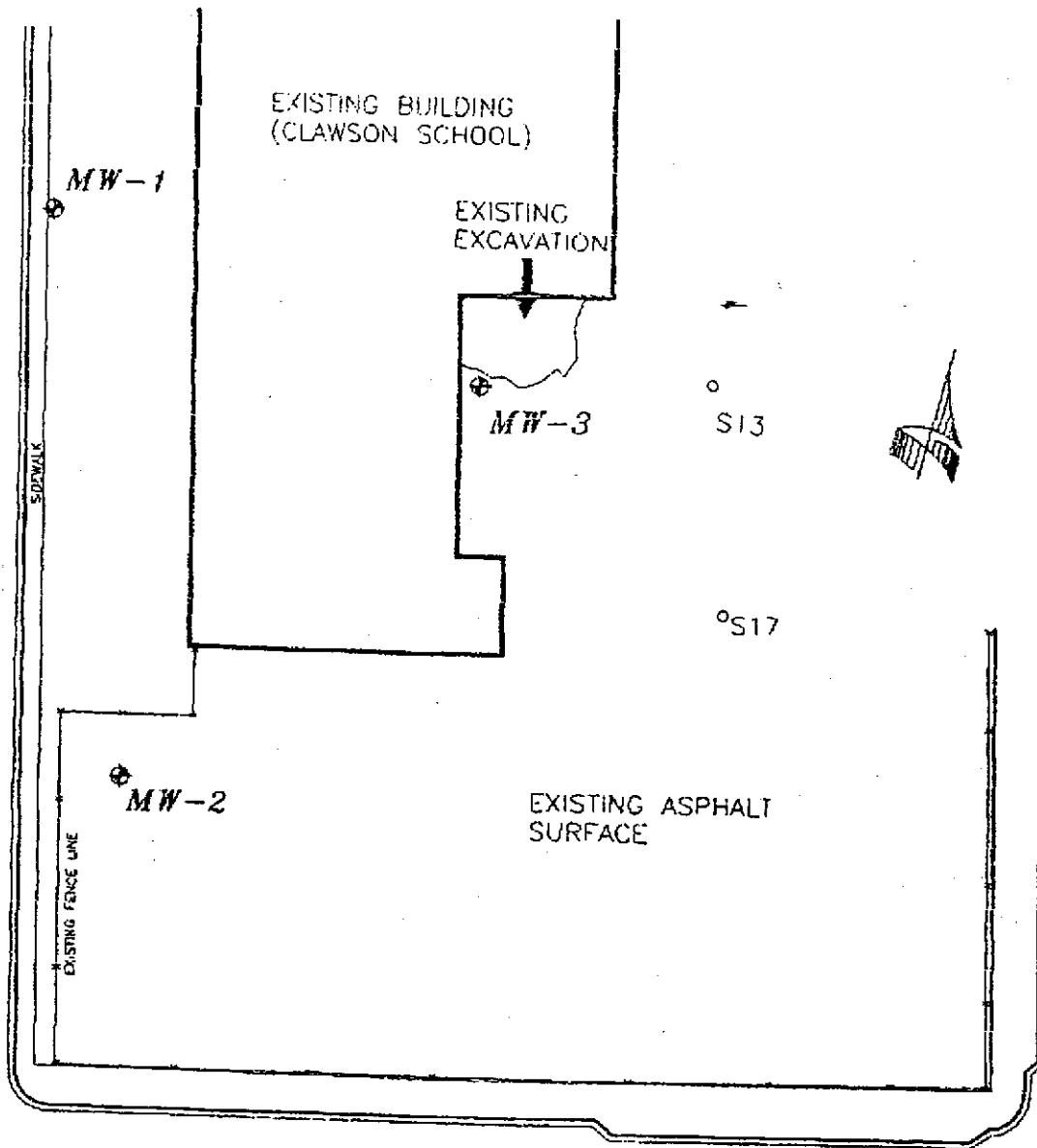


(IN FEET)
1 inch = 50 ft.

DATE OF SURVEY MARCH 14, 1996

UNION STREET

MAGNOLIA STREET



32ND STREET

GRAPHIC SCALE



(IN FEET)

1 inch = 50 ft.

DATE OF SURVEY MARCH 14, 1996

SOIL SAMPLES
OAKLAND UNIFIED SCHOOL DISTRICT
Former Clawson School
Oakland, California

Lead Analysis for Samples Collected in 1991 by Subsurface Consultants, Inc.			
Sample Number- Depth in Inches	Sample Result (x)	Deviation (x-u=x _i)	Deviation ² or (x _i) ²
6-24	22	11.5	131.79
7-18	15	4.5	20.07
11-12	260 ¹	249.5	62,240.27
20-6	175	164.5	27,053.67
20-42	3.5	-7.0	49.28
21-18	331	320.5	102,707.43
21-36	158	147.5	21,750.35
22-12	41.4	30.9	953.57
22-30	4.0	-6.5	42.51
23-6	347	336.5	113,218.79
23-42	5.0	-5.5	30.47
24-36	12.5	2.0	3.92
24-54	5.0	-5.5	30.47
25-12	91.7	81.2	6,590.19
25-48	26	15.5	239.63
26-6	37.4	26.9	722.53
26-12	6.3	-4.2	17.81
27-18	15	4.5	20.07
27-54	29.4	18.9	356.45
28-30	9.5	-1.0	1.04
28-48	88.2	77.7	6,034.18
29-6	12.6	2.1	4.33
29-24	11.4	0.9	0.77
Lead Analysis for Samples Collected March 14, 1996, by ACC			
S1-6	18	7.48	55.95
S1-20	2.5	-8.02	64.32
S2-6	2.5	-8.02	64.32
S2-22	2.5	-8.02	64.32
S3-6	2.5	-8.02	64.32
S3-24	2.5	-8.02	64.32
S4-6	2.5	-8.02	64.32
S4-24	2.5	-8.02	64.32

SOIL SAMPLES
OAKLAND UNIFIED SCHOOL DISTRICT
Former Clawson School
Oakland, California

Sample Number- Depth in Inches	Sample Result (x)	Deviation (x-u= x_i)	Deviation ² or (x_i) ²
S5-6	2.5	-8.02	64.32
S5-24	2.5	-8.02	64.32
S6-6	2.5	-8.02	64.32
S6-24	2.5	-8.02	64.32
S7-9	76	65.48	4,287.63
S7-24	7.6	-2.92	8.53
S8-10	5.4	-5.12	26.21
S8-24	2.5	-8.02	64.32
S9-6	59	48.48	2,350.31
S9-24	9.4	-1.12	1.25
S10-9	2.5	-8.02	64.32
S10-24	2.5	-8.02	64.32
S11-6	2.5	-8.02	64.32
S11-24	2.5	-8.02	64.32
S12-6	2.5	-8.02	64.32
S12-24	2.5	-8.02	64.32
S13-18	2.5	-8.02	64.32
S13-36	2.5	-8.02	64.32
S14-9	75	64.48	4,157.67
S14-24	2.5	-8.02	64.32
S15-7	17	6.48	41.99
S15-24	2.5	-8.02	64.32
S16-6	120	109.48	11,985.87
S16-24	2.5	-8.02	64.32
S17-6	100	89.48	8,006.67
S17-24	2.5	-8.02	64.32
S18-6	2.5	-8.02	64.32
S18-24	2.5	-8.02	64.32
S19-6	2.5	-8.02	64.32
S19-24	2.5	-8.02	64.32
S20-6	39	28.48	811.11
S20-24	2.5	-8.02	64.32

SOIL SAMPLES
OAKLAND UNIFIED SCHOOL DISTRICT
Former Clawson School
Oakland, California

Sample Number- Depth in Inches	Sample Result (x)	Deviation (x-u=x _i)	Deviation ² or (x _i) ²
S21-6	28	17.48	305.55
S21-24	5.8	-4.72	22.28
S22-6	6.7	-3.82	14.59
S22-24	2.5	-8.02	64.32
S23-6	410	399.48	159,584.27
S23-24	2.5	-8.02	64.32
S24-6	320	309.48	95,777.87
S24-24	430	419.48	175,963.47
S25-6	500	489.48	239,590.67
S25-24	5.4	-5.12	26.21
SUM	4,016.7	3,248.74	1,047,231.66
MEAN (u)			10.52
STANDARD DEVIATION			120.60
90% UCL			28.62
95% UCL			33.74

Total number of samples: 73

Samples were collected at specified inches below ground surface.

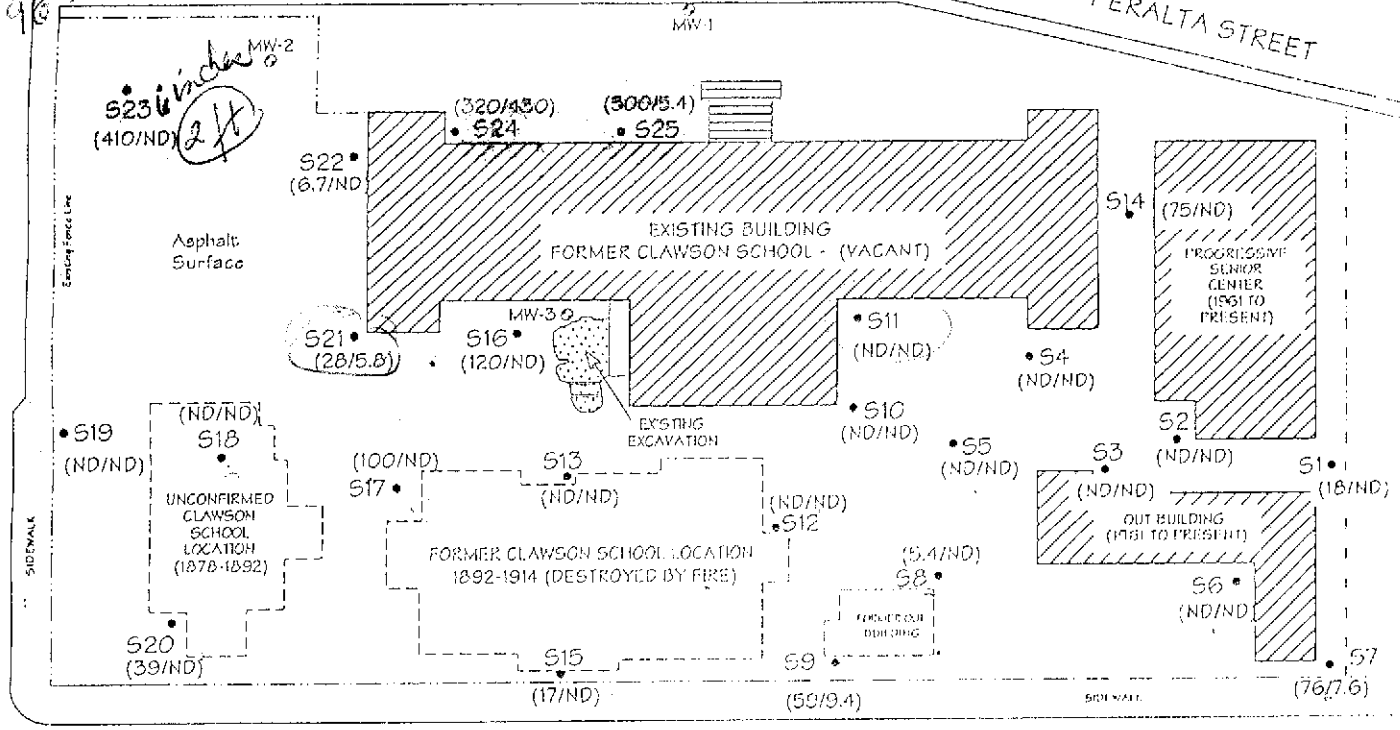
For calculations, one-half the reporting limit value was used for those samples that contained no detectable concentrations of lead.

Draw
225
819-0963

32nd STREET

UNION STREET

PERALTA STREET



MAGNOLIA STREET

LEGEND

- MW-2 - Existing Groundwater Monitoring Well
- S15 - Soil Boring Location (March 14, 1996)
- (#/#) - Total lead concentration from samples collected at a (shallow/deeper) depth below ground surface (in parts per million)
- ND - Not detected above reporting limit of 5.0 mg/kg

Title: Lead Results
Clawson School Site
Oakland, California

Figure Number: 4.0 Scale: 1" = 60"

Drawn By: JVC / MCR Date: 3/19/96

Project Number: 6287-2.1

ACC Environmental Consultants
7977 Capwell Drive, Suite 100
Oakland, California 94621
(510) 638-8400 Fax: (510) 638-8404

ACC BORING LOCATION MAP

FORMER CLAWSON SCHOOL
3420 PERALTA STREET
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC. Figure 2

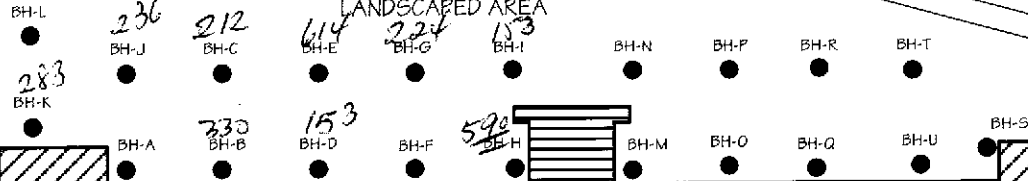
UNION STREET

SIDEWALK

PERALTA STREET

EXISTING FENCE LINE

LANDSCAPED AREA



ASPHALT SURFACE

EXISTING BUILDING
FORMER CLAWSON SCHOOL

PROGRESSIVE
SENIOR CENTER

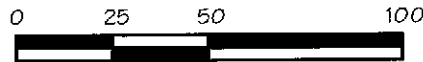
ASPHALT SURFACE

ASPHALT SURFACE

OUT BUILDING



NORTH



SCALE IN FEET

LEGEND



SOIL BORING, DRILLED BY ASE

1998 SOIL BORING
LOCATION MAP

FORMER CLAWSON SCHOOL
3420 PERALTA STREET
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

Figure 3

32ND STREET SIDEWALK

UNION STREET

PERALTA STREET

SIDEWALK

LANDSCAPED AREA

EXISTING FENCE LINE

GRAB-N GRAB-P GRAB-R GRAB-T

GRAB-B GRAB-D GRAB-M GRAB-O GRAB-Q GRAB-S

GRAB-A GRAB-C GRAB-E GRAB-G GRAB-I GRAB-K

ASPHALT SURFACE

EXISTING BUILDING
FORMER CLAWSON SCHOOL

32ND STREET SIDEWALK

ASPHALT SURFACE

PROGRESSIVE SENIOR CENTER

ASPHALT SURFACE

OUT BUILDING

LEGEND



AREA OVEREXCAVATED TO
A DEPTH OF 12-INCHES BELOW GRADE
APPROXIMATELY 125 CUBIC YARDS



AREA OVEREXCAVATED TO
A DEPTH OF 30-INCHES BELOW GRADE
APPROXIMATELY 35 CUBIC YARDS

GRAB-A



CONFIRMATION GRAB SAMPLE, COLLECTED
AFTER OVEREXCAVATION



NORTH



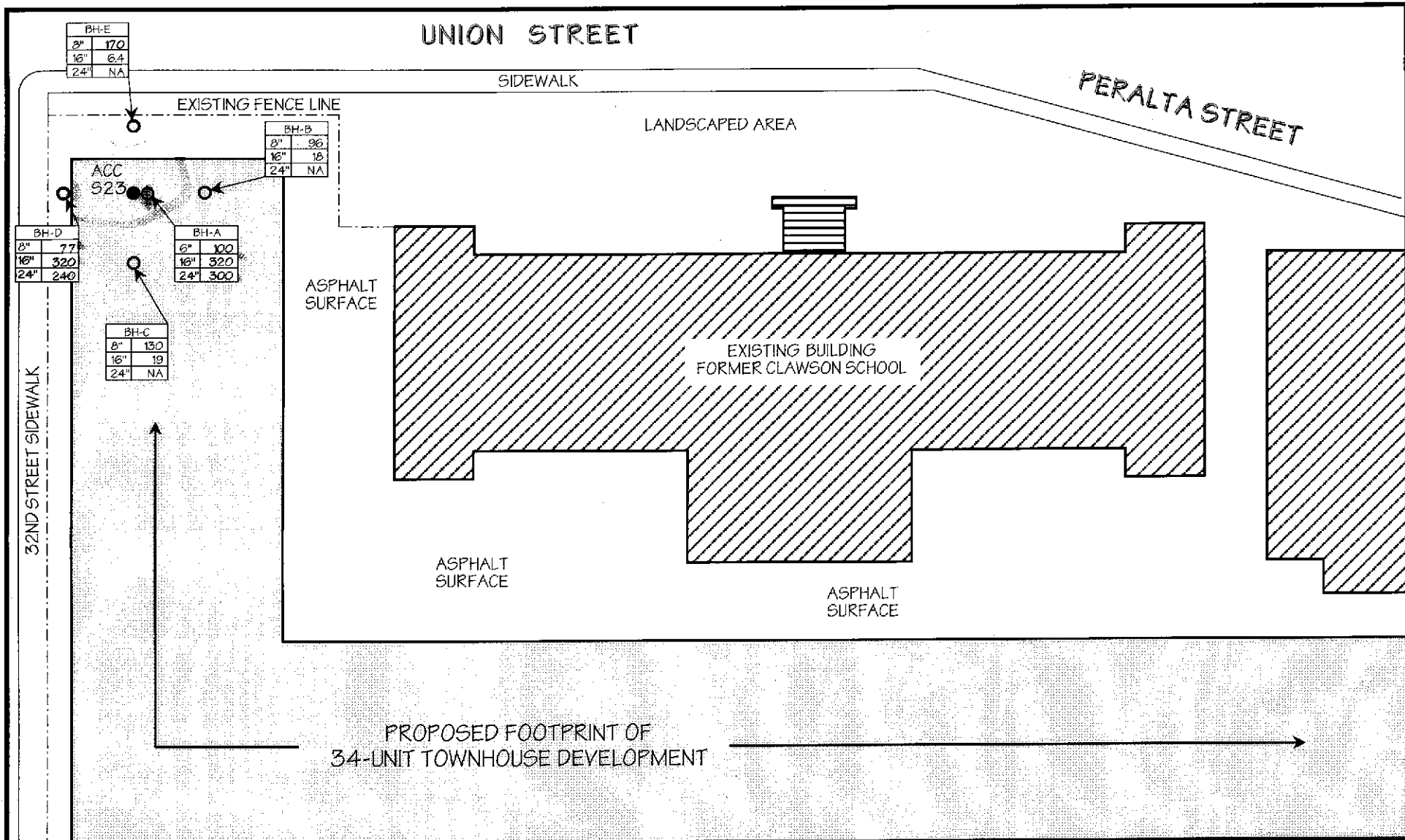
SCALE IN FEET

**1998 EXCAVATION
SAMPLING PLAN**

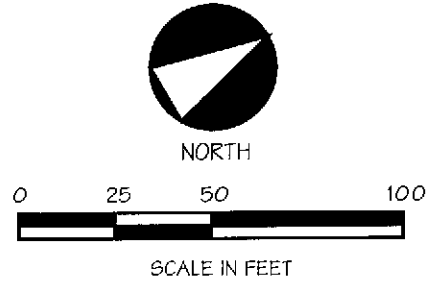
FORMER CLAWSON SCHOOL
3420 PERALTA STREET
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

Figure 4



LEGEND	
ACC 523	SOIL BORING, DRILLED BY ACC IN 1996 WITH A TOTAL LEAD CONCENTRATION OF 410 PPM AT 6-INCHES BELOW GRADE.
BH-E	SOIL BORING DRILLED BY ASE, AUGUST 2000



SOIL BORING LOCATION MAP	
FORMER CLAWSON SCHOOL 3420 PERALTA STREET OAKLAND, CALIFORNIA	
AQUA SCIENCE ENGINEERS, INC.	Figure 5

TABLE ONE

Total Lead Concentrations In Soil
Soil Borings Drilled August 14, 2000
Former Clawson School Property
All Results in Parts Per Million

SAMPLE IDENTIFICATION	TOTAL LEAD
BH-A, 6"	100
BH-A, 16"	320
BH-A, 24"	300
BH-B, 8"	96
BH-B, 16"	18
BH-B, 24"	NA
BH-C, 8"	130
BH-C, 16"	19
BH-C, 24"	NA
BH-D, 8"	77
BH-D, 16"	320
BH-D, 24"	240
BH-E, 8"	170
BH-E, 16"	6.4
BH-E, 24"	NA

NOTES:

NA means not analyzed.

APPENDIX A

Certified Analytical Report
And
Chain of Custody

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

Date: August 17, 2000

Aqua Science Engineers, Inc.
208 West El Pintado Road
Danville, CA 94526

Attn.: Mr. Dave Allen

Project: 3685
Fox Point

Dear Mr. Allen,

Attached is our report for your samples received on Monday August 14, 2000
This report has been reviewed and approved for release. Reproduction of this report
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after September 28, 2000
unless you have requested otherwise. We appreciate the opportunity to be of service to you.
If you have any questions, please call me at (925) 484-1919. You can also contact me via email.
My email address is: vvancil@chromalab.com

Sincerely,



Vincent Vancil

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

Total Lead

Aqua Science Engineers, Inc.	<input checked="" type="checkbox"/> 208 West El Pintado Road Danville, CA 94526
Attn: Dave Allen	Phone: (925) 820-9391 Fax: (925) 837-4853
Project #: 3685	Project: Fox Point

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
BH-A,6"	Soil	08/14/2000	1
BH-A,16"	Soil	08/14/2000	2
BH-B,8"	Soil	08/14/2000	3
BH-B,16"	Soil	08/14/2000	4
BH-C,8"	Soil	08/14/2000	5
BH-C,16"	Soil	08/14/2000	6
BH-D,8"	Soil	08/14/2000	7
BH-D,16"	Soil	08/14/2000	8
BH-E,8"	Soil	08/14/2000	9
BH-E-16"	Soil	08/14/2000	10

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

To: Aqua Science Engineers, Inc.

Test Method: 6010B

Attn.: Dave Allen

Prep Method: 3050B

Total Lead

Sample ID: BH-A,6"	Lab Sample ID: 2000-08-0276-001
Project: 3685 Fox Point	Received: 08/14/2000 14:45
Sampled: 08/14/2000	Extracted: 08/14/2000 18:40
Matrix: Soil	QC-Batch: 2000/08/14-07.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	100	1.0	mg/Kg	1.00	08/15/2000 10:23	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

To: Aqua Science Engineers, Inc.
Attn.: Dave Allen

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: BH-A,16''	Lab Sample ID: 2000-08-0276-002
Project: 3685 Fox Point	Received: 08/14/2000 14:45
Sampled: 08/14/2000	Extracted: 08/14/2000 18:40
Matrix: Soil	QC-Batch: 2000/08/14-07.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	320	1.0	mg/Kg	1.00	08/15/2000 10:27	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

To: Aqua Science Engineers, Inc.
Attn.: Dave Allen

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: BH-B,8"	Lab Sample ID: 2000-08-0276-003
Project: 3685 Fox Point	Received: 08/14/2000 14:45
Sampled: 08/14/2000	Extracted: 08/14/2000 18:40
Matrix: Soil	QC-Batch: 2000/08/14-07.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	96	1.0	mg/Kg	1.00	08/15/2000 10:30	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

To: Aqua Science Engineers, Inc.

Test Method: 6010B

Attn.: Dave Allen

Prep Method: 3050B

Total Lead

Sample ID: BH-B,16	Lab Sample ID: 2000-08-0276-004
Project: 3685 Fox Point	Received: 08/14/2000 14:45
Sampled: 08/14/2000	Extracted: 08/14/2000 18:40
Matrix: Soil	QC-Batch: 2000/08/14-07.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	18	1.0	mg/Kg	1.00	08/15/2000 10:33	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

To: Aqua Science Engineers, Inc.
Attn.: Dave Allen

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: BH-C,8"	Lab Sample ID: 2000-08-0276-005
Project: 3685 Fox Point	Received: 08/14/2000 14:45
Sampled: 08/14/2000	Extracted: 08/14/2000 18:40
Matrix: Soil	QC-Batch: 2000/08/14-07.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	130	1.0	mg/Kg	1.00	08/15/2000 10:37	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

To: Aqua Science Engineers, Inc.
Attn.: Dave Allen

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: BH-C,16''	Lab Sample ID: 2000-08-0276-006
Project: 3685 Fox Point	Received: 08/14/2000 14:45
Sampled: 08/14/2000	Extracted: 08/14/2000 18:40
Matrix: Soil	QC-Batch: 2000/08/14-07.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	19	1.0	mg/Kg	1.00	08/15/2000 10:56	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

To: Aqua Science Engineers, Inc.

Test Method: 6010B

Attn.: Dave Allen

Prep Method: 3050B

Total Lead

Sample ID: BH-D,8''	Lab Sample ID: 2000-08-0276-007
Project: 3685 Fox Point	Received: 08/14/2000 14:45
Sampled: 08/14/2000	Extracted: 08/14/2000 18:40
Matrix: Soil	QC-Batch: 2000/08/14-07.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	77	1.0	mg/Kg	1.00	08/15/2000 11:00	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

To: Aqua Science Engineers, Inc.

Test Method: 6010B

Attn.: Dave Allen

Prep Method: 3050B

Total Lead

Sample ID: BH-D,16''	Lab Sample ID: 2000-08-0276-008
Project: 3685 Fox Point	Received: 08/14/2000 14:45
Sampled: 08/14/2000	Extracted: 08/14/2000 18:40
Matrix: Soil	QC-Batch: 2000/08/14-07.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	320	1.0	mg/Kg	1.00	08/15/2000 11:03	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

To: Aqua Science Engineers, Inc.
Attn.: Dave Allen

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: BH-E,8''	Lab Sample ID: 2000-08-0276-009
Project: 3685 Fox Point	Received: 08/14/2000 14:45
Sampled: 08/14/2000	Extracted: 08/14/2000 18:40
Matrix: Soil	QC-Batch: 2000/08/14-07.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	170	1.0	mg/Kg	1.00	08/15/2000 11:06	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

To: Aqua Science Engineers, Inc.

Test Method: 6010B

Attn.: Dave Allen

Prep Method: 3050B

Total Lead

Sample ID:	BH-E-16''	Lab Sample ID:	2000-08-0276-010
Project:	3685 Fox Point	Received:	08/14/2000 14:45
Sampled:	08/14/2000	Extracted:	08/14/2000 18:40
Matrix:	Soil	QC-Batch:	2000/08/14-07.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	6.4	1.0	mg/Kg	1.00	08/15/2000 11:09	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

To: Aqua Science Engineers, Inc.
Attn.: Dave Allen

Test Method: 6010B
Prep Method: 3050B

Batch QC Report Total Lead

Method Blank	Soil	QC Batch # 2000/08/14-07.15
MB: 2000/08/14-07.15-014		Date Extracted: 08/14/2000 18:40

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Lead	ND	1.0	mg/Kg	08/15/2000 09:14	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0276

To: Aqua Science Engineers, Inc.

Test Method: 6010B

Attn: Dave Allen

Prep Method: 3050B

Batch QC Report

Total Lead

Laboratory Control Spike (LCS/LCSD)	Soil	QC Batch # 2000/08/14-07.15
LCS: 2000/08/14-07.15-015	Extracted: 08/14/2000 18:40	Analyzed 08/15/2000 09:18
LCSD: 2000/08/14-07.15-016	Extracted: 08/14/2000 18:40	Analyzed 08/15/2000 09:22

Compound	Conc. [mg/Kg]		Exp. Conc. [mg/Kg]		Recovery [%]		RPD [%]	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Lead	98.2	99.2	100.0	100.0	98.2	99.2	1.0	80-120	20		

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0361

Date: August 21, 2000

Aqua Science Engineers, Inc.
208 West El Pintado Road
Danville, CA 94526

Attn.: Mr. Dave Allen

Project: 3685
Fox Point

Dear Mr. Allen,

Attached is our report for your samples received on Monday August 14, 2000
This report has been reviewed and approved for release. Reproduction of this report
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after September 28, 2000
unless you have requested otherwise. We appreciate the opportunity to be of service to you.
If you have any questions, please call me at (925) 484-1919. You can also contact me via email.
My email address is: vvancil@chromalab.com

Sincerely,



Vincent Vancil

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0361

Total Lead

Aqua Science Engineers, Inc.

✉ 208 West El Pintado Road
Danville, CA 94526

Attn: Dave Allen

Phone: (925) 820-9391 Fax: (925) 837-4853

Project #: 3685

Project: Fox Point

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
BH-A-24''	Soil	08/14/2000	1
BH-D-24''	Soil	08/14/2000	2

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0361

To: Aqua Science Engineers, Inc.

Test Method: 6010B

Attn.: Dave Allen

Prep Method: 3050B

Total Lead

Sample ID: BH-A-24	Lab Sample ID: 2000-08-0361-001
Project: 3685 Fox Point	Received: 08/14/2000 14:57
Sampled: 08/14/2000	Extracted: 08/18/2000 11:28
Matrix: Soil	QC-Batch: 2000/08/18-02.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	300	1.0	mg/Kg	1.00	08/18/2000 22:07	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0361

To: Aqua Science Engineers, Inc.

Test Method: 6010B

Attn.: Dave Allen

Prep Method: 3050B

Total Lead

Sample ID: BH-D-24	Lab Sample ID: 2000-08-0361-002
Project: 3685 Fox Point	Received: 08/14/2000 14:57
Sampled: 08/14/2000	Extracted: 08/18/2000 11:28
Matrix: Soil	QC-Batch: 2000/08/18-02.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	240	1.0	mg/Kg	1.00	08/18/2000 22:10	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0361

To: Aqua Science Engineers, Inc.
Attn.: Dave Allen

Test Method: 6010B
Prep Method: 3050B

Batch QC Report Total Lead

Method Blank	Soil	QC Batch # 2000/08/18-02.15
MB: 2000/08/18-02.15-035		Date Extracted: 08/18/2000 11:28

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Lead	ND	1.0	mg/Kg	08/18/2000 21:04	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-08-0361

To: Aqua Science Engineers, Inc.

Test Method: 6010B

Attn: Dave Allen

Prep Method: 3050B

Batch QC Report

Total Lead

Laboratory Control Spike (LCS/LCSD)	Soil	QC Batch # 2000/08/18-02.15
LCS: 2000/08/18-02.15-036	Extracted: 08/18/2000 11:28	Analyzed 08/18/2000 21:09
LCSD: 2000/08/18-02.15-037	Extracted: 08/18/2000 11:28	Analyzed 08/18/2000 21:13

Compound	Conc. [mg/Kg]		Exp.Conc. [mg/Kg]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Lead	101	101	100.0	100.0	101.0	101.0	0.0	80-120	20		

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

2000-08-0276

53903

Aqua Science Engineers, Inc.
208 W. El Pintado Road
Danville, CA 94526
(925) 820-9391
FAX (925) 837-4853

Chain of Custody

PAGE 1 OF 2

SAMPLER (SIGNATURE) [Signature] (PHONE NO.) 820.9391

PROJECT NAME Fox Point JOB NO. 3685
ADDRESS 3420 Purita St. Oakland

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GAS / MTBE & BTEX (EPA 5030/8015-8020)	TPH-DIESEL (EPA 5510/8015)	TPH-DIESEL & MOTOR OIL (EPA 5510/8015)	PURGEABLE HALOCARBONS (EPA 6018010)	VOLATILE ORGANICS (EPA 624/8240/8260)	SEMI-VOLATILE ORGANICS (EPA 625/8270)	OIL & GREASE (EPA 5520)	LUFT METALS (5) (EPA 6010+7000)	CAM 17 METALS (EPA 6010+7000)	PCBs & PESTICIDES (EPA 608/8080)	ORGANOPHOSPHORUS PESTICIDES (EPA 8140 EPA 608/8080)	FUEL OXYGENATES (EPA 8260)	Pb (TOTAL or DISSOLVED) (EPA 6010)	TPH-G/BTEX/15 OXY'S (EPA 8260)	TPH-G/BTEX/17 OXY'S / HVOCs (EPA 8260)	TOTAL LEAD	HOLD	COMPOSITE			
					BH-A, 6"	8/14		SOIL	1																X
BH-A, 16"	}		}	1																X					
BH-A, 24"				1																			X		
BH-B, 8"				1																		X			
BH-B, 16"				1																		X			
BH-B, 24"				1																		X			
BH-C, 8"				1																			X		
BH-C, 16"				1																			X		
BH-C, 24"				1																				X	

RUSH

4 hrs

RELINQUISHED BY: [Signature] 14:45
(signature) (time)

RECEIVED BY: _____
(signature) (time)

RELINQUISHED BY: _____
(signature) (time)

RECEIVED BY LABORATORY: [Signature] 14:45
(signature) (time)

COMMENTS: RUSH

D. Allen 08/14/00
(printed name) (date)

(printed name) (date)

(printed name) (date)

CRISTINA 08/14/00
(printed name) (date)

TURN AROUND TIME
STANDARD 24Hr 48Hr 72Hr

Company- ASQ, Inc.

Company- _____

Company- _____

Company- [Signature]

OTHER: _____

2000-08-0276

J 3903

Aqua Science Engineers, Inc.
208 W. El Pintado Road
Danville, CA 94526
(925) 820-9391
FAX (925) 837-4853

Chain of Custody

PAGE 2 OF 2

SAMPLER (SIGNATURE) [Signature] (PHONE NO.) 820-9391

PROJECT NAME Fox Point JOB NO. 3685
ADDRESS 3420 Peralta St. Oakland

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GAS / MTBE & BTEX (EPA 5050/8015-8020)	TPH-DIESEL (EPA 5510/8015)	TPH-DIESEL & MOTOR OIL (EPA 5510/8015)	PURGEABLE HALOCARBONS (EPA 6010/8010)	VOLATILE ORGANICS (EPA 624/824-01/8260)	SEMI-VOLATILE ORGANICS (EPA 625/8270)	OIL & GREASE (EPA 5520)	LUFT METALS (5) (EPA 6010+7000)	CAM 17 METALS (EPA 6010+7000)	PCB _s & PESTICIDES (EPA 608/8080)	ORGANOPHOSPHORUS PESTICIDES (EPA 8140 EPA 608/8080)	FUEL OXYGENATES (EPA 8260)	Pb (TOTAL or DISSOLVED) (EPA 6010)	TPH-GIBTEX/5 OXY'S (EPA 8260)	TPH-GIBTEX/7 OXY'S / HYDROCS (EPA 8260)	TOTAL LEAD	HTOUD	COMPOSITE			
					BH-D, 8"	8/14		SOIL	1																X
BH-D, 16"	}		}	1																X					
BH-D, 24"				1																			X		
BH-E, 8"				1																		X			
BH-E, 16"				1																		X			
BH-E, 24"				1																				X	

RUSH

RELINQUISHED BY: <u>[Signature]</u> (signature) (time)	RECEIVED BY: (signature) (time)	RELINQUISHED BY: (signature) (time)	RECEIVED BY LABORATORY: <u>[Signature]</u> 14:45 (signature) (time)
D. Allen (printed name) (date)	 (printed name) (date)	 (printed name) (date)	CRSEVA 08/14/00 (printed name) (date)
Company- <u>ASE Inc.</u>	Company-	Company-	Company- <u>[Signature]</u>

COMMENTS:
RUSH

TURN AROUND TIME
STANDARD 24hr 48hr 72hr

OTHER:

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

ADD ON/CHANGE ORDER

2000-08-0361
New Submission No: _____

Order No: 5-3991

AUG - 22 00 (TUE) 15:15 CHROMALAB, INC.

TEL: 510 484 1096

P. 002

Original Submission Info

Client Name: Aqua Science

Project Mgr: Pave Allen

Project Name: Fox Point

Project No: 3685

PO#: _____

Date Received: 8-14-00

Submission No: 2000-08-0276

Name of Caller: Pave Allen

Call Date: 8-17-00 Time: 2:30

Add on Due Date: 8-21-00 Date Sampled 8-14-00

Comments: _____

ANALYSIS REPORT

SAMPLE ID	DATE	TIME	MATRIX	PRESERV.	TPH (EPA 8015, 8020) <input type="checkbox"/> Gas w/ <input type="checkbox"/> BTEX <input type="checkbox"/> MTBE	PURGEABLE AROMATICS BTEX (EPA 8020)	TPH-Olefin (EPA 8015M)	TEPE (EPA 8015M) <input type="checkbox"/> Diesel <input type="checkbox"/> M.D. <input type="checkbox"/> Gas	FORFABLE HALOCARBONS, (EPOCS) (EPA 8010)	VOLATILE ORGANICS (VOCs) (EPA 8260)	SEMIVOLATILES (EPA 8270)	Oil & Grease <input type="checkbox"/> Petrol <input type="checkbox"/> Total <input type="checkbox"/> 1664	PESTICIDES (EPA 8081) <input type="checkbox"/> PCB'S (EPA 8080)	PNA's by <input type="checkbox"/> 8270 <input type="checkbox"/> 8210	<input type="checkbox"/> Spec. Cond. <input type="checkbox"/> TSS <input type="checkbox"/> TDS	LUFT METALS: Cd, Cr, Pb, Ni, Zn	CAM 17 METALS (EPA 6010/7470/7471)	TOTAL LEAD	W.E.T. (STLC) <input type="checkbox"/> TOLP	Heavy Metal Chromium <input type="checkbox"/> BTEX (2x for each field name for 8260)	NUMBER OF CONTAINERS	
B4A-24	8-14-00		Soil	NA														X				
B4-D-24			f															X				

RUSH