

42501 Albrae Street
Fremont, California 94538
Phone: (510) 440-3300
FAX: (510) 651-2233

T R A N S M I T T A L

DATE: February 11, 1993
PROJECT NO.: F3125.31
TO: Alameda County Health Care Services
Department of Environmental Health
Hazardous Materials Programs
80 Swan Way Center, Room 200
Oakland, California 94621
ATTENTION: Mr. Kevin Tinsley
SUBJECT: Former Island Gun Club


02/11/93 10:00 AM

WE ARE SENDING YOU:

COPIES	DATED	DESCRIPTION
1	2/11/93	Letter Report Regarding Investigation for Further Delineation of Lead-Bearing Soil at Former Island Gun Club, 500 Maitland Drive, Alameda, California.
1	2/11/93	Phase II Soil and Groundwater Investigation at Harbor Bay Isle Associates, 500 Maitland Drive, Alameda, California.
1	2/11/93	Summary and Recommendations at Former Gun Club Property, 500 Maitland Drive, Alameda, California.
1	1/19/93	Letter Report on Fourth Quarter 1992 Groundwater Monitoring at Former Island Gun Club, 500 Maitland Drive, Alameda, California.

THESE ARE TRANSMITTED as checked below:

For review and comment As requested For your files For approval


Gary Pischke, C.E.G. 1501
Project Manager (415) 312-7400

42501 Albrae Street
Fremont, California 94538
Phone: (510) 440-3300
FAX: (510) 651-2233

February 11, 1993
Project No. F3125.31

Harbor Bay Isle Associates
1141 Harbor Bay Parkway
Alameda, California 94501

Attention: Mr. Aidan Barry

Site: Former Gun Club Property
500 Maitland Drive
Alameda, California

Subject: Summary and Recommendations

Dear Mr. Barry:

As requested, RESNA is providing the following summary and recommendations for the subject site. The additional investigation has found lead bearing soil greater than TTLC limits. The site should be remediated according to EPA guidelines for gun clubs.

Summary

1. Laboratory results for lead as TTLC indicate one area near a building with concentrations greater than 1,000 ppm. The soil is considered hazardous. The soil in this area (sample 28) above TTLC limits has been defined.
2. Results from STLC (WET method) soil tests indicate soluble lead (greater than 5 ppm) in the central portion of the site. The results agree with the areas of highest use. The background sample results indicate 0.4 ppm lead STLC for off-site soil.
3. As stated in the groundwater report, groundwater sample results for both on-site and off-site wells indicate lead levels above the Ocean Plan guidelines for Marine Aquatic Life Protection. However, groundwater results on-site are below Drinking Water MCL for lead, except for MW-3 in September 1992. Levels for lead appear to have declined for most wells within the three month period in the groundwater report. Soluble lead (STLC by the WET method) results indicate non-detectable levels for the three month period.
4. Total Dissolved Solids (TDS) for the site are above drinking water standards of 500 ppm. The levels indicate interaction with marine waters. The variable direction of gradient also indicates either tidal influence of variable surface sources.

Recommendations

1. The initial and additional assessment and groundwater evaluation reports should be sent as final copies to the County of Alameda Health Care Services and the Regional Water Quality Control Board.
2. Based upon land use and laboratory data, the site should be capped with suitable impermeable material to minimize leaching of lead and copper in the soil. Surface water that may have been in contact with lead-bearing soil should be prevented from flowing off-site by a catchment basin.
3. Localized hot spots above the TTLC limit of 1,000 ppm are considered hazardous, and may require removal under regulatory guidelines.
4. Continued monitoring of groundwater for one year to evaluate water quality and gradient trends. Installation of monitoring wells on corners of the property may be required by the regional board.

In conclusion, soluble lead has been reported on the surface, but not in the groundwater. The soil in the area above the TTLC level for lead may need removal, however, the soluble lead has not leached to the groundwater. Capping of the site should prevent leaching of the lead and remove exposure of the public to the soil.

Sincerely,
RESNA Industries Inc.


Gary Pischke, C.E.G. 1501
Project Manager

GP/sw

93 FEB 15 10 21 AM '93

**LETTER REPORT
REGARDING
INVESTIGATION FOR FURTHER
DELINEATION OF LEAD-BEARING
SOIL**

AT

**FORMER ISLAND GUN CLUB
500 MAITLAND DRIVE
ALAMEDA, CALIFORNIA**

**February 1993
Project No. F3125.31**

*Lead only results
Cu not taken
more verticle delineation*

RESNA
42501 Albrae Street
Fremont, California 94538
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February 11, 1993
Project No. F3125.31

Harbor Bay Isle Associates
1141 Harbor Bay Parkway
Alameda, California 94501

Attention: Mr. Aidan Barry

Subject: Letter Report Regarding Investigation for Further Delineation of Lead-Bearing Soil at Former Island Gun Club, 500 Maitland Drive, Alameda, California.

Dear Mr. Barry:

This letter summarizes the activities performed in association with the further evaluation of lead-bearing soil at the subject site (see Plate 1). The scope of work consisted of the following;

- ~~Collection of 11 near surface soil samples~~ at the subject site;
- Analysis of eight of the samples for soluble threshold limit concentration (STLC) ~~using~~ using the waste extraction test (WET) method, and for total threshold limit concentration (TTLC) lead using Environmental Protection Agency (EPA) Method 7421/6010; and
- Preparation of this report.

FIELDWORK

On December 30, 1992, a representative of RESNA collected 11 near surface soil samples at the subject site (~~Plate 2~~). Eight samples were collected within a ~~20-foot radius of sample location~~ from the Phase II Soil and Groundwater Investigation, to evaluate the extent of lead-bearing soil at the site. One sample was collected from off-site, across Harbor Bay Parkway, to determine background lead levels in the soil in the area. As requested, two additional samples were collected adjacent to the eucalyptus tree at the northwest side of the site. The sample locations are shown on Plate 3.

Soil Sampling

The samples were collected directly into a 2-inch diameter by 6-inch long brass sample liner which was driven into native soil with a steel core sampler mounted on an impact hammer. Samples were ~~collected from 0 to 6 inches and from 6 to 12 inches below grade~~. The samples were then removed from the sampler, immediately sealed with aluminum foil and a plastic end cap, labeled with a unique sample number, entered onto a chain-of-custody document, placed in a chilled cooler, and

transported to RESNA Environmental Laboratories, in Fremont, California, a state-certified laboratory, for analysis. RESNA's soil sampling protocol is included in Appendix A.

SUMMARY ANALYTICAL RESULTS

All soil samples were analyzed for lead using the WET method for STLC and EPA Method 7430/6010 for TTLC. The outer four of the eight soil samples collected from around sample No. 28 were initially placed on hold at the laboratory, pending results from the inner four samples. Two of the outer four samples (S-7-1,2 and S-8-1,2) were analyzed, due to high concentrations of lead in sample S-4-1,2. Both samples (~~S-7-1,2 and S-8-1,2~~) were less than 1,000 mg/kg for TTLC results, but greater than 5 mg/kg for STLC results.

The laboratory analytical results indicate that the soil at the site contains detectable levels of lead. The concentrations of lead contained in on-site samples ranged from 2.0 milligrams per kilogram (mg/kg [S-2-1,2]) to 52 mg/kg (S-1-1,2) for STLC and from 68 mg/kg (S-2-1,2) to 91,000 mg/kg (S-4-1,2) for TTLC. The sample collected from off-site, across Harbor Bay Parkway, for background lead levels in the soil in the region contained 0.40 mg/kg STLC and 26 mg/kg TTLC. Laboratory results for all soil samples are tabulated in Table 1. Laboratory reports and chain-of-custody records are included in Appendix B.

DISCUSSION

The maximum levels of lead allowed in soil, as established by the California Environmental Protection Agency (CAL EPA, Title 22 of the California Action Code) are 5 mg/kg for STLC and 1,000 mg/kg for TTLC. ~~Sample No. S-4-1,2 (91,000 mg/kg TTLC) exceeds the maximum level of 1,000 mg/kg for the TTLC method.~~ The level indicates that soil bearing lead at hazardous levels appears to be concentrated in the vicinity of ~~S-4-1,2~~ and original sample No. 28 (see Plate 3). Samples S-3-1,2 to the south and S-1-1,2 to the east contain concentrations of lead below the maximum levels set by the CAL EPA. Samples S-7-1,2 to the west and S-8-1,2 to the north define the northern and western boundaries of soil containing lead concentrations above the maximum allowed levels. The levels of lead in the soil detected during the Phase II Soil and Groundwater Investigation are included in Table 2. The associated sample locations from the Phase I and Phase II investigations are shown in Plate 4.

REPORTING REQUIREMENTS

A copy of this report will be forwarded to the following agencies in a timely manner.

Alameda County Health Care Services
Department of Environmental Health
Hazardous Materials Program
80 Swan Way Center, Room 200
Oakland, California 94621
Attention: Mr. Kevin Tinsley

City of Alameda
Department of Public Works
2263 Santa Clara Avenue
Alameda, California 94501
Attention: Mr. Robert L. Warnick, P.E.

San Francisco Bay
Regional Water Quality Control Board
2101 Webster Street, Room 500
Oakland, CA 94612
Attention: Mr. Lester Feldman

LIMITATIONS

The discussion and recommendations presented in this report are based on the following:

1. Observations by field personnel,
2. The results of the laboratory analyses performed by a state-certified laboratory,
3. Referenced documents, and
4. Our understanding of the regulations of the State of California, the County of Alameda, and the City of Alameda.


It is possible that variations in the soil or groundwater conditions could exist beyond the points explored in this investigation. Also, changes in the groundwater conditions could occur at some time in the future because of variations in rainfall, temperature, regional water usage, acts of man, or other factors.

The service performed by RESNA has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession practicing under similar conditions in the Alameda County area. Please note that contamination of the soil and/or groundwater must be reported to the appropriate agency in a timely manner. No other warranty, expressed or implied is made.

RESNA includes in this report chemical analytical data from a state-certified laboratory. The analytical tests are performed according to procedures suggested by the U.S. EPA and the State of California.

If you have any questions regarding this report, please do not hesitate to call.

Sincerely,
RESNA Industries Inc.


Sheryl Fontaine
Staff Geologist


Gary Pischke, C.E.G. 1501
Project Manager

SF/GP/sw
Attachments

Table 1	Summary Soil Sample Analytical Results (12/30/92)
Table 2	Summary Soil Sample Analytical Results (9/3/92 - 9/8/92)
Plate 1	Site Location Map
Plate 2	Generalized Site Plan
Plate 3	Soil Sample Locations and Lead Concentration Map (12/30/92)
Plate 4	Soil Sample Locations and Lead Concentration Map (9/3/92 - 9/8/92)
Appendix A	Soil Sampling Protocol
Appendix B	Certified Laboratory Reports and Chain-of-Custody Documents

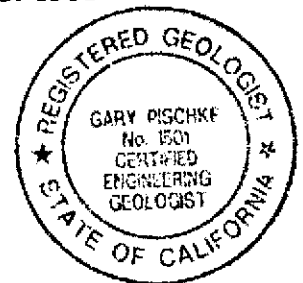


TABLE 1
SUMMARY SOIL SAMPLE ANALYTICAL RESULTS
 (12/30/92)

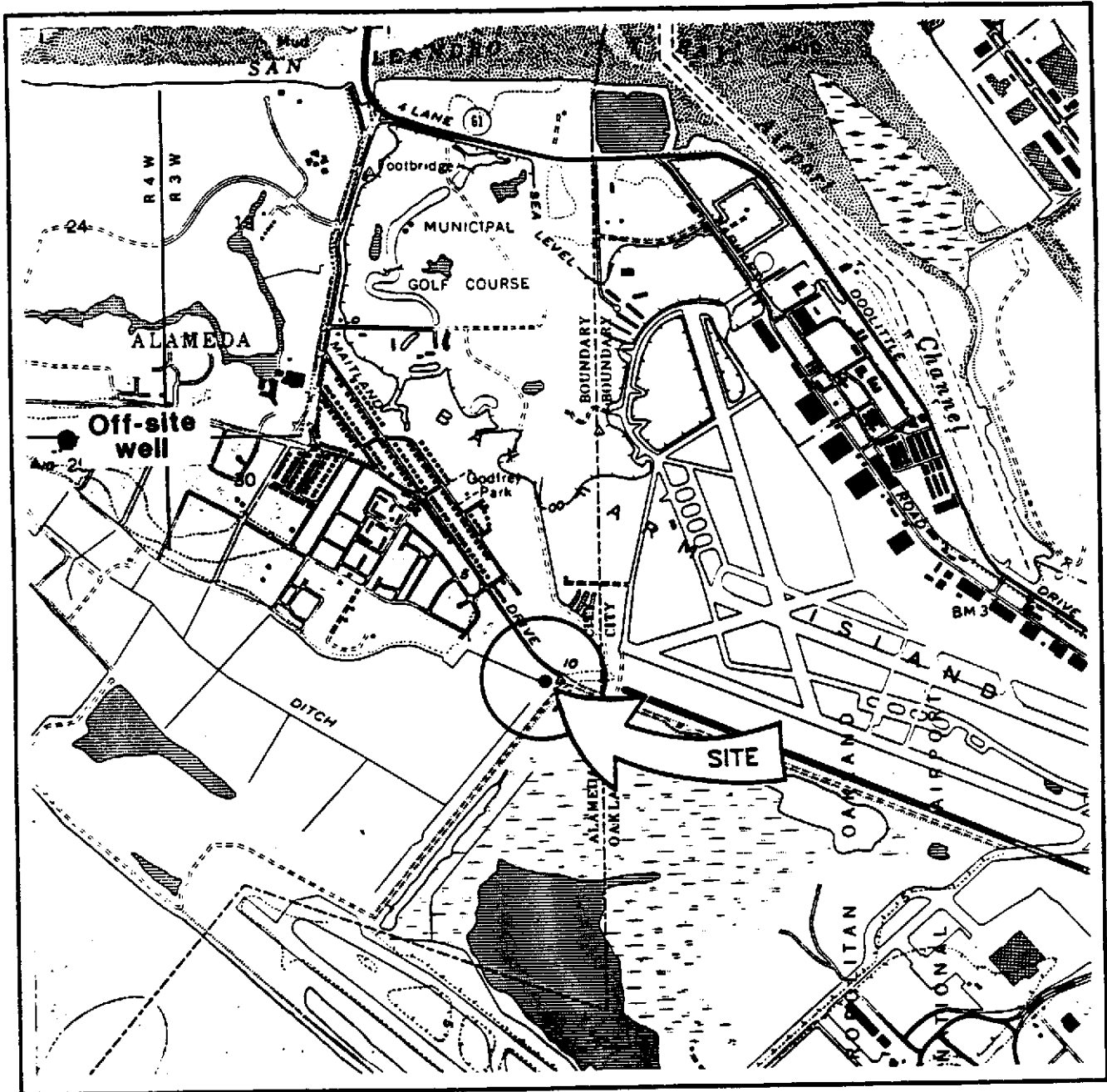
Sample Number	Sample Date	Sample Depth (ft.)	STLC (Pb) (mg/kg)	TTLc (Pb) (mg/kg)
S-1-1,2	12/30/92	0-1	52	610
S-2-1,2	12/30/92	0-1	2.0	65
S-3-1,2	12/30/92	0-1	4.8	130
S-4-1,2	12/30/92	0-1	5.4	91,000
S-7-1,2	12/30/92	0-1	29	490
S-8-1,2	12/30/92	0-1	15	500
S-9-1,2	12/30/92	0-1	3.6	150
S-10-1,2	12/30/92	0-1	7.4	190
 	12/30/92	0-1	0.40	26

STLC Soluble threshold limit concentration
 TTLc Total threshold limit concentration
 Pb Lead
 ft Feet
 mg/kg Milligrams per kilograms (=parts per million [ppm])

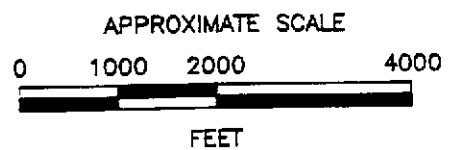
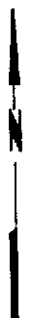
TABLE 2
 SUMMARY SOIL SAMPLE ANALYTICAL RESULTS
 (9/3/92 — 9/8/92)

Sample Number	Sample Date	Sample Depth (ft.)	STLC Lead (ppm)	TTLIC Lead (ppm)
MW1-1	9/3/92	3	ND	ND
MW1-2	9/3/92	4.5	ND	ND
MW2-1	9/3/92	3	ND	ND
MW2-2	9/3/92	5	ND	ND
MW3-1	9/4/92	2	0.29	15
MW3-2	9/4/92	5	44	290
MW3-3	9/4/92	7	ND	ND
38-1,2	9/4/92	0-1	ND	120
34-1,2	9/4/92	0-1	2.4	70
22-1,4	9/4/92	0-1	27	170
34-1,2	9/4/92	0-1	19	210
48-1,2	9/4/92	0-1	0.33	9.9
61-1,2	9/4/92	0-1	49	230
54-1,2	9/4/92	0-1	0.98	32
43-1,2	9/4/92	0-1	79	340
28-1,2	9/4/92	0-1	910	40,000
27-1,2	9/4/92	0-1	9.3	150
19-1,2	9/8/92	0-1	1.8	82
18-1,2	9/8/92	0-1	1.7	23
09-1,2	9/8/92	0-1	2.7	480
07-1,2	9/8/92	0-1	1.2	42
03-1,2	9/8/92	0-1	1.2	39

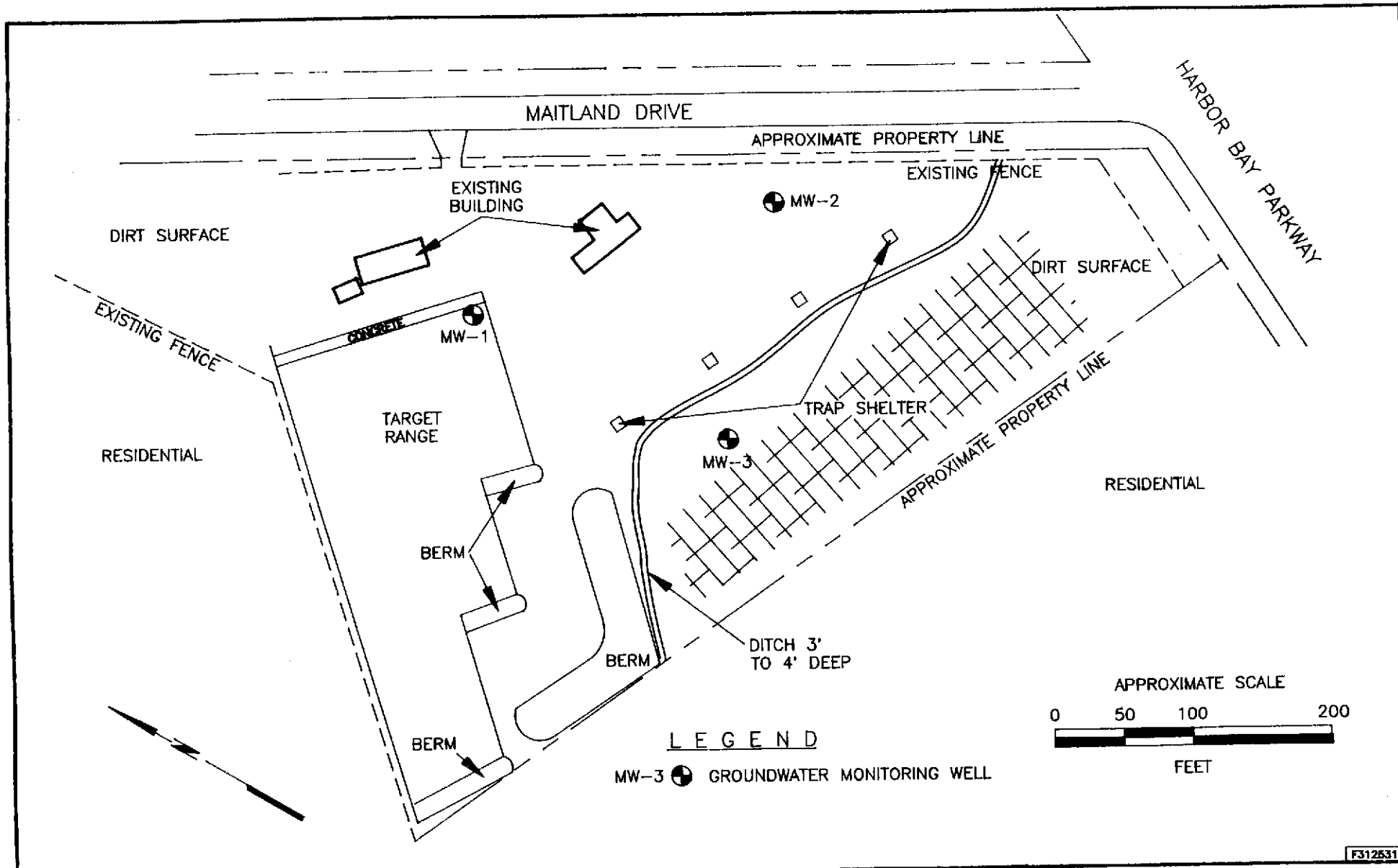
ft. Feet
 STLC Soluble threshold limit concentration
 TTLIC Total threshold limit concentration
 ppm Parts per million (mg/kg)
 ND Not detected



SOURCE: U.S. GEOLOGICAL SURVEY
 7.5-MINUTE QUADRANGLE
 SAN LEANDRO, CALIFORNIA
 PHOTOREVISED 1980

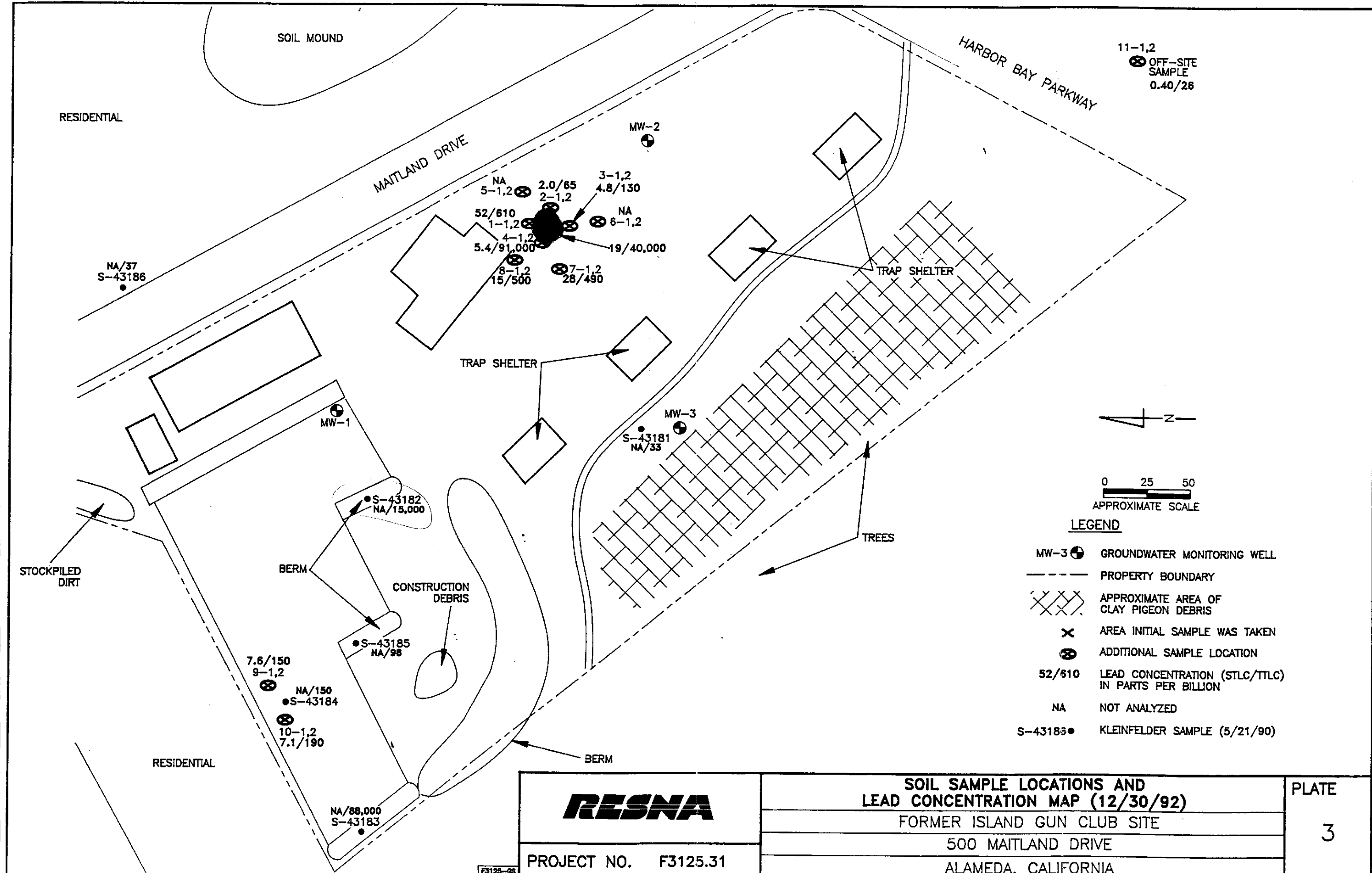


RESNA	SITE LOCATION MAP	PLATE 1
	FORMER ISLAND GUN CLUB SITE	
	500 MAITLAND DRIVE	
PROJECT NO. F3125.31	ALAMEDA, CALIFORNIA	

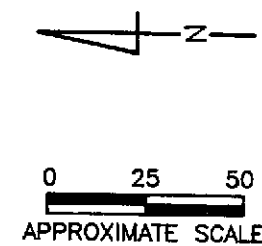


F312531P

PLATE 2	GENERALIZED SITE PLAN	 PROJECT NO. F3125.31
	FORMER ISLAND GUN CLUB SITE	
	500 MAITLAND DRIVE	
	ALAMEDA, CALIFORNIA	



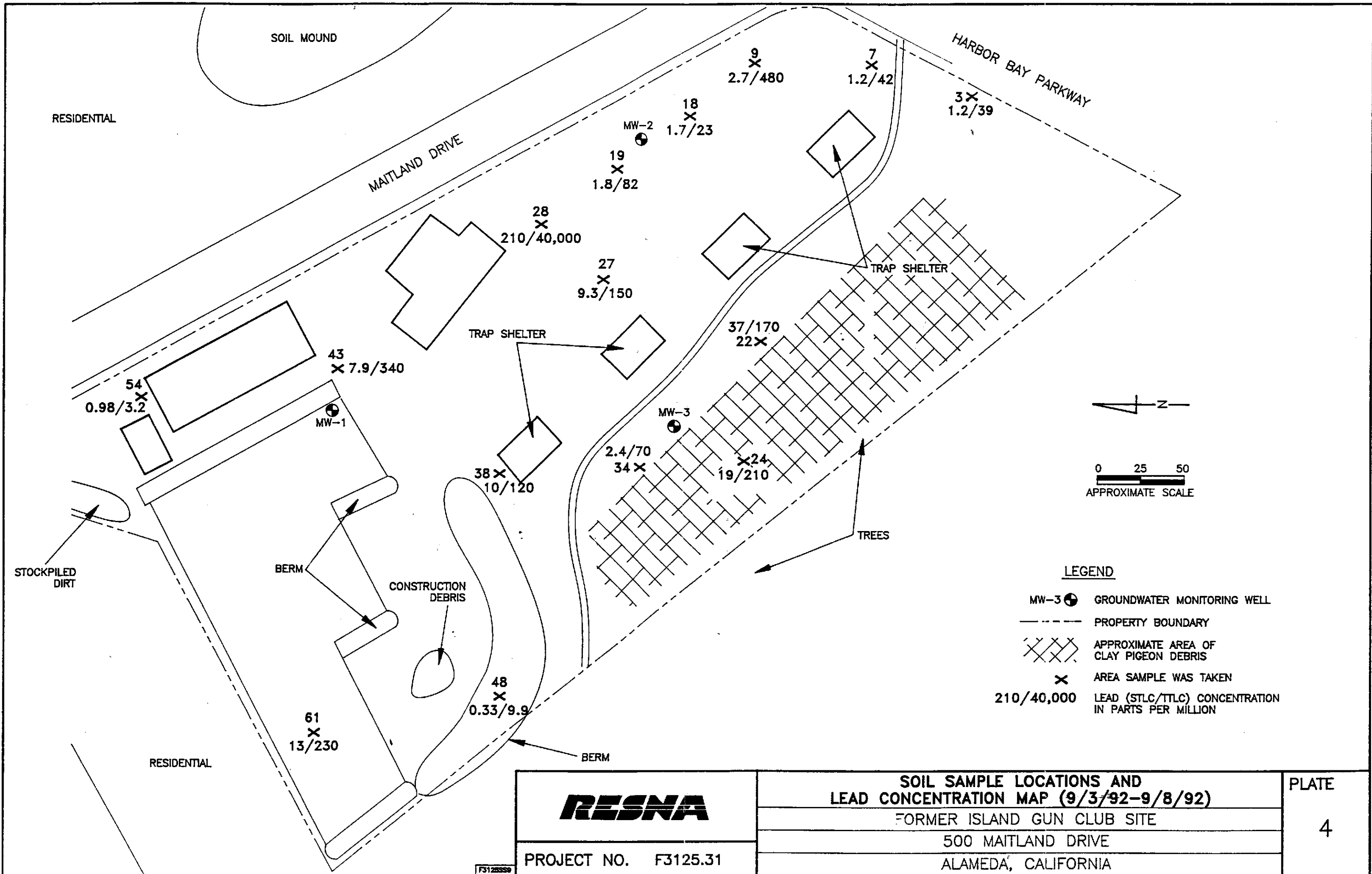
11-1,2
 ⊗ OFF-SITE SAMPLE
 0.40/26



LEGEND

- MW-3 ⊕ GROUNDWATER MONITORING WELL
- - - - - PROPERTY BOUNDARY
- ⊗ APPROXIMATE AREA OF CLAY PIGEON DEBRIS
- ⊗ AREA INITIAL SAMPLE WAS TAKEN
- ⊗ ADDITIONAL SAMPLE LOCATION
- 52/610 LEAD CONCENTRATION (STLC/TTLC) IN PARTS PER BILLION
- NA NOT ANALYZED
- S-43185 ● KLEINFELDER SAMPLE (5/21/90)

	SOIL SAMPLE LOCATIONS AND LEAD CONCENTRATION MAP (12/30/92)	PLATE 3
	FORMER ISLAND GUN CLUB SITE 500 MAITLAND DRIVE ALAMEDA, CALIFORNIA	
PROJECT NO. F3125.31		
<small>F3125-05</small>		



RESNA	SOIL SAMPLE LOCATIONS AND LEAD CONCENTRATION MAP (9/3/92-9/8/92)	PLATE 4
	FORMER ISLAND GUN CLUB SITE	
PROJECT NO. F3125.31	500 MAITLAND DRIVE	
	ALAMEDA, CALIFORNIA	

APPENDIX A

**SOIL SAMPLING
PROTOCOL**



RESNA

Soil Sampling Protocol

SOIL SAMPLING PROTOCOL

I. SOIL SAMPLING BY DRILLING RIG

- 1) Review site proposal for boring locations and special instructions. Confirm boring locations in field with client. Have Underground Service Alert (USA) mark utilities in area prior to drilling.
- 2) Prior to initiating an exploratory boring, all equipment to be used during drilling and sampling operation is steam cleaned. Such equipment includes, but is not limited to, augers, bits, drilling rod, and soil samplers. Additionally, before each sampling event, the sampler and any sample liners are thoroughly cleaned with a dilute trisodium phosphate solution and rinsed with clean tap water or distilled water. Additional decontamination procedures are implemented as needed by specific projects.
- 3) Each exploratory boring is drilled with a truck-mounted drilling rig using either solid flight or hollow stem augers. The boring is advanced to the desired sampling depth and the sampler is lowered to the bottom of the hole. The sampler is driven a maximum of 18 inches into the undisturbed soils ahead of the auger by a 140-pound, rig-operated hammer falling 30 inches. The number of blows required to drive the sampler the final 12 inches is recorded on the boring log. When necessary, the sampler may be pushed by the drill rig hydraulics. In this case, the pressure exerted (in pounds per square inch) is recorded. After the sampler has penetrated the full depth, it is retrieved to the surface.
- 4) The samplers commonly used are either a California modified sampler (3 inch or 2.5 inch O.D.) or a standard penetrometer (2 inch O.D.). The standard penetrometer does not contain sample liners and is used to determine soil strength characteristics and visually characterize the subsurface materials. If samples are collected for laboratory analysis the California modified sampler, equipped with brass liners, is used except when the analysis will include copper or zinc. In this instance, the sample should be taken with the standard penetrometer and placed in a labeled plastic bag.

Upon retrieval, the sampler is disassembled into its component parts. One or more of the liners is selected for chemical analysis. The ends of the selected liner(s) are sealed with aluminum foil or teflon tape, capped with plastic caps, labeled, logged on chain-of-custody forms and stored in a chilled ice chest for preservation in the field and during transport to the analytical laboratory. All labels are pre-written to the extent possible with indelible ink to minimize handling time.

- 5) Samples not sealed for chemical analysis are checked for the presence of contamination in the field by the geologist. Any discoloration or odor is noted on the boring log. Each sample is classified in the field by a geologist using the Unified Soil Classification System and a Munsell soil color chart. In addition, samples may also be field-screened with a photoionization detector (calibrated daily) or threshold limit value sniffer. In either case, the instrument probe is held adjacent to freshly crumbled soil and the stabilized reading value is recorded on the log. Values of volatile vapors measured in the field are reconnaissance only and are not meant to supplant chemical analysis in a certified laboratory. Other visual screening techniques include examination of the sample under hand-lens magnification as-well-as floating sheen inspection resulting from immersion in water.

Lithology logging will collect geologic data as required, using conventional geologic and hydrogeologic terminology. When rock is logged, a GSA Rock Color Chart and appropriate terminology will be employed to describe rock, fractures, bedding, etc. Soil or rock coring may be specified by the supervising geologist on a project-specific basis.

- 6) Samples are held in the possession of RESNA personnel until transferred to the analytical laboratory. Transfer to the laboratory is accomplished with either delivery by RESNA personnel, pick-up by laboratory personnel, or transfer by a personal delivery service. Each transfer of responsibility is recorded on a chain-of-custody record that accompanies the samples.
- 7) Conditions occasionally arise when other drilling equipment are used given site-specific formation conditions. Rotary drilling may be selected if coring or bearing conditions arise. Rotary or casing hammer may be used as deep drilling, flowing sands, or formation-specific conditions require.
- 8) When drilling through an aquifer known to be contaminated, a staged drilling approach will be used. This would involve using either a temporary or

permanent conductor casing placed adjacent to the contaminated aquifer and pressed or advanced slightly into the underlying aquitard. The cased hole will be cleaned as necessary, following which, a smaller diameter drill bit/auger will be advanced to the next underlying water bearing stratum. An impermeable seal will be placed in the borehole or annular space as appropriate upon completion of exploratory boring/well construction.

II. SOIL SAMPLING BY HAND

- 1) Some situations require that samples be collected by hand without the assistance of a drill rig (e.g., soil stock piles, excavation sidewall sampling, etc.). When possible, soil samples will be collected using a steel core sampler equipped with clean brass liners which is advanced into the soil with a slide hammer. In other cases, the outer surface of the soil is removed and a brass liner is driven into the soil by hand or with a hammer. To avoid damaging the liner, a block of wood can be held next to the liner so that the hammer strikes the block rather than the liner. The liner is removed and handled as described above. In deep excavations where safety factors preclude the direct sampling of the bottom or side wall, soil is retrieved by a backhoe bucket and this soil is sampled.

APPENDIX B

**CERTIFIED LABORATORY REPORTS
AND
CHAIN-OF-CUSTODY DOCUMENTS**



SEQUOIA ANALYTICAL

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

RESNA
42501 Albrae Street, Suite 100
Fremont, CA 94538
Attention: Vickie Tague

Client Project ID: F3125.32, Doric Construction
Sample Descript: ~~Soil 04-1-93~~
Lab Number: 212-5468

Sampled: Dec 30, 1992
Received: Dec 31, 1992
Extracted: 1/4, 5/93
Reported: Jan 19, 1993

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration
Waste Extraction Test

Total Threshold Limit Concentration

Analyte	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTL Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Antimony	15	0.10	--	500	5.0	--
Arsenic	5.0	0.10	--	500	5.0	--
Barium	100	0.10	--	10,000	5.0	--
Beryllium	0.75	0.010	--	75	0.50	--
Cadmium	1.0	0.010	--	100	0.50	--
Chromium (VI)	5.0	0.0050	--	500	0.050	--
Chromium (III)	560	0.010	--	2,500	0.50	--
Cobalt	80	0.050	--	8,000	2.5	--
Copper	25	0.010	--	2,500	0.50	--
Lead	5.0	0.10	52	1,000	6.7	610
Mercury	0.20	0.00020	--	20	0.010	--
Molybdenum	350	0.050	--	3,500	2.5	--
Nickel	20	0.050	--	2,000	2.5	--
Selenium	1.0	0.10	--	100	5.0	--
Silver	5.0	0.010	--	500	0.50	--
Thallium	7.0	0.10	--	700	5.0	--
Vanadium	24	0.050	--	2,400	2.5	--
Zinc	250	0.010	--	5,000	0.50	--
Asbestos	-	10	--	10,000	100	--
Fluoride	180	0.10	--	18,000	1.0	--

TTL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Maria Lee
Project Manager



SEQUOIA ANALYTICAL

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

RESNA
42501 Albrae Street, Suite 100
Fremont, CA 94538
Attention: Vickie Tague

Client Project ID: F3125.32, Doric Construction
Sample Descript: ~~Soil, 08-12~~
Lab Number: 212-5469

Sampled: Dec 30, 1992
Received: Dec 31, 1992
Extracted: 1/4, 5/93
Reported: Jan 19, 1993

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration
Waste Extraction Test

Total Threshold Limit Concentration

Analyte	Soluble Threshold Limit Concentration Waste Extraction Test			Total Threshold Limit Concentration		
	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTL Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Antimony	15	0.10	--	500	5.0	--
Arsenic	5.0	0.10	--	500	5.0	--
Barium	100	0.10	--	10,000	5.0	--
Beryllium	0.75	0.010	--	75	0.50	--
Cadmium	1.0	0.010	--	100	0.50	--
Chromium (VI)	5.0	0.0050	--	500	0.050	--
Chromium (III)	560	0.010	--	2,500	0.50	--
Cobalt	80	0.050	--	8,000	2.5	--
Copper	25	0.010	--	2,500	0.50	--
Lead	5.0	0.10	2.0	1,000	6.7	65
Mercury	0.20	0.00020	--	20	0.010	--
Molybdenum	350	0.050	--	3,500	2.5	--
Nickel	20	0.050	--	2,000	2.5	--
Selenium	1.0	0.10	--	100	5.0	--
Silver	5.0	0.010	--	500	0.50	--
Thallium	7.0	0.10	--	700	5.0	--
Vanadium	24	0.050	--	2,400	2.5	--
Zinc	250	0.010	--	5,000	0.50	--
Asbestos	-	10	--	10,000	100	--
Fluoride	180	0.10	--	18,000	1.0	--

TTL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager



SEQUOIA ANALYTICAL

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

RESNA	Client Project ID: F3125.32, Doric Construction	Sampled: Dec 30, 1992
42501 Albrae Street, Suite 100	Sample Descript: Soil, 554, 2	Received: Dec 31, 1992
Fremont, CA 94538	Lab Number: 212-5470	Extracted: 1/4, 5/93
Attention: Vickie Tague		Reported: Jan 19, 1993

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration

Waste Extraction Test

Total Threshold Limit Concentration

Analyte	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTL Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Antimony	15	0.10	--	500	5.0	--
Arsenic	5.0	0.10	--	500	5.0	--
Barium	100	0.10	--	10,000	5.0	--
Beryllium	0.75	0.010	--	75	0.50	--
Cadmium	1.0	0.010	--	100	0.50	--
Chromium (VI)	5.0	0.0050	--	500	0.050	--
Chromium (III)	560	0.010	--	2,500	0.50	--
Cobalt	80	0.050	--	8,000	2.5	--
Copper	25	0.010	--	2,500	0.50	--
Lead	5.0	0.10	4.8	1,000	6.7	130
Mercury	0.20	0.00020	--	20	0.010	--
Molybdenum	350	0.050	--	3,500	2.5	--
Nickel	20	0.050	--	2,000	2.5	--
Selenium	1.0	0.10	--	100	5.0	--
Silver	5.0	0.010	--	500	0.50	--
Thallium	7.0	0.10	--	700	5.0	--
Vanadium	24	0.050	--	2,400	2.5	--
Zinc	250	0.010	--	5,000	0.50	--
Asbestos	-	10	--	10,000	100	--
Fluoride	180	0.10	--	18,000	1.0	--

TTL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Maria Lee
 Maria Lee
 Project Manager



SEQUOIA ANALYTICAL

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

RESNA	Client Project ID: F3125.32, Doric Construction	Sampled: Dec 30, 1992
42501 Albrae Street, Suite 100	Sample Descript: Soil, S4-1,2	Received: Dec 31, 1992
Fremont, CA 94538	Lab Number: 212-5471	Extracted: 1/4, 5/93
Attention: Vickie Tague		Reported: Jan 19, 1993

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration
Waste Extraction Test

Total Threshold Limit Concentration

Analyte	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTL Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Antimony	15	0.10	--	500	5.0	--
Arsenic	5.0	0.10	--	500	5.0	--
Barium	100	0.10	--	10,000	5.0	--
Beryllium	0.75	0.010	--	75	0.50	--
Cadmium	1.0	0.010	--	100	0.50	--
Chromium (VI)	5.0	0.0050	--	500	0.050	--
Chromium (III)	560	0.010	--	2,500	0.50	--
Cobalt	80	0.050	--	8,000	2.5	--
Copper	25	0.010	--	2,500	0.50	--
Lead	5.0	0.10	6.4	1,000	670	91,000
Mercury	0.20	0.00020	--	20	0.010	--
Molybdenum	350	0.050	--	3,500	2.5	--
Nickel	20	0.050	--	2,000	2.5	--
Selenium	1.0	0.10	--	100	5.0	--
Silver	5.0	0.010	--	500	0.50	--
Thallium	7.0	0.10	--	700	5.0	--
Vanadium	24	0.050	--	2,400	2.5	--
Zinc	250	0.010	--	5,000	0.50	--
Asbestos	-	10	--	10,000	100	--
Fluoride	180	0.10	--	18,000	1.0	--

TTL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager



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

RESNA
42501 Albrae Street, Suite 100
Fremont, CA 94538
Attention: Vickie Tague

Client Project ID: F3125.32, Doric Construction
Sample Descript: Soil, 001-2
Lab Number: 212-5472

Sampled: Dec 30, 1992
Received: Dec 31, 1992
Extracted: 1/4, 5/93
Reported: Jan 19, 1993

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration

Waste Extraction Test

Total Threshold Limit Concentration

Analyte	STLC	Detection	Analysis	TTL	Detection	Analysis
	Max. Limit (mg/L)	Limit (mg/L)	Result (mg/L)	Max. Limit (mg/kg)	Limit (mg/kg)	Result (mg/kg)
Antimony	15	0.10	--	500	5.0	--
Arsenic	5.0	0.10	--	500	5.0	--
Barium	100	0.10	--	10,000	5.0	--
Beryllium	0.75	0.010	--	75	0.50	--
Cadmium	1.0	0.010	--	100	0.50	--
Chromium (VI)	5.0	0.0050	--	500	0.050	--
Chromium (III)	560	0.010	--	2,500	0.50	--
Cobalt	80	0.050	--	8,000	2.5	--
Copper	25	0.010	--	2,500	0.50	--
Lead	5.0	0.10	7.6	1,000	6.7	150
Mercury	0.20	0.00020	--	20	0.010	--
Molybdenum	350	0.050	--	3,500	2.5	--
Nickel	20	0.050	--	2,000	2.5	--
Selenium	1.0	0.10	--	100	5.0	--
Silver	5.0	0.010	--	500	0.50	--
Thallium	7.0	0.10	--	700	5.0	--
Vanadium	24	0.050	--	2,400	2.5	--
Zinc	250	0.010	--	5,000	0.50	--
Asbestos	-	10	--	10,000	100	--
Fluoride	180	0.10	--	18,000	1.0	--

TTL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Maria Lee
Project Manager



SEQUOIA ANALYTICAL

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

RESNA
42501 Albrae Street, Suite 100
Fremont, CA 94538
Attention: Vickie Tague

Client Project ID: F3125.32, Doric Construction
Sample Descript: Soil, 010-1,2
Lab Number: 212-5473

Sampled: Dec 30, 1992
Received: Dec 31, 1992
Extracted: 1/4, 5/93
Reported: Jan 19, 1993

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration
Waste Extraction Test

Total Threshold Limit Concentration

Analyte	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTL Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Antimony	15	0.10	--	500	5.0	--
Arsenic	5.0	0.10	--	500	5.0	--
Barium	100	0.10	--	10,000	5.0	--
Beryllium	0.75	0.010	--	75	0.50	--
Cadmium	1.0	0.010	--	100	0.50	--
Chromium (VI)	5.0	0.0050	--	500	0.050	--
Chromium (III)	560	0.010	--	2,500	0.50	--
Cobalt	80	0.050	--	8,000	2.5	--
Copper	25	0.010	--	2,500	0.50	--
Lead	5.0	0.10	7.1	1,000	6.7	190
Mercury	0.20	0.00020	--	20	0.010	--
Molybdenum	350	0.050	--	3,500	2.5	--
Nickel	20	0.050	--	2,000	2.5	--
Selenium	1.0	0.10	--	100	5.0	--
Silver	5.0	0.010	--	500	0.50	--
Thallium	7.0	0.10	--	700	5.0	--
Vanadium	24	0.050	--	2,400	2.5	--
Zinc	250	0.010	--	5,000	0.50	--
Asbestos	-	10	--	10,000	100	--
Fluoride	180	0.10	--	18,000	1.0	--

TTL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager



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RESNA
42501 Albrae Street, Suite 100
Fremont, CA 94538
Attention: Vickie Tague

Client Project ID: F3125.32, Doric Construction
Sample Descript: Sewer 1,2
Lab Number: 212-5474

Sampled: Dec 30, 1992
Received: Dec 31, 1992
Extracted: 1/4, 5/93
Reported: Jan 19, 1993

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration

Waste Extraction Test

Total Threshold Limit Concentration

Analyte	STLC	Detection	Analysis	TTL	Detection	Analysis
	Max. Limit (mg/L)	Limit (mg/L)	Result (mg/L)	Max. Limit (mg/kg)	Limit (mg/kg)	Result (mg/kg)
Antimony	15	0.10	--	500	5.0	--
Arsenic	5.0	0.10	--	500	5.0	--
Barium	100	0.10	--	10,000	5.0	--
Beryllium	0.75	0.010	--	75	0.50	--
Cadmium	1.0	0.010	--	100	0.50	--
Chromium (VI)	5.0	0.0050	--	500	0.050	--
Chromium (III)	560	0.010	--	2,500	0.50	--
Cobalt	80	0.050	--	8,000	2.5	--
Copper	25	0.010	--	2,500	0.50	--
Lead	5.0	0.10	0.40	1,000	6.7	26
Mercury	0.20	0.00020	--	20	0.010	--
Molybdenum	350	0.050	--	3,500	2.5	--
Nickel	20	0.050	--	2,000	2.5	--
Selenium	1.0	0.10	--	100	5.0	--
Silver	5.0	0.010	--	500	0.50	--
Thallium	7.0	0.10	--	700	5.0	--
Vanadium	24	0.050	--	2,400	2.5	--
Zinc	250	0.010	--	5,000	0.50	--
Asbestos	-	10	--	10,000	100	--
Fluoride	180	0.10	--	18,000	1.0	--

TTL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
Analytes reported as N.D. were not present above the stated limit of detection.

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Maria Lee
Maria Lee
Project Manager



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RESNA
42501 Albrae Street, Suite 100
Fremont, CA 94538
Attention: Vickie Tague

Client Project ID: F3125.32, Doric Construction

QC Sample Group: 2125468-74

Reported: Jan 19, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Lead STLC	Beryllium	Cadmium	Chromium	Nickel
Method:	EPA 7421	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Analyst:	S. Chin	M. Mistry	M. Mistry	M. Mistry	M. Mistry
Reporting Units:	mg/L	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jan 7, 1993	Jan 5, 1993	Jan 5, 1993	Jan 5, 1993	Jan 5, 1993
QC Sample #:	212-5470	BLK010593	BLK010593	BLK010593	BLK010593
Sample Conc.:	4.8	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	10	100	100	100	100
Conc. Matrix Spike:	14	86	83	85	85
Matrix Spike % Recovery:	92	86	83	85	85
Conc. Matrix Spike Dup.:	14	90	88	89	90
Matrix Spike Duplicate % Recovery:	92	90	88	89	90
Relative % Difference:	0.0	4.5	5.8	4.6	5.7

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

PROJECT NO.		PROJECT NAME/SITE						ANALYSIS REQUESTED										P.O. #:		
F3125.32		Doric Construction						<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEX (802/8020)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPHg (8015)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPHd (8015)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TOG 418-1/5520</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">801/8010</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">824/8240</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">825/8270</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">STLC Pb</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TTLc Pb</div> </div>												
SAMPLERS		(SIGN) / (PRINT)																NO. CONTAINERS	SAMPLE TYPE	
SAMPLE IDENTIFICATION	DATE	TIME	COMP	GRAB	PRES. USED	ICED														
S-1 -1, 2	12/20/92		X				2	S	225468			X	X				Composite			
-2										69							Composite			
-3										70							Composite			
-4										71							Composite			
-5																	Hold			
-6																	Hold			
-7																	Hold			
-8																	Hold			
-9									225472			X	X				Composite			
-10										73							Composite			
-11										74							Composite			

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	LABORATORY:	PLEASE SEND RESULTS TO: RESNA ENVIRONMENTAL LABORATORY 42501 Albrae St. Fremont, CA 94538 Tel # (510) 651-1906 Fax # (510) 651-8754
<i>Anthony Allen</i>	12/31/92	10:35	<i>Patricia With</i>	<i>Sequerra</i>	
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	REQUESTED TURNAROUND TIME:	
<i>Patricia With</i>	12/31/92	11:05		<i>with by 1/14</i>	
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	REQUESTED TURNAROUND TIME:	PROJECT MANAGER: <i>V. Tague / S. Fontaine</i>
			<i>Rock</i>		
RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY:	RECEIPT CONDITION:	

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO.		PROJECT NAME/SITE						ANALYSIS REQUESTED												P.O. #:
F3125.32		Doric Construction						<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">NO. CONTAINERS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">SAMPLE TYPE</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEX (602/8020)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPHg (8015)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPHg (8015)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TOG 4/18.1/5620</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">601/8010</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">624/8240</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">625/8270</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">STLC (Pb)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TTLC (Pb)</div> </div>												
SAMPLERS (SIGN)		(PRINT)																		REMARKS
S. Fontaine		S. Fontaine																		
SAMPLE IDENTIFICATION	DATE	TIME	COMP	GRAB	PRES. USED	ICED	NO. CONTAINERS	SAMPLE TYPE	BTEX (602/8020)	TPHg (8015)	TPHg (8015)	TOG 4/18.1/5620	601/8010	624/8240	625/8270	STLC (Pb)	TTLC (Pb)	REMARKS		
S-1-1,2	12/25/92	8:30	X			X	2	S								X	X	Composite into one sample		
S-2-1,2	555	8:45	X			X	2									X	X	↓		
S-3-1,2	556	9:00	X			X	2									X	X			
S-4-1,2	557	9:15	X			X	2									X	X	↓		
S-5-1,2	558	9:30	X			X	2									X	X		Hold	
S-6-1,2	559	9:45	X			X	2									X	X	Hold		
S-7-1,2	560	10:00	X			X	2									X	X	Hold		
S-8-1,2	561	10:15	X			X	2									X	X	Hold		
S-9-1,2	562	10:30	X			X	2									X	X	Composite into one sample		
S-10-1,2	563	10:45	X			X	2									X	X	↓		
S-11-1,2	564	11:15	X			X	2									X	X			

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	LABORATORY:	PLEASE SEND RESULTS TO:
				RESNA	S. Fontaine
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	REQUESTED TURNAROUND TIME:	
				Normal	
RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY:	RECEIPT CONDITION:	PROJECT MANAGER:
Sheryl Fontaine	12/30/92	3:45	Anthony Meris	good	G. Pischke



SEQUOIA ANALYTICAL

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RESNA
42501 Albrae Street, Suite 100
Fremont, CA 94538
Attention: Vickie Tague

Client Project ID: F3125.32, Doric Construction
Sample Descript: Soil
Analysis for: Lead
First Sample #: 3A2-3701

Sampled: Dec 30, 1992
Relogged: Jan 20, 1993
Analyzed: Feb 1, 1993
Reported: Feb 3, 1993

LABORATORY ANALYSIS FOR: Lead

Sample Number	Sample Description	Detection Limit mg/kg	Sample Result mg/kg
3A2-3701	S7-1	250	490
3A23702	S8-1	250	500

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

SEQUOIA ANALYTICAL


Maria Lee
Project Manager



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680 Chesapeake Drive • Redwood City, CA 94063
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RESNA
42501 Albrae Street, Suite 100
Fremont, CA 94538
Attention: Vickie Tague

Client Project ID: F3125.32, Doric Construction
Sample Descript: Water
Analysis for: STLC Lead
First Sample #: 3A23701

Sampled: Dec 30, 1992
Relogged: Jan 20, 1993
Analyzed: Feb 1, 1993
Reported: Feb 3, 1993

LABORATORY ANALYSIS FOR: STLC Lead

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
3A23701	S7-1	5.0	29
3A23702	S8-1	5.0	15

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

SEQUOIA ANALYTICAL


Maria Lee
Project Manager

3A2-3701.ENS <2>



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

RESNA
42501 Albrae Street, Suite 100
Fremont, CA 94538
Attention: Vickie Tague

Client Project ID: F3125.32, Doric Construction

QC Sample Group: 3A23701-02

Reported: Feb 3, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Lead	Lead STLC
---------	------	--------------

Method:	EPA 239.2	EPA 239.2
Analyst:	S. Chin	S. Chin
Reporting Units:	mg/L	mg/L
Date Analyzed:	Feb 1, 1993	Feb 1, 1993
QC Sample #:	3A36701	3A34402

Sample Conc.: 0.013 0.090

Spike Conc. Added: 0.05 0.50

Conc. Matrix Spike: 0.058 0.53

Matrix Spike % Recovery: 90 88

Conc. Matrix Spike Dup.: 0.059 0.55

Matrix Spike Duplicate % Recovery: 92 92

Relative % Difference: 1.7 3.7

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

3A2-3701.ENS <3>



CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO.		PROJECT NAME/SITE						ANALYSIS REQUESTED										P.O. #:		
F3125.32		Doin Construction						BTEX (602/8020) TPHg (8015) TPHd (8015) TOG 418.1/5520 601/8010 624/82-40 625/8270 STLC Pb TTLC Pb												
SAMPLERS		(SIGN) / (PRINT)																	NO. CONTAINERS	SAMPLE TYPE
SAMPLE IDENTIFICATION		DATE	TIME	COMP	GRAB	PRES. USED	ICED	NO. CONTAINERS	SAMPLE TYPE											REMARKS
S-1-1, 2		12/20/92		X				2	S	225468			X	X			Composite			
-2										69							Composite			
-3										70							Composite			
-4										71			↓	↓			Composite			
-5																	Hold			
-6																	Hold			
-7										9301237-01							Hold			
-8										↓ -02							Hold			
-9										2125172			X	X			Composite			
-10										73			↓	↓			Composite			
-11										74			↓	↓			Composite			

RELINQUISHED BY: <i>Anthony...</i>	DATE: 12/31/92	TIME: 10:35	RECEIVED BY: <i>Patrick With</i>	LABORATORY: <i>Sequin</i>	PLEASE SEND RESULTS TO: RESNA ENVIRONMENTAL LABORATORY 42501 Albrae St. Fremont, CA 94538 Tel # (510) 651-1906 Fax # (510) 651-8754
RELINQUISHED BY: <i>Patrick With</i>	DATE: 12/31/92	TIME: 11:05	RECEIVED BY:		
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	REQUESTED TURNAROUND TIME: <i>wh by 1/04</i>	
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY LABORATORY: <i>Rock</i>	RECEIPT CONDITION:	