SOIL TESTING REPORT
FOR
1829 CLEMENT AVENUE
ALAMEDA, CALIFORNIA

April 12, 1990

Kaldveer Associates
Geoscience Consultants

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April 4, 1990
KE1179-1, 15849

Mr. Loren Smith
3527 Magnolia Drive
Alameda, California 94501

RE: SOIL TESTING REPORT
1829 CLEMENT AVENUE
ALAMEDA, CALIFORNIA

Dear Mr. Smith:

Kaldveer Associates is pleased to submit our soil testing report for the property at 1829 Clement Avenue, in Alameda, California. The enclosed report contains a description of our investigation, results of soil sample analyses, and our conclusions and recommendations regarding site environmental quality.

We appreciate the opportunity to provide services to you on this project and trust this report meets your needs at this time. If you have any questions or require additional information, please don't hesitate to call.

Very truly yours,

KALDVEER ASSOCIATES, INC.

Dennis Laduzinsky
Senior Engineering Geologist

David F. Hoexter, C.E.G./R.E.A.
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A California Corporation

SOIL TESTING REPORT

For
1829 CLEMENT AVENUE
ALAMEDA, CALIFORNIA

To
Mr. Loren Smith
3527 Magnolia Drive
Alameda, California 94501

By

KALDVEER ASSOCIATES, INC.

Dennis Laduzinsky
Senior Engineering Geologist

David F. Hoexter, C.E.G./R.E.A.
Manager, Environmental/Geological
Services
Associate

April, 1990

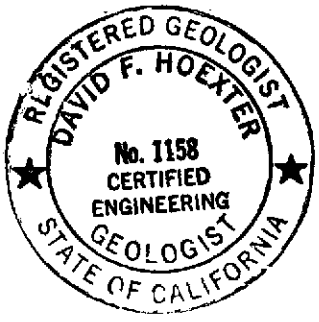

TABLE OF CONTENTS

SOIL TESTING REPORT
FOR
1829 CLEMENT AVENUE
ALAMEDA, CALIFORNIA

I. INTRODUCTION

This report presents the results of an investigation of soil quality at 1829 Clement Avenue in Alameda, California. The site location is shown on the Site Vicinity Map, Figure 1.

The purpose of this investigation has been to collect shallow soil samples from beneath the existing building to evaluate the potential presence of contaminants in the subsurface related to the former operation of the site as a photo-chemical machining job shop. This investigation included the drilling and sampling of 13 shallow soil borings and collection of seven surface soil and sediment samples, with analysis of the samples for cyanide, arsenic, beryllium, chromium, copper, molybdenum, lead, phenols, and pH. The work was authorized by Mr. Loren Smith, formerly of Kem-Mil-Co.

It is understood that the site was operated as a photo-chemical machining shop from 1967 to 1988. Prior to 1984, process rinse waters were reportedly discharged to the sanitary sewer. In 1984 a process water recovery and treatment system was installed to treat waste waters to East Bay Municipal Utilities District standards prior to discharge to the sewer. On October 19, 1988, the County of Alameda Health Care Services Agency issued a Notice of Violation for the property, citing several violations of the California Health and Safety Code, and Title 22 of the California Code of Regulations, including soil discoloration and apparent accumulation of hazardous waste in the subfloor area of the building. It is assumed that the discoloration was related to leaks in the subfloor sewer lines and other waste piping as indicated in the violation notice.

In response to concerns by the property owners, Blymyer Engineers Inc. (BEI) conducted a preliminary assessment of the subfloor soils. The results of that investigation, as outlined in the September 28, 1988 BEI report, indicated the presence of relatively high levels of cyanide, arsenic, and chromium, and low soil pH in the shallow soil beneath the floor. The present investigation was conducted as a follow-up investigation to define the vertical and lateral extent of soil contamination beneath the building.

Specific chemical constituents analyzed for in this investigation are based on the chemicals of concern indicated in the initial analyses performed by BEI.

II. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

Based on the information collected to-date it appears that significant quantities of cyanide or metals are restricted to the top 3 to 6 inches of soil beneath the former etch process areas at the western portion of the building, and to a dried sediment on top of the asphalt paving beneath the eastern portion of the building.

Surface soil samples collected from beneath the western portion of the building contained from 120 to 1300 parts per million (ppm) cyanide. The average concentration for seven samples was 680 ppm. In contrast, samples collected at a depth of 0.5 feet in this area contained from 2.1 to 7.8 ppm cyanide, with one additional sample containing 150 ppm. Samples from depths of 3.0 and 6.5 feet all contained less than 2 ppm. Concentrations of other metals appear to represent normal background concentrations which the exception of the 0.5 foot sample from Boring B6 which contained 1100 ppm lead. Low pH soils (pH = 2.4 to 3.6) were encountered only in the 0.5 foot deep samples.

A sample of dried sediment collected from the surface of the asphalt paving beneath the eastern portion of the building is the only sample from the treatment room area found to contain high quantities of cyanide or metals. The sediment sample contained 1100 ppm cyanide, 800 ppm chromium, and 2900 ppm copper. The values for copper and chromium exceed the State TTLC. Samples from a depth of 0.5 feet below the asphalt beneath the treatment room contained 160 and 26 ppm cyanide, and samples from the three to six foot depth contained between 1.5 and 24 ppm cyanide. Concentrations of metals are within the range of normally occurring background levels. Phenols were found at a concentration of 0.94 ppm in the surface sediment sample, and at a concentration of 0.52 ppm in one soil sample from a depth of seven feet. Soil samples had a measured pH between 5.4 and 8.7.

B. Recommendations

On the basis of the chemical analyses performed during this investigation, it is recommended that the upper three to six inches of surface soils beneath the etch process rooms at the western portion of the building be removed from the site. It is also recommended that the dried sediment be removed from the surface of the asphalt paving beneath the eastern portion of the building.

III. SCOPE OF SERVICES

The work performed during this investigation consisted of the following tasks:

1. Drilling 13 soil borings to depths of up to seven feet for soil sample collection.

2. Collecting seven surface soil and sediment samples.

3. Analysis of soil samples by a contract analytical laboratory.

3. Preparation of this report.

IV. FIELD INVESTIGATION

A. Site Description

The site is located at the Alameda Marina as shown on Figure 1. The site is developed as a two-story wood-frame building with raised wood floors. The southern building line adjoins the public sidewalk at Clement Street, and the remaining area around the building is covered by asphalt paving, as shown on the Site Plan, Figure 2. A small addition to the western end of the building is underlain by a concrete slab.

Former process areas of the building include three rooms on the western end that were used as metal-etching process rooms (Figure 2). One room on the eastern end of the building served as a store room, and another was used as a treatment room for process water prior to sewer discharge. The crawl-space beneath the eastern portion of the building is underlain by about 1.5 inches of asphalt paving.

B. Drilling and Soil Sampling

The field investigation was conducted between February 11 and March 9, 1990 and consisted of drilling 13 soil borings and collecting seven surface samples at the approximate locations shown on Figure 2. Borings B-1, B-2, B-3 and B-4 were drilled using a 3-inch diameter hand auger. The remaining soil borings were drilled with a minute-man drill rig equipped with 3-inch diameter solid-stem augers. The soil borings were advanced to depths of approximately 6.5 to 7.0 feet. Soils encountered during drilling were classified in the field by a Kaldveer geologist by visual examination in accordance with the Unified Soil Classification System (Figure A-1). Logs of the borings are presented in Appendix A.

Soil samples were collected from the borings at approximate depths of 0.5, 3.0, and 6.5 to 7.0 feet below ground surface. Samples collected at the three to seven foot depths in Borings B-1 through

B-4 were obtained as bulk samples from the hand auger and placed in brass tubes. Samples collected from Borings B-5 through B-13 were obtained with a hand driven 2-inch I.D. Modified California sampler containing thin brass liners. The augers were steam-cleaned prior to drilling each boring, and the sampler and brass liners were thoroughly cleaned with TSP (trisodium phosphate) detergent between samples to reduce the potential for cross-contamination. The shallow soil borings were backfilled with neat cement upon completion.

Samples collected for possible chemical analysis were collected in 2-inch diameter, 6-inch long, brass liners. These samples were examined for logging, sealed with aluminum foil-lined lids, labeled and immediately placed in refrigerated storage. A chain-of-custody form was initiated in the field and accompanied the samples to a California Department of Health Services certified laboratory.

C. Subsurface Conditions

The surficial soils at the eastern end of the building consist of 1.5 inches of asphalt on top of 3.5 feet of silty sand, underlain by about 1.5 feet of clayey sand, followed by more silty sand to a depth of about 7.5 feet. Soils beneath the western portion of the building consist of about five feet of silty sand underlain by clayey sand to the total depth explored of about seven feet. **Ground water was encountered at a depth of approximately six feet at the time of drilling and stabilized water levels were measured at a depth of approximately three to four feet about one-half hour later.**

The attached boring logs and related information (Appendix A) depict location-specific subsurface conditions encountered during our field investigation. The approximate locations of the borings were determined by tape measure and should be considered accurate only to the degree implied by the method used. The passage of time could result in changes in the surface or subsurface conditions due to natural occurrences or human intervention.

D. Sampling Plan Rationale

The soil sampling plan was based on a review of the site with representatives of the Alameda County Department of Environmental Health. As shown on Figure 3, the building foundation consists of a perimeter footing with continuous interior footings. **Based on the observable distribution of discolored soils beneath the raised floor, it appears that the concrete footings have acted as barriers to the lateral migration of process fluids released from the subfloor piping. In addition, the asphalt beneath the eastern end of the building appears to have limited the vertical migration of contaminants in this area.**

The sampling plan consisted of placing two borings in each of the process etch rooms and the treatment room. Samples from the 0.5, 3.0 and 6.5 to 7.0 foot depths from each pair of borings were composited prior to analysis. Borings B-4, B-5, B-6 and B-7 were placed on the opposite side of the interior footing wall to evaluate whether the footing wall acted as an effective barrier to lateral fluid migration. Samples from the 0.5, 3.0 and 6.5 to 7.0 foot depths from these borings were analyzed individually. Boring B-2 was placed in the area of a former floor drain in the treatment room. Samples from this boring were also analyzed individually.

At the request of the Alameda County Department of Environmental Health, the surface drainage characteristics of the asphalt-covered crawl space area beneath the eastern portion of the building was investigated by releasing about 15 gallons of water to the asphalt surface. As indicated on Figure 3, drainage patterns on the asphalt surface are toward the southern perimeter footing and toward the west.

Surface sample S-1 was collected from an approximately 3-inch thick build-up of dry sediment on the asphalt surface beneath the eastern portion of the building. The sediment surface had a distinct mud-cracked appearance, indicating that process fluids probably collected on the asphalt surface and evaporated slowly, leaving behind a sediment residue that slowly dried out, forming mud-cracks. Surface samples S-2 through S-7 were collected from the immediate soil surface beneath the western etch process rooms to evaluate surficial soil quality in this area.

V. ANALYTICAL RESULTS

A. Laboratory Procedures

Soil samples were analyzed by Med-Tox Associates of Pleasant Hill, California and Sequoia Analytical of Redwood City, California. The laboratories are certified by the California Department of Health Services for the analyses performed. Twenty-eight soil samples were analyzed for cyanide, arsenic, beryllium, chromium, copper, molybdenum, lead, phenols, and pH. Six additional surface samples were analyzed for cyanide, chromium, copper and molybdenum. Three of the surface samples were collected as duplicates and analyzed at two different laboratories.

B. Analytical Results

Results of the soil sample analyses are presented on Tables 1, 2 and 3 and are attached to this report as Appendix B. The distribution of chemical constituents are discussed by specific building area in the following sections.

1. Treatment Room Area - East End of Building

Analytical results for samples from the eastern portion of the building are presented on Table 1. Surface sample S-1, the sample of the dry sediment atop the asphalt-covered area, contained the highest levels of constituents detected during this investigation. Cyanide was measured at 1100 parts per million (ppm), copper at 2900 ppm, and chromium at 800 ppm. The levels for copper and chromium exceed the respective Total Threshold Limit Concentration (TTLC) designation for hazardous waste (TTLC levels have not been established for cyanide). In addition, the sample contained lead at 120 ppm, molybdenum at 630 ppm, beryllium at 53 ppm and arsenic at 14 ppm. Phenols were measured at 0.94 ppm and the pH was 9.0.

Soil samples collected below the asphalt did not contain significant quantities of metals, phenols, or cyanide. The composite samples from Borings B1 and B2 contained 160 ppm cyanide at the 0.5 foot depth, 24 ppm at 3.0 feet, and 4.7 ppm at 6.0 feet. Boring B3 contained cyanide at 26 ppm, 13 ppm, and 22 ppm at the 0.5, 3.0, and 6.0 foot depths, respectively. Samples from Boring B4, outside the footing line, contained 7.1 ppm, 1.5 ppm, and 3.2 ppm cyanide at the 0.5, 3.0, and 7.0 foot depths, respectively. The measured concentrations of metals in these samples all appear to represent normally occurring background levels. Phenols were not detected with the exception of 0.52 ppm measured in the 7.0 foot sample from boring B4 and 0.94 ppm detected in sediment sample S-1. Soil pH ranged from 5.4 to 8.7.

2. Etch Process Room Area - West End of Building

Analytical results for six samples (S-2 through S-7) collected from the immediate soil surface beneath the etch process rooms are shown on Table 2. Three of the samples, S-2, S-5, and S-6, were split into duplicate samples in the field and analyzed separately by Med-Tox Associates and Sequoia Analytical Laboratory. With the exception of the 0.5 foot sample from Boring B6, these surface samples were the only samples from the etch process room areas found to contain significantly elevated levels of chemical constituents.

The duplicate samples are in acceptable agreement for chemical constituents with the possible exception of the cyanide results. Chromium is reported at concentrations of 55 ppm and 61 ppm by Med-Tox and Sequoia, respectively, for Sample S-2. Copper and molybdenum are reported at 120 vs. 100 and 11 vs. 12 ppm, respectively, for the sample. For cyanide however, Med-Tox reports 240 ppm whereas Sequoia reports 510 ppm. The discrepancy cannot be explained by the laboratories. Similarly, for Sample S-5, Med-Tox reports 270 ppm cyanide, and Sequoia reports 1100 ppm cyanide. The laboratories also disagree on copper concentration with Med-Tox reporting 9000 ppm and Sequoia reporting 900 ppm. The

laboratories agree on chromium and molybdenum, reporting 260 vs. 280 and 170 vs. 120 ppm, respectively, for Med-Tox and Sequoia.

The third duplicate sample (S-6) shows close agreement for all constituents. Cyanide is reported at 1300 ppm (Med-Tox) and 1200 ppm (Sequoia), chromium at 80 ppm (Med-Tox) and 92 ppm (Sequoia), copper at 320 ppm (Med-Tox) and 270 ppm (Sequoia), and molybdenum at 170 ppm (Med-Tox) and 160 ppm (Sequoia).

The remaining surface samples were analyzed only at Med-Tox Associates. Samples S-3, S-4, and S-7 were reported to contain 120, 650, and 1100 ppm cyanide, respectively. Sample S-3 contained 54 ppm chromium, 180 ppm copper, and molybdenum was not detected. Sample S-4 contained 150 ppm chromium, 410 ppm copper, and 140 ppm molybdenum. Sample S-7 contained 120 ppm chromium, 480 ppm copper, and 500 ppm molybdenum. All concentrations of metals are well below the respective TTLC.

Significant concentrations of metals were not found to be present in any of the remaining samples with the exception of the 0.5 foot sample in Boring B6. This sample contained 1100 ppm lead and 130 ppm copper. All other results for metals were within the range of normally occurring background levels. Cyanide was present in the 0.5 foot deep sample from Borings B12, B13 at a concentration of 150 ppm. However, all other samples were found to contain less than 8 ppm, and most of the samples contained less than 1 ppm. The sample from the 3-foot depth in Borings B12, B13 contained 0.2 ppm cyanide.

Phenols were detected in six of the 18 soil samples from this area analyzed for phenols. The maximum concentration detected was 2.82 ppm. Soil pH was measured at between 2.4 and 3.6 for samples at the 0.5 foot depth beneath the etch rooms. All other samples recorded a pH between 6.2 and 8.2.

VI. DISCUSSION

Based on the analytical results received to date, it appears that elevated levels of cyanide and metals occur only in the top three to six inches of surface soil beneath the etch process rooms at the western end of the building, and in the ponded sediment atop the asphalt surface covering beneath the eastern portion of the building. Surface samples from the beneath the etch process rooms contained from 120 to 1300 ppm cyanide. Chromium was measured at 55 to 280 ppm and molybdenum at ND to 500 ppm. One sample was reported to contain 9000 ppm copper, and the remaining samples contained between 100 and 480 ppm. In contrast, samples from the 0.5 foot depths in this same area (Borings B8 and 9, B10 and 11, B12 and 13) contained 7.8, 3.5, and 150 ppm cyanide. Samples from the 3.0 and 6.5 foot depths contained less than 2 ppm. None of the samples from the western end of the building contained significant

quantities of metals with the exception of the 0.5 foot sample from Boring B6 (outside the interior footing line) which contained 1100 ppm lead. However, the 3.0 and 6.5 foot samples from this boring contained only 2 ppm lead. In addition, lead is not known to have been used in the photo etching process.

The surface sediment sample collected from the top of the asphalt paving beneath the eastern portion of the building is the only sample from this area found to contain significant quantities of chemical constituents. The sample contained 1100 ppm cyanide, 2900 ppm copper, and 800 ppm chromium. The measured concentrations of copper and chromium exceed the State TTLC. In addition, the sample contained 53 ppm beryllium and 630 ppm molybdenum. Samples collected at the 0.5 foot depth beneath the asphalt contained 160 and 26 ppm cyanide and normal background levels of metals (Borings B1, B2 and B3). The 3.0 and 6.0 foot samples from these borings contained between 4.7 and 22 ppm cyanide, again with normal background levels of metals.

The samples from Boring B4, placed outside the interior footing wall, contained 7.1, 1.5, and 3.2 ppm cyanide at the 0.5, 3 and 7 foot depths, respectively. All metals were measured at low levels, and sample at the 7 foot depth contained phenols at 0.52 ppm.

In summary, it appears that only the surficial soils at the west end of the building and the sediment atop the asphalt at the eastern end of the building have been significantly impacted by release of process fluids.

VII. LIMITATIONS

Our services have been performed in accordance with generally accepted engineering and environmental principles and practices within the area at the time of our investigation. No other warranty, either expressed or implied as to the professional advice provided is made. It should be recognized that certain limitations are inherent in the evaluation of subsurface conditions, and that certain conditions may not be detected during an investigation of this type. If you wish to reduce the level of uncertainty associated with this study, we should be contacted for additional consultation.

The analysis and conclusions contained in this report are based on the site conditions as they existed at the time of our reconnaissance. Changes in the information or the data obtained or in the proposed land use could result in changes in our conclusions. If such changes do occur, we should be advised so that we can review our report in light of those changes.

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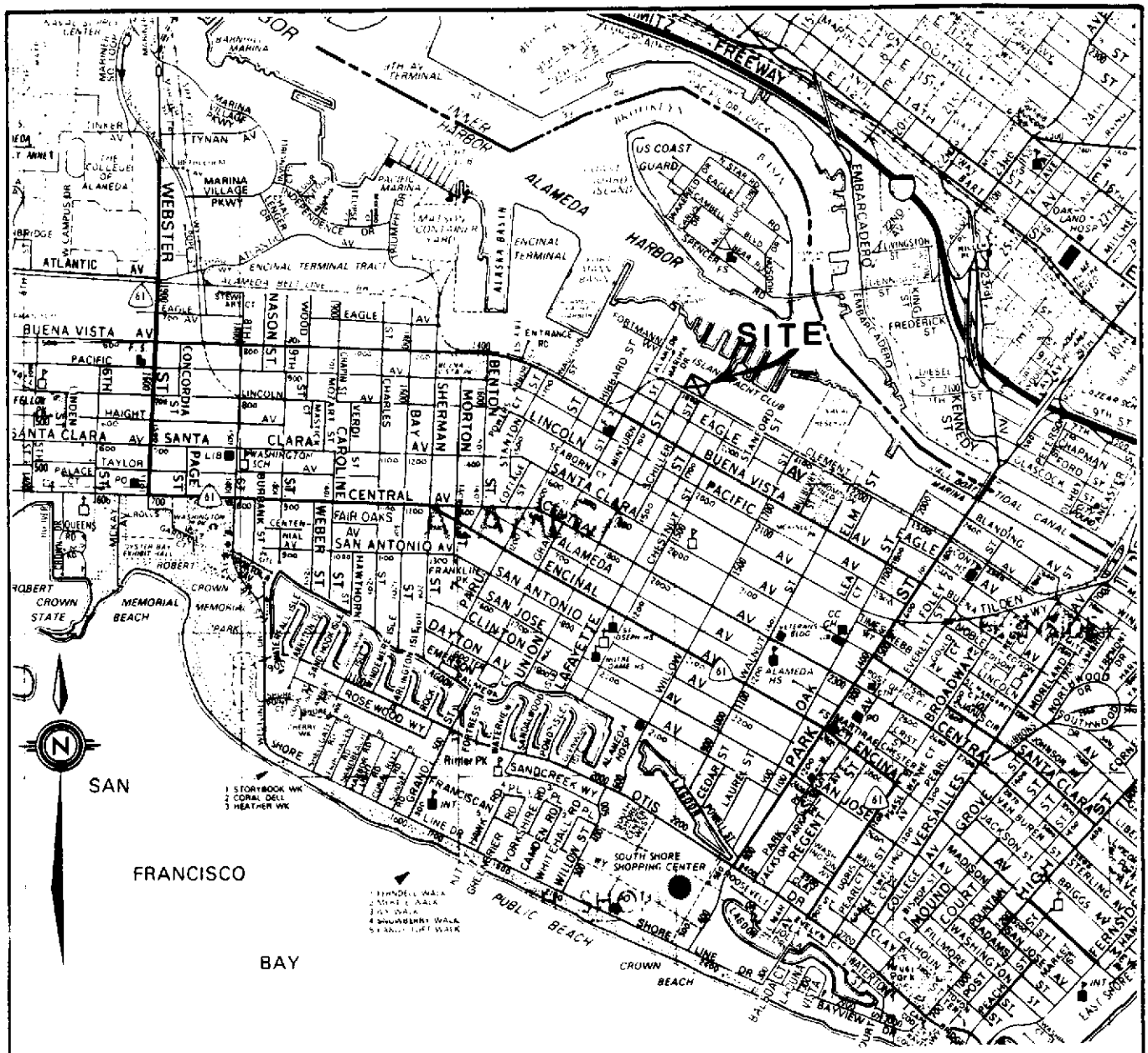

Base: Thomas Bros Maps, Alameda County, Page 11, 1988.

Kaldveer Associates
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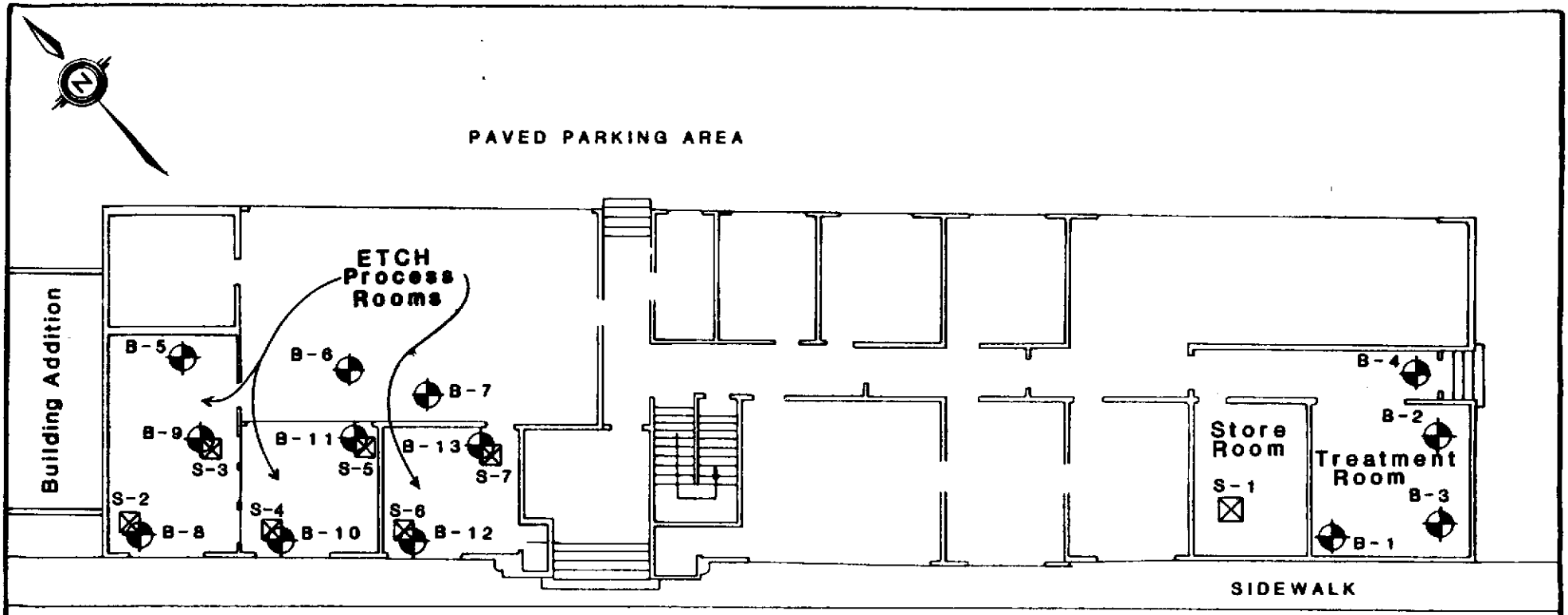
SITE LOCATION MAP

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	
KE1179-1	April 1990	Figure 1



Clement Avenue

APPROXIMATE SCALE IN FEET

0 15 30

LEGEND

B-1 Approximate Location of Exploratory Boring

S-1 Surface Sample

Kaldveer Associates
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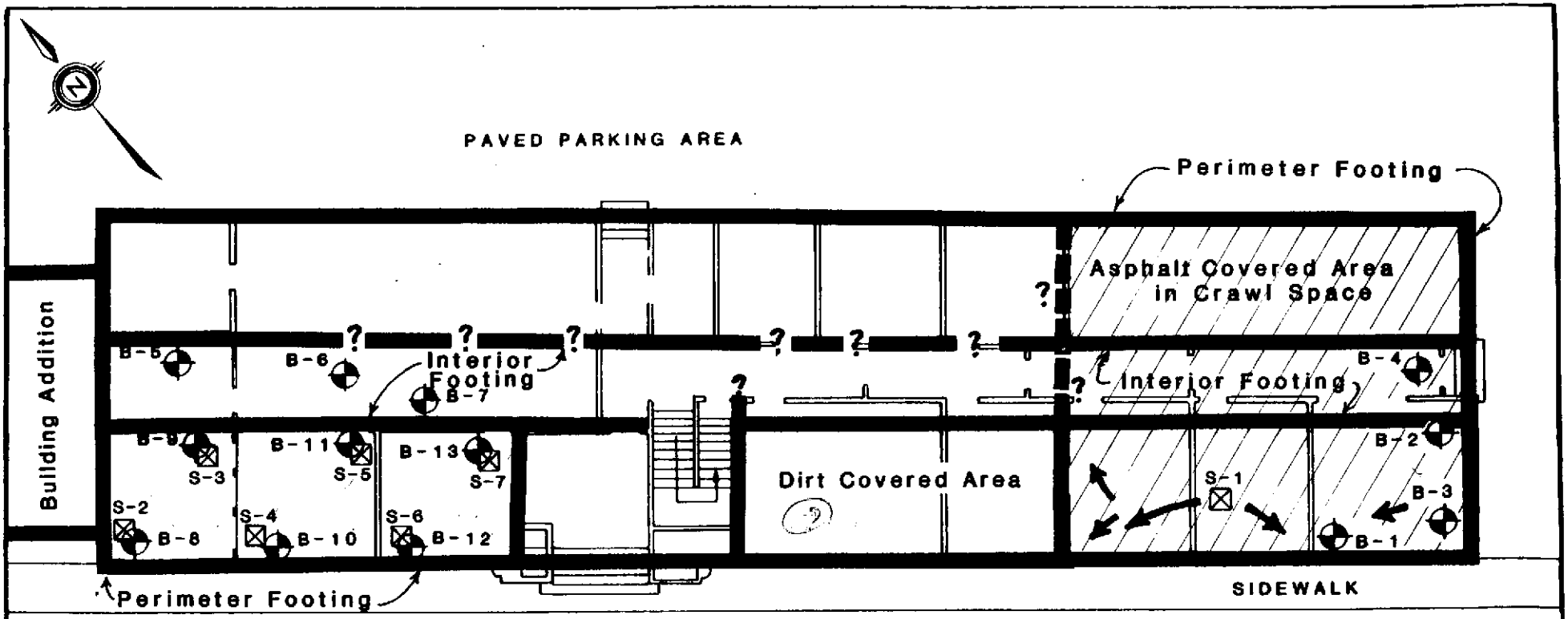
SITE PLAN

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO	DATE	Figure
KE1179-1	April 1990	2



Clement Avenue

APPROXIMATE SCALE IN FEET

0 15 30

LEGEND

B-1 Approximate Location of Exploratory Boring

S-1 Surface Sample

Apparent Drainage Flow Pattern on Asphalt Covered Area

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CRAWL SPACE FEATURES

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO	DATE	Figure
KE1179-1	April 1990	3

TABLE 1

ANALYTICAL RESULTS
TREATMENT ROOM AREA - EAST END OF BUILDING
(results reported in parts per million, mg/kg)

Sample Location and Depth	Constituent (1)								
	CN	As	Be	Cr	Cu	Mo	Pb	pH	Phenol
S-1	1100	14	53	800	2900	630	120	9.0	0.94
B1,B2-0.5	160	6.6	ND	28	4	23	4	7.2	ND
B1,B2-3	24	1.0	ND	42	13	4	2	6.9	ND
B1,B2-6	4.7	ND	ND	35	8	4	2	7.7	ND
B3-0.5	26	ND	ND	31	4	ND	3	6.6	ND
B3-3	13	0.6	ND	47	18	5	2	8.7	ND
B3-6	22	ND	ND	28	9	3	2	7.8	ND
B4-0.5	7.1	ND	ND	30	8	3	4	5.4	ND
B4-3	1.5	1.6	ND	33	7	3	1	7.6	ND
B4-7	3.2	ND	ND	37	13	3	2	7.8	0.52
TTLC	--	500	75	500	2500	3500	1000	--	--

Notes:

(1) Constituents = CN-cyanide, As-arsenic, Be-beryllium, Cr-chromium, Cu-copper, Mo-molybdenum, Pb-lead.

ND = Not detected, see Appendix B for specific laboratory detection limits.

TTLC = Total Threshold Limit Concentration for designation as hazardous waste.

TABLE 2

ANALYTICAL RESULTS - SURFACE SAMPLES
ETCH PROCESS ROOM AREA - WEST END OF BUILDING
(results reported in parts per million, mg/kg)

Sample Location	Constituent (1) CN	Cr	Cu	Mo
S-2	240	55	120	11
S-2D(2)	510	61	100	12
S-3	120	54	180	ND
S-4	650	150	410	140
S-5	270	260	9000	170
S-5D	1100	280	900	120
S-6	1300	80	320	170
S-6D	1200	92	270	160
S-7	1100	120	480	500
TTLC	--	500	2500	3500

Notes:

(1) Constituents = CN-cyanide, Cr-chromium, Cu-copper, Mo-molybdenum
(2) Sample designation S-2D denotes a duplicate of sample S-2
ND = Not detected, see Appendix B for specific laboratory detection limits
TTLC = Total Threshold Limit Concentration for designation as hazardous waste

TABLE 3

ANALYTICAL RESULTS - SUBSURFACE SAMPLES
ETCH PROCESS ROOM AREA - WEST END OF BUILDING
(results reported in parts per million, mg/kg)

Sample Location and Depth	Constituent (1)								
	CN	As	Be	Cr	Cu	Mo	Pb	pH	Phenol
B5-0.5	0.3	1.3	0.2	24	6	ND	9	6.7	ND
B5-3	0.2	1.6	ND	23	3	ND	ND	7.9	ND
B5-6	0.2	0.6	ND	26	7	ND	2	7.8	ND
B6-0.5	2.1	4.9	0.3	38	130	ND	1100	6.2	ND
B6-3	1.9	ND	0.5	52	10	ND	2	7.1	2.82
B6-6.5	ND	ND	0.2	26	6	ND	2	7.9	ND
B7-0.5	0.2	1.3	ND	26	6	ND	6	7.0	0.65
B7-3	2.0	2.5	ND	25	5	ND	1	8.0	ND
B7-6.5	0.6	ND	0.3	32	8	ND	2	7.7	1.19
B8&9-0.5	7.8	9.3	ND	36	26	ND	23	2.4	ND
B8&9-3	0.3	1.5	0.3	40	26	ND	4	7.5	ND
B8&9-6.5	0.2	0.9	0.3	32	11	ND	2	7.6	0.72
B10&11-0.5	3.5	14	0.4	42	51	ND	52	3.6	0.44
B10&11-3	0.6	0.6	0.6	35	15	ND	2	6.3	ND
B10&11-6.5	0.8	ND	0.2	31	10	ND	2	8.0	ND
B12&13-0.5	150	68	ND	85	30	ND	23	3.3	ND
B12&13-3	0.2	3.4	1.4	39	52	ND	15	8.2	ND
B12&13-6.5	0.4	ND	ND	33	10	ND	1	8.2	2.23
TTLC	--	500	75	500	2500	3500	1000	--	--

Notes:

(1) Constituents = CN-cyanide, As-arsenic, Be-beryllium, Cr-chromium, Cu-copper, Mo-molybdenum, Pb-lead.

ND = Not detected, see Appendix B for specific laboratory detection limits.

TTLC = Total Threshold Limit Concentration for designation as hazardous waste.

Pb - TTLC

DRILL RIG	Soil Probe Auger (1")	SURFACE ELEVATION	2' Below Floor	LOGGED BY	PBH
DEPTH TO GROUNDWATER	±6 Feet	BORING DIAMETER	2"	DATE DRILLED	2/11/90

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT.)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
1.5" asphaltic tar covering									
Silty sandy BASE MATERIAL, minor gravel and clay, damp to moist	brown	medium dense	SM	1					
SAND, minor silt,(fine grained sand) slight blue/green discoloration in sample, dry to damp	black	loose	SM	2					
Silty SAND (fine-to-medium grained) damp to moist	brown	medium dense	SM	3					
Clayey SAND (fine grained sand), moist to very moist	brown	firm-stiff	SC	4			▼	After 4 hrs.	
Silty SAND with clay (fine- to medium-grained sand) clayey zones	brown	loose to medium dense	SM	5 6			▽	First Water	
Total Depth = 6.5 Feet Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.				7 8 9 10					

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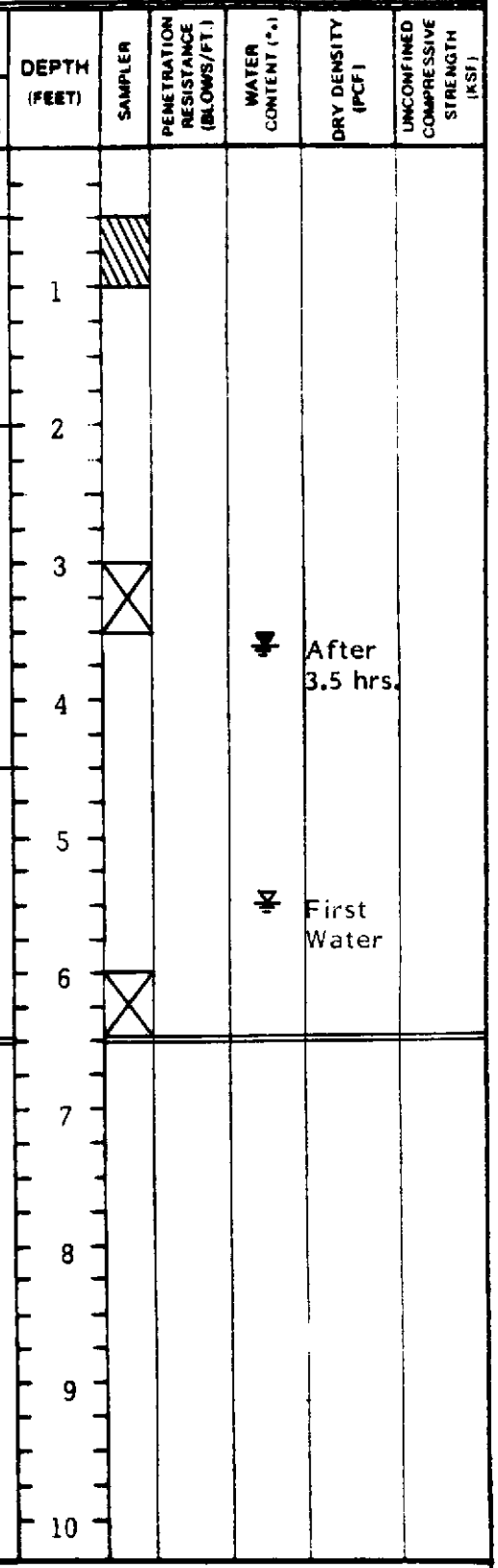
EXPLORATORY BORING LOG

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	BORING NO.
KE1179-1	April 1990	B-1

DRILL RIG Hand Auger	SURFACE ELEVATION 2' Below Floor	LOGGED BY PBH
DEPTH TO GROUNDWATER 5'6"	BORING DIAMETER 2-1/2 inches	DATE DRILLED 2/11/90

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE
Silty sand BASE MATERIAL below 1.5 inch Asphalt	brown		SM
Silty SAND, (fine, poorly sorted sand), discolored green, moist	black	medium dense	SM
Silty SAND, (fine sand), very moist to wet	brown	loose to medium dense	SM
increasing silty clay			
Silty, clayey, SAND, (medium-to-coarse grained sand) poorly sorted, very moist to wet	brown	medium dense	SC
Total Depth = 6.5 Feet			
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.			



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EXPLORATORY BORING LOG

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	BORING NO.
KE1179-1	April 1990	B-2

DRILL RIG Hand Auger 2.5"	SURFACE ELEVATION 2' below floor	LOGGED BY DML
DEPTH TO GROUNDWATER 5 Feet	BORING DIAMETER 2½ inches	DATE DRILLED 2/11/90

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT.)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSI)
1.5" Asphalt type tar covering									
Silty sandy BASE MATERIAL with gravel and clay	brown		SM						
Slightly silty SAND, fine-medium-grained, moist	dark brown	loose	SM	1					
Silty SAND, fine-medium-grained, wet. no recovery in driven sample tube. Sample obtained with hand auger and placed in tube.	brown	loose to medium dense	SM	2					
				3	G				
Clayey SAND, to sandy clay medium-grained sand, very moist to wet grading to less clay with depth	brown	medium dense to stiff	SC	4					
				5			▽	First Water	
Silty SAND, fine-medium-grained sand, saturated. No recovery in driven sample tube.	brown	loose		6	G				
Sample placed in tube from hand auger. Total Depth = 6.5 Feet				7					
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.				8					
				9					
				10					

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EXPLORATORY BORING LOG

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	BORING NO.
KE1179-1	April 1990	B-3

DRILL RIG Minute Man	SURFACE ELEVATION 3' Below Floor	LOGGED BY PBH
DEPTH TO GROUNDWATER 7 Feet	BORING DIAMETER 3"	DATE DRILLED 2/11/90

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSI)
1.5 inches Asphaltic Tar covering									
Silty sandy BASE MATERIAL, minor gravel and clay, damp to moist	brown		SM	1					
SAND, minor silt, fine grained sand, blue-green discoloration in sample, damp	black	loose to medium dense	SM	2					
Silty SAND, (fine-to-medium grained) damp to moist. No recovery in sampler. Sample taken from hand auger and placed in brass tube.	brown	loose-	SM	3	C				
Clayey SAND (fine-to-medium grained) moist	brown	firm stiff	SC	4			▼	After 3 hrs.	
Silty SAND with clay (fine-to-medium grained sand)	brown	loose to medium dense	SM	5					
possible clayey zone				6					
				7	C		▼	First Water	
Total Depth = 7 Feet				8					
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.				9					
				10					

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EXPLORATORY BORING LOG

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	BORING NO.
KE1179-1	April 1990	B-4

DRILL RIG Minute Man	SURFACE ELEVATION 3' Below Floor	LOGGED BY PBH
DEPTH TO GROUNDWATER 6 Feet	BORING DIAMETER 3"	DATE DRILLED 2/17/90

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT.)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
Silty SAND, (fine-to-coarse sand), damp trace orgainic material	dark brown black	loose	SM	1 2					
Silty SAND with minor clay, very moist to damp, rust discoloration in vertical veins	brown	medium dense	SM	3 4 5			▼	After 2 hrs.	
Silty, clayey SAND (fine-to-medium) slight rust discoloration, very moist to wet	brown	medium dense	SC SM	6 7			▽	First Water	
Total Depth = 7 Feet Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.				8 9 10					

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EXPLORATORY BORING LOG

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	BORING NO.
KE1179-1	April 1990	B-5

DRILL RIG Minute Man	SURFACE ELEVATION 3' Below Floor	LOGGED BY PBH
DEPTH TO GROUNDWATER 6 Feet	BORING DIAMETER 3"	DATE DRILLED 2/17/90

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT.)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
Silty SAND, trace organic debris, damp	black with some brown	loose	SM	1					
Silty SAND with minor clay (fine-to-coarse grained sand), moist to very moist, rust colored sand in veritcal veins	brown	medium dense	SM	2, 3, 4					
Silty clayey SAND (fine-to-coarse sand) slight discoloration in seams (seam filled with clayey silt), very moist to saturated	brown	medium dense	SC/SM	5, 6					
Total Depth = 7 Feet Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.				7, 8, 9, 10					

▼ After 1.5 hrs.

▽ First Water

Kaldveer Associates
Geoscience Consultants
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EXPLORATORY BORING LOG

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	BORING NO.
KE1179-1	April 1990	B-6

DRILL RIG Minute Man	SURFACE ELEVATION 3' Below Floor	LOGGED BY PBH
DEPTH TO GROUNDWATER 6 Feet	BORING DIAMETER 3"	DATE DRILLED 2/17/90

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
Silty, SAND (fine- to coarse-grained) organic debris, damp	damp brown black	loose	SM	0					
Silty SAND (fine sand) moist to very moist	brown	medium	SM	3					
Silty, clayey SAND (fine- to coarse sand) discoloration in clay seam around tree root, (green to black), very moist to saturated	brown	medium dense	SC	5			After 1 hr.		
				6			First Water		
Total Depth = 7 Feet Note:. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.				7					
				8					
				9					
				10					

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Geoscience Consultants
A California Corporation

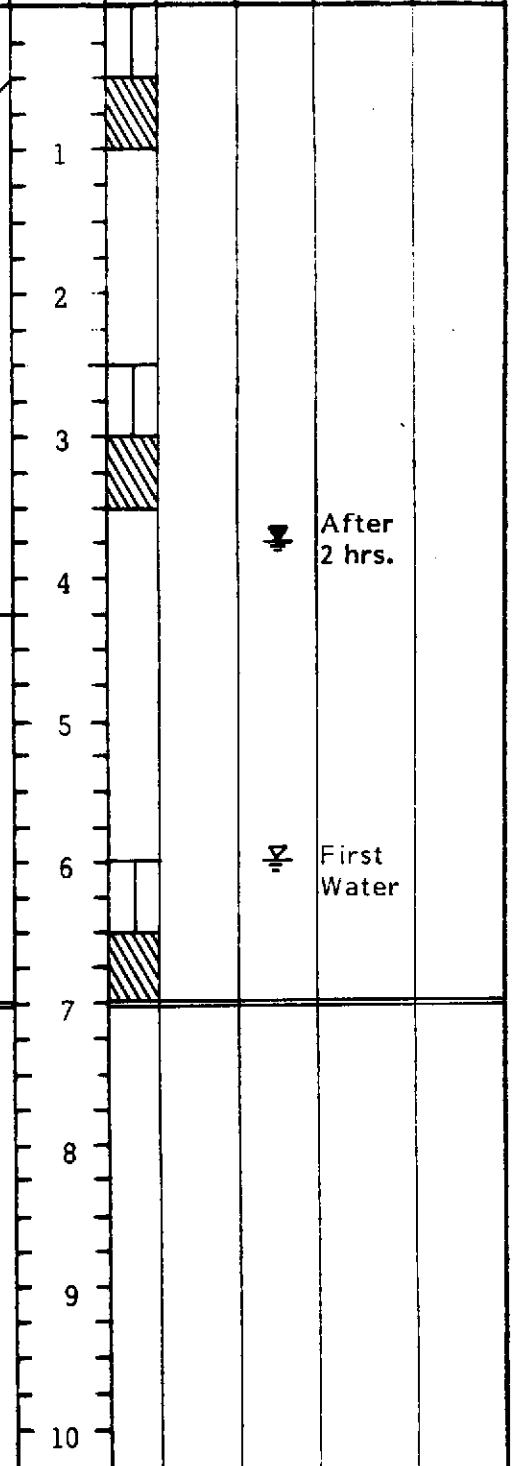
EXPLORATORY BORING LOG

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	BORING NO.
KE1179-1	April 1990	B_7

DRILL RIG Minute Man	SURFACE ELEVATION 3' Below Floor	LOGGED BY PBH
DEPTH TO GROUNDWATER 6 Feet	BORING DIAMETER 3"	DATE DRILLED 2/17/90

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE
Silty SAND (fine grained sand) damp, slight green-brown discoloration	dark brown black	loose	SM
Silty SAND, minor clay (fine-to-coarse grained sand), moist to very moist, rust discoloration in veins	brown	medium dense	SM
Silty, clayey SAND (fine-to-coarse grained sand) very moist to wet. Green/brown discoloration in clay filled seams	brown	medium dense	SC
Total Depth = 7 Feet Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.			



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EXPLORATORY BORING LOG

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	BORING NO.
KE1179-1	April 1990	B-8

DRILL RIG Minute Man	SURFACE ELEVATION 3' Below Floor	LOGGED BY PBH
DEPTH TO GROUNDWATER 6 Feet	BORING DIAMETER 3"	DATE DRILLED 2/17/90

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE
Silty SAND, (fine grained sand), trace organic debris, damp, green discoloration in sample	black dark brown	loose	SM
Silty SAND with minor clay, (fine to coarse grained sand), green-brown discoloration in clay seams, moist to very moist	brown	medium dense	SM
Silty, clayey SAND, (fine to coarse sand) very moist to wet	brown	medium dense	SC
Total Depth = 7 Feet Note: Stratification lines represent the approximate boundaries between soil types and the transition may be gradual.			

DEPTH (FEET): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

SAMPLER

PENETRATION RESISTANCE (BLOWS/FT.)

WATER CONTENT (%)

DRY DENSITY (PCF)

UNCONFINED COMPRESSIVE STRENGTH (KSF)

After 2 hrs.

First Water

Kaldveer Associates
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EXPLORATORY BORING LOG

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	BORING NO.
KE1179-1	April 1990	B-9

DRILL RIG Minute Man	SURFACE ELEVATION 3' Below Floor	LOGGED BY PBH
DEPTH TO GROUNDWATER 6 Feet	BORING DIAMETER 3"	DATE DRILLED 2/17/90

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT.)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
Silty SAND, (fine-to-coarse grained sand), traces organic material, dry to damp, green-blue discoloration in sample	brown black	loose	SM	1					
Silty SAND with minor clay, (fine-to-medium grained sand), moist to very moist	brown	loose-medium dense	SM	2, 3, 4			After 3.5 hrs.		
Silty, clayey SAND (fine-to-coarse grained sand), wet to saturated, green-blue discoloration in clay-filled seams	brown	medium dense	SC	5, 6			First Water		
Total Depth = 7 Feet Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.				7, 8, 9, 10					

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EXPLORATORY BORING LOG

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	BORING NO.
KE1179-1	April 1990	B-10

DRILL RIG Minute Man	SURFACE ELEVATION 3' Below Floor	LOGGED BY PBH
DEPTH TO GROUNDWATER 7 Feet	BORING DIAMETER 3"	DATE DRILLED 2/17/90

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT.)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
Silty SAND, (fine-to-coarse sand), trace organic debris, dry to damp, green/blue discoloration	dark brown to black	loose	SM	0–2					
Silty SAND with minor clay (fine-to-coarse grained grained sand), moist to very moist	brown	medium dense	SM	2–5			▼	After 3 hrs.	
Silty, clayey SAND, (fine grained sand) very moist to wet, rust colored sandy silt filled veins	brown	medium dense	SC	5–7			▽	First Water	
Total Depth = 7 Feet Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.				7–10					

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EXPLORATORY BORING LOG

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	BORING NO
KE1179-1	April 1990	B-11

DRILL RIG Minute Man	SURFACE ELEVATION 3' Below Floor	LOGGED BY PBH
DEPTH TO GROUNDWATER 6 Feet	BORING DIAMETER 3"	DATE DRILLED 2/17/90

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
Silty SAND, (fine sand) damp to moist, green discoloring in sample	black	loose-medium dense	SM	1					
Silty SAND, (fine sand), moist to very moist	brown	medium dense	SM	2, 3, 4			▼ After 5 hrs.		
Clayey silty SAND, (fine sand), moist to wet	brown	medium dense	SC	5, 6			▽ First Water		
Total Depth = 7 Feet Note:. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.				7, 8, 9, 10					

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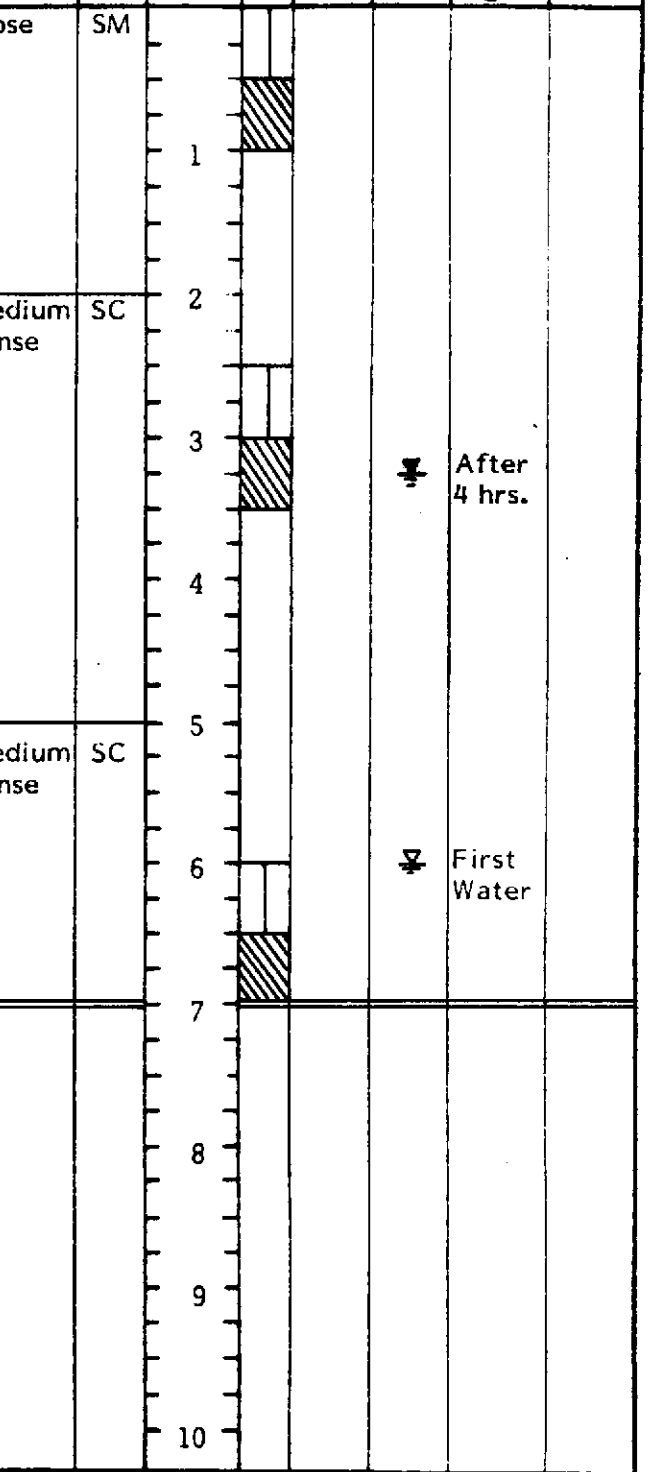
EXPLORATORY BORING LOG

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	BORING NO.
KE1179-1	April 1990	B-12

DRILL RIG Minute Man	SURFACE ELEVATION 3' Below Floor	LOGGED BY PBH
DEPTH TO GROUNDWATER 6 Feet	BORING DIAMETER 3"	DATE DRILLED 2/17/90

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE
Silty SAND (fine-to-coarse grained sand) minor organic material, dry to damp, slight green-blue discoloration	black	loose	SM
Silty, clayey SAND, (fine sand), very moist to wet	brown	medium dense	SC
Clayey SAND with minor silt, (fine-to-coarse grained sand), wet to saturated, slight green-blue discoloration in clay filled veins	brown	medium dense	SC
Total Depth = 7 Feet Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.			



Kaldveer Associates
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EXPLORATORY BORING LOG

1829 CLEMENT AVENUE
Alameda, California

PROJECT NO.	DATE	BORING NO.
KE1179-1	April 1990	B-13

APPENDIX B

LABORATORY REPORTS

MED-TOX ASSOCIATES, INC.

ENVIRONMENTAL & OCCUPATIONAL HEALTH SERVICES

3440 Vincent Road • Pleasant Hill, CA 94523 • (415) 930-9090

LABORATORY ANALYSIS REPORT

KALDVEER ASSOCIATES, INC.
425 ROLAND WAY
OAKLAND, CA 94621

ATTN: DENNIS LADUZINSKY

CLIENT PROJECT NO: KE1179-1

REPORT DATE: 03/27/90

DATE SAMPLED: 02/11/90

DATE RECEIVED: 02/12/90

MED-TOX JOB NO: 9002074

ANALYSIS OF: SOIL SAMPLES FOR ARSENIC, BERYLLIUM, CHROMIUM, COPPER, MOLYBDENUM, LEAD, pH, CYANIDE AND PHENOLS

Sample Identification Client Id.	Lab No.	Arsenic (mg/kg)	Beryllium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Molybdenum (mg/kg)	Lead (mg/kg)	pH (S.U.)
S-1	01A	14	53	800	2,900	630	120	9.0
B1-0.5,B2-0.5	02A	6.6	ND	28	4	23	4	7.2
B1-3,B2-3	03A	1.0	ND	42	13	4	2	6.9
B1-6,B2-6	04A	ND	ND	35	8	4	2	7.7
B3-0.5	05A	ND	ND	31	4	ND	3	6.6
B3-3	06A	0.6	ND	47	18	5	2	8.7
B3-6	07A	ND	ND	28	9	3	2	7.8
B4-0.5	08A	ND	ND	30	8	3	4	5.4
B4-3	09A	1.6	ND	33	7	3	1	7.6
B4-7	10A	ND	ND	37	13	3	2	7.8
Detection Limit		0.5	0.2	1	1	3	1	NA
EPA Method		7060	7090	7190	7210	7480	7420	9045
Instrument:		V12	V22	V22	V22	V22	V22	ISE

ND = Not Detected
NA = Not Applicable

Jack Sheets, Manager
Inorganic Laboratory

Results FAXed to Dennis Laduzinsky 02/16/90 & 02/20/90
Revision of report dated 02/23/90

KALDVEER ASSOCIATES, INC.

REPORT DATE: 03/27/90

CLIENT PROJECT NO: KE1179-1

MED-TOX JOB NO: 9002074

Sample Identification Client Id.	Lab No.	Cyanide* (mg/kg)	Phenols* (mg/kg)
S-1	01A	1,100	0.9
B1-0.5,B2-0.5	02A	160	ND
B1-3,B2-3	03A	24	ND
B1-6,B2-6	04A	4.6	ND
B3-0.5	05A	26	ND
B3-3	06A	13	ND
B3-6	07A	22	ND
B4-0.5	08A	7.1	ND
B4-3	09A	1.5	ND
B4-7	10A	3.2	0.5
Detection limit		0.1	0.4
EPA Method		9010	9065

* Subcontracted to a DOHS certified laboratory

R-4, S-F

MED-TOX ASSOCIATES, INC.
ANALYTICAL REQUEST/CHAIN OF CUSTODY FORM
(Complete Information on Opposite Side)

Date: 2-12-90
SAMPLER(S): Dennis Laduzinsky.

CLIENT Kaldveer Associates
CLIENT JOB REF.: KE1179-1
LAB PROJECT NO: 9002074
(lab use only)

* Tubes with arrows should be analyzed from the arrow end

CLIENT SAMPLE IDENTIFICATION	DATE	Lab Number (lab use only)	AIR VOLUME (Liters)	NO. CONT.	SAMPLE TYPE *	ANALYSES: Cyanide	Arsenic	Beryllium	Chromium	Molybdenum	Lead	Copper	phenols (420.1)	PH	COMMENTS/ INTERFERENCES
S-1	2-11-90	01A		1	Sediment	X	X	X	X	X	X	X	X	X	
B1-0.5		02A		1	Soil	X	X	X	X	X	X	X	X	X	composite of 2
B2-0.5				1		X	X	X	X	X	X	X	X	X	composite of 2
B1-3		03A		1		X	X	X	X	X	X	X	X	X	composite of 2
B2-3				1		X	X	X	X	X	X	X	X	X	
B2-6, B1-6		04A		2		X	X	X	X	X	X	X	X	X	
B3-0.5		05A		1		X	X	X	X	X	X	X	X	X	
B3-3		06A		1		X	X	X	X	X	X	X	X	X	
B3-6		07A		1		X	X	X	X	X	X	X	X	X	
B4-0.5		08A		1		X	X	X	X	X	X	X	X	X	
B4-3		09A		1		X	X	X	X	X	X	X	X	X	
B4-7		10A		1		X	X	X	X	X	X	X	X	X	

ONE WEEK TAT.

	Date	Time
Relinquished by: (Signature)		
Relinquished by: (Signature) Dennis Laduzinsky	2/12/90	0904
Dispatched by: (Signature)		
Method of Shipment:		

	Date	Time
Received by: (Signature)		
Received by: (Signature)		
Received for lab by: (Signature) Denise Harrington	2/12/90	
Lab Comments:		

*SAMPLE TYPE (SPECIFY): (1) 37 mm 0.8 um MCEF; 2) 25 mm 0.8 um MCEF; (3) 25 mm 0.4 um polycarb. filter; (4) PVC filter, diam. pore size ; (5) Charcoal tube; (6) Silica gel tube (7) Water; (8) Soil; (9) Bulk Sample;

MED-TOX ASSOCIATES, INC.

ENVIRONMENTAL & OCCUPATIONAL HEALTH SERVICES

3440 Vincent Road • Pleasant Hill, CA 94523 • (415) 930-9090

LABORATORY ANALYSIS REPORT

KALDVEER ASSOCIATES, INC.
425 ROLAND WAY
OAKLAND, CA 94621

ATTN: DENNIS LADUZINSKY

CLIENT PROJECT NO: KE1179-1

REPORT DATE: 03/27/90

DATE SAMPLED: 02/17/90

DATE RECEIVED: 02/17/90

MED-TOX JOB NO: 9002134

ANALYSIS OF: SOIL SAMPLES FOR ARSENIC, BERYLLIUM, CHROMIUM, COPPER, MOLYBDENUM, LEAD, pH, CYANIDE, AND PHENOLS

Sample Identification Client Id.	Lab No.	Arsenic (mg/kg)	Beryllium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Molybdenum (mg/kg)	Lead (mg/kg)	pH (S.U.)
B-7-0.5'	01A	1.3	ND	26	6	ND	6	7.0
B-7-3'	02A	2.5	ND	25	5	ND	1	8.0
B-7-6.5'	03A	ND	0.3	32	8	ND	2	7.7
B-6-0.5'	04A	4.9	0.3	38	130	ND	1,100	6.2
B-6-3'	05A	ND	0.5	52	10	ND	2	7.1
B-6-6.5	06A	ND	0.2	26	6	ND	2	7.9
B-5-0.5'	07A	1.3	0.2	24	6	ND	9	6.7
B-5-3'	08A	1.6	ND	23	3	ND	ND	7.9
B-5-6.5'	09A	0.6	ND	26	7	ND	2	7.8
Detection Limit		0.5	0.2	1	1	3	1	NA
EPA Method		7060	7090	7190	7210	7480	7420	9045
Instrument:		V12	V22	V22	V22	V22	V22	ISE

ND = Not Detected
NA = Not Applicable

Jack Sheets, Manager
Inorganic Laboratory

Results FAXed to Dennis Laduzinsky 03/06/90
Revision of report dated 03/07/90

KALDVEER ASSOCIATES, INC.

REPORT DATE: 03/27/90

CLIENT PROJECT NO: KE1179-1

MED-TOX JOB NO: 9002134

Sample Identification Client Id.	Lab No.	Arsenic (mg/kg)	Beryllium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Molybdenum (mg/kg)	Lead (mg/kg)	pH (S.U.)
Composites								
B-8-9-0.5'	10A	9.3	ND	36	26	ND	23	2.4
B-8-9-3'	11A	1.5	0.3	40	26	ND	4	7.5
B-8-9-6.5'	12A	0.9	0.3	32	11	ND	2	7.6
B-10-11-0.5'	13A	14	0.4	42	51	ND	52	3.6
B-10-11-3'	14A	0.6	0.6	35	15	ND	2	6.3
B-10-11-6.5'	15A	ND	0.2	31	10	ND	2	8.0
B-12-13-0.5'	16A	6.8	ND	85	30	ND	23	3.3
B-12-13-3'	17A	3.4	1.4	39	52	ND	15	8.2
B-12-13-6.5'	18A	ND	ND	33	10	ND	1	8.2
Detection Limit		0.5	0.2	1	1	3	1	NA
EPA Method		7060	7090	7190	7210	7480	7420	9045
Instrument:		V12	V22	V22	V22	V22	V22	ISE

ND = Not Detected
NA = Not Applicable

KALDVEER ASSOCIATES, INC. REPORT DATE: 03/27/90

CLIENT PROJECT NO: KE1179-1 MED-TOX JOB NO: 9002134

Sample Identification Client Id.	Lab No.	Cyanide* (mg/kg)	Phenols* (mg/kg)
B-7-0.5'	01A	0.2	0.6
B-7-3'	02A	2.0	ND
B-7-6.5'	03A	0.6	1.2
B-6-0.5'	04A	2.1	ND
B-6-3'	05A	1.9	2.8
B-6-6.5'	06A	ND	ND
B-5-0.5'	07A	0.3	ND
B-5-3'	08A	0.2	ND
B-5-6.5'	09A	0.2	ND
Composites			
B-8-9-0.5'	10A	7.8	ND
B-8-9-3'	11A	0.3	ND
B-8-9-6.5'	12A	0.2	0.7
B-10-11-0.5'	13A	3.5	0.4
B-10-11-3'	14A	0.6	ND
B-10-11-6.5'	15A	0.8	ND
B-12-13-0.5'	16A	150	ND
B-12-13-3'	17A	0.2	ND
B-12-13-6.5'	18A	0.4	2.2
Detection limit		0.1	0.4
EPA Method		9010	9065

ND = Not Detected

* Subcontracted to a DOHS certified laboratory

R-4, S-I 9002134

CHAIN-OF-CUSTODY RECORD

Project Number	Project Name
KE 1179-1	

Sampler's Name (printed): P. B. Hudson

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers	Cyanide	Arsenic	Beryllium	Chromium	Molybdenum	Lead	Copper	Phenols - (420.1)	pH	Remarks
B-7	2/17		Y		0.5' (FEET)	B-7-0.5	1/BRASS LINER	X	X	X	X	X	X	X	X	X	1A
B-7					3'	B-7-3		X	X	X	X	X	X	X	X	X	2A
B-7					6½'	B-7-6½		X	X	X	X	X	X	X	X	X	3A
B-6					0.5	B-6-0.5		X	X	X	X	X	X	X	X	X	4A
B-6					3'	B-6-3'		X	X	X	X	X	X	X	X	X	5A
B-6					6½'	B-6-6½'		X	X	X	X	X	X	X	X	X	6A
B-5					0.5'	B-5-0.5'		X	X	X	X	X	X	X	X	X	7A
B-5					3'	B-5-3'		X	X	X	X	X	X	X	X	X	8A
B-5					6½'	B-5-6½'		X	X	X	X	X	X	X	X	X	9A
B-8					0.5	B-8-0.5'		X	X	X	X	X	X	X	X	X	COMPOSITE OF THE TWO 10A
B-9					0.5	B-9-0.5'		X	X	X	X	X	X	X	X	X	COMPOSITE OF THE TWO 11A
B-8					3'	B-8-3'		X	X	X	X	X	X	X	X	X	
B-9					3'	B-9-3		X	X	X	X	X	X	X	X	X	COMPOSITE OF THE TWO 12A
B-8	V		V		6½'	B-8-6½	V										
B-9					6½'	B-9-6½											

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	2/17/90 1730	[signature]
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Ship To: MED TOX

Attention: 930-9090

Phone No:

Requested Turnaround Time: CONTACT DENNIS LADUZINSKY 2/20 CONCERNING TAT.

Remarks: Normal TAT per D. Laduzinsky 2-20-90

Kaldveer Assoc. Contact: DENNIS LADUZINSKY

Please address correspondence to:
Kaldveer Associates, Inc.
425 Roland Way
Oakland, California 94621
(415) 568-4001

Kaldveer Associates
Geoscience Consultants
A California Corporation

White - Kaldveer Associates Yellow - Analytical Laboratory

R4,5-I 9002134

CHAIN-OF-CUSTODY RECORD

Project Number	Project Name
KE 1179-1	

Sampler's Name (printed): P. B. Hudson

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers	Analytical Tests: Cyanide	Arsenic	Beryllium	Chromium	Molybdenum	Lead	Copper	Fluorides (420.1)	pH	Remarks
B-10	2/17		X		0.5' -	B-10-0.5'	1/BRASS LINER	X	X	X	X	X	X	X	X	X	COMPOSITE OF TWO 13A
B-11					0.5' -	B-11-0.5'											
B-10					3' -	B-10-3'											COMPOSITE OF TWO 14A
B-11					3' -	B-11-3'											
B-10					6 1/2' -	B-10-6 1/2											COMPOSITE OF TWO 15A
B-11					6 1/2' -	B-11-6 1/2											
B-12					0.5' -	B-12-0.5'											COMPOSITE OF TWO 16A
B-13					0.5' -	B-13-0.5'											
B-12					3' -	B-12-3'											COMPOSITE OF TWO 17A
B-13					3' -	B-13-3'											
B-12					6 1/2' -	B-12-6 1/2											COMPOSITE OF TWO 18A
B-13					6 1/2' -	B-13-6 1/2											

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	2/17/90 1730	[signature]
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Ship To: MCOTOX

Attention: 930 9090

Phone No:

Requested Turnaround Time: CONTACT DENNIS 2/20 CONCERNING TAT.

Remarks:

Kaldveer Assoc. Contact: DENNIS KADUZINSKY

Please address correspondence to:

Kaldveer Associates, Inc.
425 Roland Way
Oakland, California 94621
(415) 568-4001

Kaldveer Associates Geoscience Consultant
A California Corporation

White - Kaldveer Associates Yellow - Analytical Laboratory

MED-TOX ASSOCIATES, INC.

ENVIRONMENTAL & OCCUPATIONAL HEALTH SERVICES

3440 Vincent Road • Pleasant Hill, CA 94523 • (415) 930-9090

LABORATORY ANALYSIS REPORT

KALDVEER ASSOCIATES, INC.
425 ROLAND WAY
OAKLAND, CA 94621

ATTN: DENNIS LADUZINSKY

CLIENT PROJECT NO: KE1179-1

REPORT DATE: 03/27/90

DATE SAMPLED: 03/09/90

DATE RECEIVED: 03/09/90

MED-TOX JOB NO: 9003058

ANALYSIS OF: SOIL SAMPLES FOR CHROMIUM, COPPER, MOLYBDENUM, AND CYANIDE

Sample Identification Client Id.	Lab No.	Chromium (mg/kg)	Copper (mg/kg)	Molybdenum (mg/kg)	Cyanide* (mg/kg)
S-2	01A	55	120	11	240
S-3	02A	54	180	ND	120
S-4	03A	150	410	140	650
S-5	04A	260	9,000	170	270
S-6	05A	80	320	170	1,300
S-7	06A	120	480	500	1,100
Detection limit		1	1	3	0.1
Method		7190	7210	7480	9010

* Subcontracted to a DOHS certified laboratory

Jack Sheets, Manager
Inorganic Laboratory

Results FAXed to Dennis Laduzinsky 03/16/90
Revision of report dated 03/20/90

9003058

CHAIN-OF CUSTODY RECORD

Project Number	Project Name
KE1179-1	Alameda

Sampler's Name (printed): D. Ladozinsky

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers	Analytical Tests: CYANIDE	Molybdenum	Copper	Chromium	Remarks
	3/7/90		X		S-2		3 jars	X	X	X	X	
	↓		↓		S-3		↓	X	X	X	X	
					S-4			X	X	X	X	
					S-5			X	X	X	X	
					S-6			X	X	X	X	
					S-7			X	X	X	X	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time: 3/9/90 2:55 pm	Received for Laboratory by: (Signature) Denise Harrington

Ship To: Med-Tox

Attention:

Phone No:

Requested Turnaround Time: ASAP

Kaldveer Assoc. Contact: Dennis Ladozinsky

Remarks:

Please address correspondence to:

Kaldveer Associates, Inc.
425 Roland Way
Oakland, California 94621
(415) 568-4001

Kaldveer Associates
Geoscience Consultants
A California Corporation

White - Kaldveer Associates Yellow - Analytical Laboratory

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaldveer Associates, Inc.	Client Project ID:	Alameda	Sampled:	Mar 9, 1990
425 Roland Way	Sample Descript:	Soil, KE1179-1, (S-2D)	Received:	Mar 12, 1990
Oakland, CA 94621			Extracted:	Mar 15, 1990
Attention: Dennis Laduzinsky	Lab Number:	003-1579	Analyzed:	Mar 15, 1990
			Reported:	Mar 17, 1990

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Cyanide	1.0	510
Molybdenum	2.5	12
Copper	0.50	100
Chromium	0.25	16

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Diane Elich Lawver
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaldveer Associates, Inc.	Client Project ID:	Alameda	Sampled:	Mar 9, 1990
425 Roland Way	Sample Descript:	Soil, KE1179-1, (S-6D)	Received:	Mar 12, 1990
Oakland, CA 94621			Extracted:	Mar 15, 1990
Attention: Dennis Laduzinsky	Lab Number:	003-1581	Analyzed:	Mar 15, 1990
			Reported:	Mar 17, 1990

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Cyanide	1.0	1,200
Molybdenum	2.5	180
Copper	0.50	270
Chromium	0.25	92

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Diane Ellch Lawver
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaldveer Associates, Inc.	Client Project ID:	Alameda	Sampled:	Mar 9, 1990
425 Roland Way	Sample Descript:	Soil, KE1179-1, (S-5D)	Received:	Mar 12, 1990
Oakland, CA 94621			Extracted:	Mar 15, 1990
Attention: Dennis Laduzinsky	Lab Number:	003-1580	Analyzed:	Mar 15, 1990
			Reported:	Mar 17, 1990

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Cyanide	1.0	1,100
Molybdenum	2.5	120
Copper	0.50	600
Chromium	0.25	280

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Diane Elich Lawver
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaldveer Associates, Inc.
425 Roland Way
Oakland, CA 94621
Attention: Dennis Laduzinsky

Client Project ID: Alameda

QC Sample Group: 0031579 - 81

Reported: Mar 17, 1990

QUALITY CONTROL DATA REPORT

ANALYTE	Cyanide	Molybdenum	Copper	Chromium
Method:	EPA 9010	EPA 6010	EPA 6010	EPA 6010
Analyst:	A. Chu	B. Oliver	B. Oliver	B. Oliver
Reporting Units:	mg/kg	mg/L	mg/L	mg/L
Date Analyzed:	Mar 14, 1990	Mar 15, 1990	Mar 15, 1990	Mar 15, 1990
QC Sample #:	002-2544	003-1375	003-1375	003-1375
Sample Conc.:	2.5	N.D.	0.59	0.095
Spike Conc. Added:	1.0	1.0	1.0	1.0
Conc. Matrix Spike:	3.4	0.98	1.5	1.1
Matrix Spike % Recovery:	90	98	91	100
Conc. Matrix Spike Dup.:	3.3	1.1	1.6	1,2
Matrix Spike Duplicate % Recovery:	82	110	100	110
Relative % Difference:	9.3	12	6.5	8.7

SEQUOIA ANALYTICAL

Diane Elich Lawver
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

CHAIN-OF CUSTODY RECORD

Project Number	Project Name
KE1179-1	Alameda

Sampler's Name (printed): D. Laduzinsky

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers	Analytical Tests: CYANIDE	MOLYBDENUM	COPPER	CHROMIUM			Remarks
	3/9/10		X		S-2D		3 liters	X	X	X	X			
	↓		↓		S-5D		↓	X	X	X	X			
					S-6D			X	X	X	X			

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time 3/12/10 12:32	Received for Laboratory by: (Signature) Joe L. Wilson

Ship To: Sequoia Analytical

Attention: _____

Phone No: _____

Requested Turnaround Time: 3 Day

Remarks:

Kaldveer Assoc. Contact: Dennis Laduzinsky

Please address correspondence to:

Kaldveer Associates, Inc.
425 Roland Way
Oakland, California 94621
(415) 568-4001

Kaldveer Associates
Geoscience Consultants
A Calibrena Corporation

White - Kaldveer Associates Yellow - Analytical Laboratory