

ALCO
HAZMAT

June 27, 1994

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Ms. Madhulla Logan
Hazardous Materials Specialist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94501

RE: Additional Subsurface Site Investigation
Former Island Gun Club, 500 Maitland Drive, Alameda, CA
Permit No. 94279

Dear Ms. Logan:

The attached report describes the materials and procedures used during subsurface investigation, installation of two additional monitoring wells and groundwater sampling of the monitoring wells at the site known as the Former Island Gun Club, located at 500 Maitland Drive, Alameda, California.

This work was performed to evaluate the extent and background levels of lead, copper and polynuclear aromatic hydrocarbons (PNAs) in the soil and groundwater. The investigation included conducting a groundwater study to evaluate the groundwater gradient and determine flow fluctuations. In addition, research was conducted to determine the location of domestic and industrial wells within the nearby vicinity.


Once the research was conducted, a subsurface soil and groundwater investigation, installing two additional monitoring wells, and obtaining samples from existing monitoring wells and the newly installed monitoring wells was performed.

Monitoring wells MW-4 and MW-5 were installed on site to evaluate the extent of groundwater contamination and establish background levels for cleanup purposes.

The results of the groundwater sample analysis from the monitoring wells indicated detectable concentrations of constituents in monitoring well MW-1. Sample analysis results from monitoring wells MW-2, MW-3, MW-4, and MW-5 indicated below detectable levels of constituents.

If you have any comments regarding this report, please call me.

Sincerely,


Misty C. Kaltreider
Geologist

cc: Mr. Ravi Arulanantham - Alameda County Health Care Services Agency
Mr. Rich Hielt - Regional Water Quality Control Board
Mr. Aidan Barry - Harbor Bay Isle Associates
Mr. Bob Warnick / Mr. Dick Rudloff - City of Alameda
Ms. Donna Dehn - Health/Sciences Consulting
Mr. Gary Pischke - CEG

**SUBSURFACE SITE INVESTIGATION
FORMER ISLAND GUN CLUB
500 MAITLAND DRIVE
ALAMEDA, CALIFORNIA**

Prepared for:
Ms. Madhulla Logan
Alameda County Health Care Services Agency
80 Swan Way, Room 200
Oakland, CA 94621

June 1994

Prepared by:

Prepared by:

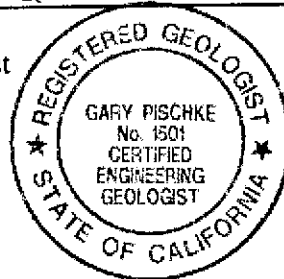
Misty Kaltreider

Misty Kaltreider
Project Geologist

Reviewed by:

Gary Pischke

Gary Pischke, CEG #1501
Certified Engineering Geologist



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1.0 INTRODUCTION

This report presents the procedures and findings of the soil and groundwater investigation and groundwater sampling conducted by ACC Environmental Consultants, Inc., ("ACC"). The project objective is to evaluate the extent of lead, copper and polynuclear aromatic hydrocarbons (PNAs) in the soil and groundwater and to determine background levels for establishing cleanup goals of the constituents.

The investigation included conducting research to establish the location of the former shoreline with respect to the property; evaluating domestic and industrial groundwater usage in the vicinity; determining a preferred flow direction and gradient for on-site groundwater, and evaluating if the site is influenced by tidal action.

Once the background information was obtained, two additional groundwater monitoring wells were installed on-site. The additional wells were used to establish background levels of constituents to evaluate cleanup strategies in a risk assessment.

2.0 BACKGROUND

The Gun Club Site (Site) consists of a 5 acre parcel of land located at the northwest corner of Maitland Drive and Harbor Bay Parkway on the Bay Farm Island portion of the City of Alameda, see Figure 1 - Site Plan. The Site was used as a gun shooting club from 1926 to June 20, 1982 (City of Alameda Agreement and Resolution No. 2138).

Samples taken during environmental studies at the Site have detected concentrations of lead, copper and polynuclear aromatic hydrocarbons (PNAs) in surface soil. In addition, samples taken from ground water monitoring wells at the Site indicate lead and copper above established guidelines (California Plan Numerical Water Quality Objectives, 1991).

Currently the site is open and unpaved. The Gun Club was disbanded in 1989 and the site has remained vacant since that time. The Site is proposed to be capped and used as a Recreational Vehicle (RV) storage and parking lot.

3.0 ASSESSMENT

A limited groundwater assessment was conducted on the property to evaluate the gradient and flow direction on-site, and to evaluate usage in the vicinity to establish potential receptors for contaminants. The assessment included reviewing available maps and historical aerial photographs to evaluate the location of the former shoreline with respect to subject property.

Available aerial photographs dating from 1937 to 1985 were reviewed from Pacific Aerial Surveys in Oakland, California. The earlier photographs dated 1937, 1950, 1959, and 1968 depict the San Francisco Bay shoreline to be the current southern property line. The 1968 aerial depicts the southern area of Bay Farm Island undergoing draining and filling. The 1975 aerial shows the property south of the Gun Club filled and graded. In 1975, structures on the Gun Club site appeared similar to current development. Copies of aerial photographs dated 1950 and 1985 are attached in Appendix A.

3.1 Well Inventory

A well inventory was conducted of the surrounding properties within one-half mile from the Gun Club site. The inventory included compiling data from the Alameda County Water Conservation and Flood Control District on permitted wells in the area, and conducting a site vicinity search for domestic or irrigation groundwater wells in the vicinity.

Approximately 34 wells within one-half mile of the subject property were reported. A summary inventory of wells located within one-half mile of the Former Gun Club property is attached in Appendix B. No wells with one mile of the study area were reported to be used for municipal or domestic purposes.

Most of the wells in the study area are listed as monitoring or test wells. There are 18 listed wells which are reportedly used for monitoring. Fourteen wells in the area are listed as irrigation wells. Of the irrigation wells, nine were not listed as permitted wells from Alameda County Water Conservation District Well Inventory list. The closest known irrigation well to the subject property is located at 935 Magnolia Drive, approximately 900 feet northwest.

Many of the irrigation wells were drilled during the 1976-77 drought and are relatively shallow. Total depths of the wells in the area range from 10 to 744 feet below ground surface with most wells being less than 20 feet below ground surface (bgs). It is currently unknown how many of the irrigation wells are still active today.

3.2 Tidal Evaluation

A tidal evaluation was conducted on monitoring wells MW-1, MW-2 and MW-3 continuously from April 21, 1994 through April 23, 1994. The wells were monitored using a SE2000 Environmental Data Logger unit number 154DT which measured and recorded the depth to water from the top of each well casing every five minutes. Recorded depth to top of water measurements collected every hour are summarized in Table 1, attached in Appendix C.

Groundwater elevation levels were compared with published tidal differences for Bay Farm Island/San Leandro Bay during April 21 through April 23, 1994. The published tidal differences were used to establish a baseline for comparison.

Published tidal differences range from 4.6 feet to 6.2 feet (above mean sea level) difference between high and low tides. Difference in groundwater elevation from the on-site monitoring well ranges from 0.01 foot to 0.07 foot between high and low tidal periods. Monitoring well MW-2 (most down gradient well) has shown the most change in groundwater elevation difference between high and low tidal periods. Results of the test conclude that groundwater on-site is slightly affected by tidal action.

4.0 **FIELD PROCEDURES**

After the permit application from the Water Conservation and Flood Control District - Zone 7 was approved, borings MW-4 and MW-5 were drilled on May 6, 1994 using a B-53 mobile drill rig equipped with 8-inch outside diameter hollow-stem augers. Concurrent with drilling, subsurface soil samples were obtained with a Modified California Split Spoon Sampler equipped with three six-inch long brass/stainless steel liners. Boring MW-4 was drilled to a total depth of 16.5 feet bgs. Boring MW-5 was drilled to a total depth 12.5 feet bgs.

Figure 1 - Site Plan, illustrates the new and existing boring and monitoring well locations.

The sampler and brass liners were pre-cleaned prior to use and between sample drives by washing them with a trisodium phosphate (TSP) and potable water solution, a potable water rinse, and distilled water rinse.

Soil samples were collected every five feet, at any noted changes in lithology and at the approximate soil/groundwater interface. Subsurface soil samples were obtained by drilling to the approximate sampling location and driving the sampler eighteen inches into undisturbed material.

Upon removal, each sample was labeled, and stored in an ice-filled cooler to be transported under chain of custody to Sequoia Analytical, a Cal/EPA certified laboratory.

Three soil samples were collected from each boring and were submitted to Sequoia Analytical for analysis of Polynuclear Aromatic Hydrocarbons by EPA Test Method 8100, and Copper and Lead for both Soluble Threshold Limit Concentration (STLC) by the WET method and Total Threshold Limit Concentration (TTLC) extraction tested by EPA method 6010. Copy of the analytical results and chain of custody form is provided in Appendix D.

The soil cuttings and samples were logged by an ACC geologist during drilling operations. The soil cuttings are described in accordance with the Unified Soil Classification System. Lithologic logs of the borings and the Unified Soil Classification System are attached in Appendix E. Soil cuttings were stockpiled on Visqueen on-site for future disposal.

4.1 Monitoring Well Construction and Development

Monitoring wells MW-4 and MW-5 were installed within the borings MW-4 and MW-5, respectively, upon completion of drilling. Well construction details are attached in Appendix E. The two monitoring wells were installed with well casing consisting of 2-inch I.D. Schedule 40 PVC. Based upon depth to water, monitoring well MW-4 was installed with 12 feet of 0.020-inch factory slotted screen below 3 feet of solid casing. Monitoring well MW-5 was installed with 10 feet of 0.02-inch factory slotted screen below 2.5 feet of solid casing.

Both wells were installed with Lonestar #2/12 sand used as an annular fill to at least one half foot above the top of the screen. One half foot of 1/4-inch pelletized bentonite was placed between the annular sand and neat cement seal. Water tight "Christy" boxes were cemented over the top of the PVC casing and set slightly above grade to drain surface water away from the well heads. A locking expansion plug with lock was placed on each well head.

Monitoring wells MW-4 and MW-5 were developed on May 9, 1994, using a double-ended rubber O-ring stopper followed by bailing, using designated disposable bailers. The wells were developed until temperature, pH, and conductivity of development water had stabilized and the water was substantially free of fine material. Approximately 10 well casing volumes of water were removed from each well and stored in sealed 55-gallon drums on-site. The drums were labeled with their contents and accumulation date. Disposal is pending profiling into an acceptable disposal facility.

4.2 Groundwater Sampling

Groundwater samples were collected from each on-site monitoring well (MW-1, MW-2, MW-3, MW-4, and MW-5) on May 11, 1994. Prior to groundwater purging and sampling, the depth to the surface of the water table was measured from the top of the PVC casing using a Solinst Water Level Meter.

During sampling, after water-level measurements were taken, each on-site well was purged by hand using a designated disposable Teflon bailer for each well. Groundwater pH, temperature and electrical conductivity were monitored during well purging. Each well was considered to be purged when these parameters stabilized. A minimum of four well volumes were removed to purge each well. Worksheets of groundwater conditions monitored during purging are attached in Appendix F. Information regarding depths of wells, elevations and groundwater levels are summarized in Table 2.

TABLE 2 - Groundwater Depth Information

Well No.	Sample Date	Well Elevation (MSL)	Depth to Groundwater (Ft.)	Groundwater Elevation (MSL)
MW-1	05/11/94	5.05	2.59	2.46
MW-2	05/11/94	5.60	4.17	1.43
MW-3	05/11/94	4.76	2.75	2.01
MW-4	05/11/94	2.87	2.13	0.74
MW-5	05/11/94	3.47	2.00	1.47

Notes: All measurements in feet
MSL = Mean Sea Level

After the groundwater had recovered to a minimum of approximately 80 percent of its static level, water samples were obtained. A groundwater sample was collected from each monitoring well using designated disposable Teflon bailers. Each water sample included two 40 ml VOA vials, without headspace, and one 1-liter plastic jar, filled with water collected from the monitoring wells on-site. The samples were preserved on ice and submitted to Sequoia Analytical under chain of custody protocol. Laboratory results with chain of custody forms are attached in Appendix G.

4.3 Groundwater Gradient

Prior to calculating the groundwater gradient, elevations for the on-site monitoring wells were surveyed by Ron Archer Civil Engineer, Inc. to an accuracy of one-hundredth of a foot. The well elevation was surveyed at the top of the PVC well casing. The elevations of the monitoring wells were established relative to a nearby benchmark. Surveyor sheet attached in Appendix H.

Groundwater elevations were taken from the wells on May 11, 1994. The gradient was calculated by triangulation using the elevation of the potentiometric surface measured with respect to Mean Sea Level datum. As shown in Figure 2, general direction of flow is east to southeast at an average gradient of 0.0078.

5.0 FINDINGS

5.1 Subsurface Conditions

At the time of drilling and sampling activities, the site study area was covered with a thick growth of native grasses and vegetation. Below the vegetation the subsurface soil consisted of Fill Material described as dark to reddish brown silty sand to gravel with clay to approximately 3 feet below ground surface. Below three feet the Fill Material was observed to consist of dark grayish brown sand with silt in boring MW-4 to very dark brown silty clay with roots and black lamina in boring MW-5. The lower fill material observed in boring MW-5 consisted of very plastic clay of which the black lamina were observed to be organic material.

Possible Merritt Formational material was encountered during drilling. The on-site formational material consisted of sand varying in consistency from silty to clayey sand. The formational material was encountered from five feet below the ground surface in both borings and was observed to the depth investigated of 16.5 feet below ground surface.

During drilling, groundwater was encountered from 3 feet in boring MW-4 to 5 feet in MW-5. The stabilized groundwater rose to approximately 2 feet bgs in monitoring well MW-5. The clayey material in boring MW-5 (3 - 5 feet bgs) appears to act as a vertical barrier for groundwater movement. Observations for the borings and monitoring wells on-site indicate that the groundwater appears to be localized in the lower sandier fill material and the apparent Merritt Sand.

5.2 Regional Hydrogeology

The site is located within the Bay Plain. The Bay Plain is a geomorphic terrain which is the gently bayward sloping alluvial plain of Alameda County adjacent to the east shore of San Francisco Bay. The Bay Plain is situated on the eastern side of the San Francisco Bay depression. This depression is an irregular warpage of the earth's crust resulting principally from downward movement along northwest-trending faults at its edge (California Department of Water Resources, 1963).

The Alameda County Flood Control and Water Conservation District, Geo-hydrology and Groundwater - Quality Overview, 205 (j) Report, June 1988 describes the geological formation of Alameda and Bay Farm Island as comprised principally the Merritt Sand of Quaternary age. The report notes this sand consists of loose, well-sorted, fine to medium grained sand with lenses of sandy clay and silt. The Merritt Sand was derived chiefly as a wind and water borne beach and near-shore deposit. The Merritt Sand is permeable but yields small quantities of groundwater to wells.

5.3 Analytical Results - Soil

Three soil samples were collected from each boring and submitted to Sequoia Analytical for analysis of PNA's, Copper and Lead. Results of the soil sample analyses are summarized in Table 3 and illustrated in Figure 3. Analytical results with chain of custody form is attached in Appendix D.

TABLE 3 - Sample Results - Soil

Boring No.	Sample No.	Depth (ft.)	PNAs (mg/g)	Lead		Copper	
				STLC (mg/L)	TTLC (mg/kg)	STLC (mg/L)	TTLC (mg/kg)
MW-4	MW4-3½	3-½	<100	<0.1	<5.0	0.37	2.1
	MW4-6	6	<100	<0.1	5.2	0.61	4.5
	MW4-9	9	<100	<0.1	<5.0	0.3	6.4
MW-5	MW5-4	4	<100	0.12	5.4	0.38	23
	MW5-6½	6½	<100	<0.1	<5.0	0.71	27
	MW5-9	9	<100	<0.1	<5.0	0.55	15

Notes: STLC = Soluble Threshold Limit Concentration by WET method
 TTLC = Total Threshold Limit Concentration, extraction tested by EPA method 6010

5.4 Analytical Results - Groundwater

Groundwater samples were collected from the monitoring wells on May 11, 1994 from each groundwater monitoring well. All groundwater samples collected were submitted to Sequoia Analytical for analysis of Polynuclear Aromatic Hydrocarbons (PNAs) by EPA 8100 and lead and copper for both STLC and TTLC.

Analysis results from the groundwater samples are illustrated in Table 4. Copies of the analytical results are attached in Appendix G and illustrated in Figure 4.

TABLE 4 - Sample Results - Groundwater

Sample No.	Date Sampled	PNAs (ug/L)	Lead		Copper	
			STLC (mg/L)	TTLC (mg/L)	STLC (mg/L)	TTLC (mg/L)
MW-1	5/11/94	<2.0	0.018	0.017	<0.01	<0.01
MW-2	5/11/94	<2.0	<0.005	<0.005	0.023	<0.01
MW-3	5/11/94	<2.0	0.083	0.082	0.030	0.043
MW-4	5/11/94	<2.0	<0.005	<0.005	0.02	<0.01
MW-5	5/11/94	<2.0 20* pyrene	0.019	0.034	0.027	0.024

Notes: * 20 ug/L of Pyrene detected in groundwater sample MW-5
 STLC = Soluble Threshold Limit Concentration by WET method
 TTLC = Total Threshold Limit Concentration, extraction tested by EPA method 6010

6.0 DISCUSSION

An additional subsurface investigation of the soil and groundwater was conducted in May 1994. Prior to the subsurface investigation, additional background data assessment was performed. The additional assessment included reviewing available aerial photographs and historic maps of the area to evaluate location of filled areas on-site and determine former shorelines. Review of the aerial photographs and historical maps of the area indicated the former shoreline was located just beyond the southern property line from -1937 through 1968. Filling of the area south of the property is apparent in the 1968 aerial photograph. Previous filling intervals are unknown.

A well inventory was conducted in the area. Results of the inventory indicated that a majority of the known wells in the area are reported to be used for testing or monitoring. No domestic wells were reported in the area.

A tidal influence evaluation was conducted on three monitoring wells on-site. The tidal study concluded that shallow groundwater on-site is slightly influenced by tidal action. The groundwater study concluded that the flow direction of the shallow groundwater on-site flowed generally east during the test period. Review of the groundwater elevation fluctuation indicated the most downgradient well (MW-2) appears to be influenced by tidal action.

Soil

The subsurface soil investigation was conducted in May, 1994 and included drilling and installing two additional monitoring wells on-site to evaluate background levels of copper, lead and PNAs on-site.

During the investigation, approximately five feet of fill material was observed in the borings. Below the fill material, an apparent sandy formational material (Merritt Sand) was observed in the borings to the extent investigation of 16.5 feet bgs. Three soil samples per boring were collected and submitted for analysis.

Copper concentrations levels above laboratory detection limits were reported in all soil samples analyzed by both the TTLC and STLC methods. The highest concentration of copper reported was from boring MW-5 at a depth of 6½ feet bgs at 27 parts per million (ppm) TTLC and 0.71 ppm STLC. The maximum limits for copper concentrations in soil, as set by the California Environmental Protection Agency (CAL EPA) under Title 22 of the California Administrative Code (CAC), are 2,500 ppm for TTLC method and 25 ppm for STLC method. The reported levels in the samples are below the established maximum limits. The copper concentrations reported also appear to be within normal background levels for soil in the Bay Area, as described by Shacklette & Boerngen, 1984, USGS Professional Paper 1270.

Laboratory results of lead in the soil reported the highest concentration from boring MW-5 at 4 feet bgs which reported 5.4 ppm lead using TTLC method and 0.12 ppm lead using STLC method. The maximum limits for lead in the soil are 1,000 and 5 ppm for TTLC and STLC methods, respectively (Title 22 of CAC, CAL EPA). The concentrations of lead reported in the soil are below established maximum limits.

Laboratory analytical results for polynuclear aromatics (PNA's) indicated below detectable levels in the soil samples analyzed.

Groundwater

Groundwater samples were collected from five monitoring wells on-site. Levels of copper in the groundwater ranged from below detectable levels (MW-1) to 0.043 ppm (43 ppb) copper using TTLC method and 0.030 ppm (30 ppb) using STLC method in monitoring well MW-3. Levels of copper reported in MW-3 are above the established guidelines (2.9 ppb, maximum concentration, 1-hour average) for Saltwater Aquatic Life Protection, as set by the US EPA for National Ambient Water Quality Criteria (Marshack, CRWQCB-CVR, Water Quality Goals, September 1991).

Laboratory results of lead reported below detectable levels in MW-2 and MW-4 to 0.082 ppm (82 ppb) lead using TTLC method and 0.083 ppm (83 ppb) lead using STLC method in monitoring well MW-3. These levels are within established guidelines of 140 ppb, (maximum concentration, 1-hour average) Saltwater Aquatic Life Protection, (Marshack, CRWQCB-CVR, Water Quality Goals, September 1991). However, the levels of lead are above the guidelines set by the California Ocean Plan's Numerical Water Quality Objectives for Marine Aquatic Life Protection (2 ppb, 6-month median).

Results of polynuclear aromatics (PNAs) analysis on the groundwater samples reported below detectable levels of PNAs in monitoring wells MW-1, MW-2, MW-3 and MW-4. 20 ppb of pyrene was reported in the groundwater from monitoring well MW-5. This level of pyrene is within established guidelines of 300 ppb, acute toxicity, Saltwater Aquatic Life Protection, (Marshack, CRWQCB-CVR, Water Quality Goals, September 1991).

7.0 CONCLUSIONS

Two additional monitoring wells were installed on-site to establish background data to evaluate cleanup levels of lead, copper and PNAs. On-site placement of the wells was chosen to evaluate the fill material for background levels of constituents.

Approximately five feet of imported fill material appears to have been placed on-site prior to 1937. The origination of the fill material is unknown. A majority of wells located in the area are reportedly used for testing and monitoring. No domestic wells were reported in the area adjacent to the site.

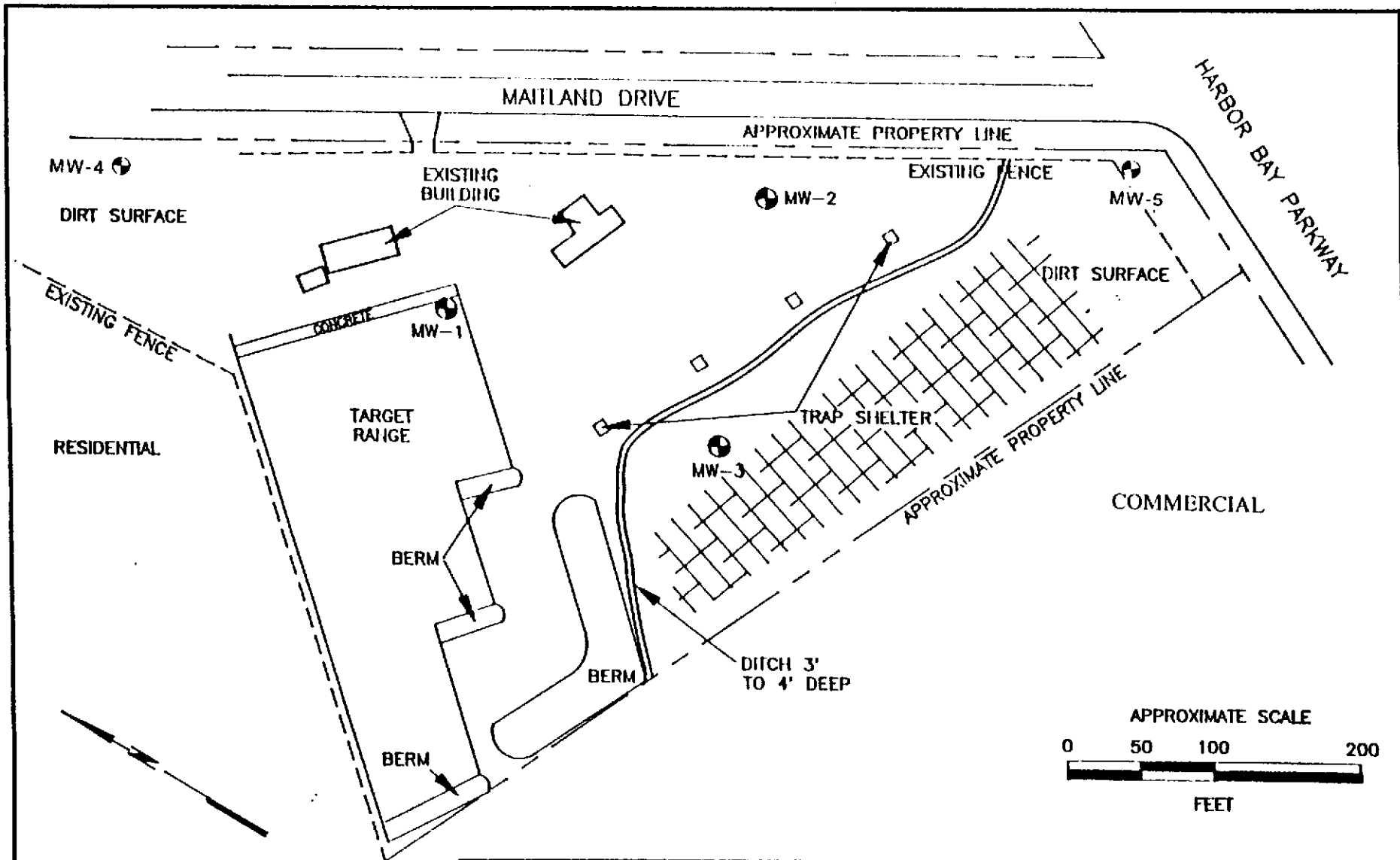
Based on the tidal study, the shallow groundwater under the site appears to be influenced by tidal action from the nearby bay. Detectable levels of lead and copper were reported in the fill material in boring MW-5 and just below the fill material in boring MW-4 these concentrations were considered to be within established soil background levels (Shacklette & Boerngen, 1984). No PNAs were reported above laboratory detection limits in the soil.

Detectable levels of lead were reported in groundwater from monitoring wells MW-1, MW-3 and MW-5. Levels of lead reported in the groundwater are within established guidelines (Marshack, 1991). Detectable levels of copper were reported in the groundwater from monitoring wells MW-2, MW-3, MW-4 and MW-5. Only levels of copper reported in groundwater collected from monitoring well MW-3 is above established guidelines (Marshack, 1991). Pyrene was reported in the groundwater from MW-5. The level of Pyrene reported in the groundwater is within established guidelines (Marshack, 1991). No other PNAs were reported in the groundwater collected from the on-site monitoring wells.

The information from this additional investigation will be used in a risk assessment to establish cleanup levels for the proposed site usage.

8.0 REFERENCES

- California Department of Water Resources, 1960, Intrusion of salt water into groundwater basins of southern Alameda County: California Department Water Resources, Davis. Resources Plan. 81, 64p.
- Alameda County Investigation: California Water Resources Board Bull. 13. 1963, 196 p.
- Alameda County Flood Control and Water Conservation District, June 1988, Geohydrology and Groundwater - Quality Overview, of the East Bay Plain Area, Alameda County, California: 205 (j) Report.
- Alameda County Flood Control and Water Conservation District - Zone 7, Well Inventory List of Groundwater Wells and their uses within one mile radius.
- Marshack, Jon B., Central Valley Water Quality Control Board - Central Valley Region, September 1991, A Compilation of Water Quality Goals.
- Shacklette & Boerngen, 1984, Element Concentrations in Soils and Other Surficial Materials of the Conterminous U.S., USGS Professional Paper 1270.
- Klienfelder May 13, 1990. Phase I Environmental Assessment Report, Island City Gun Club, 500 Maitland Drive, Alameda, California.
- RESNA Industries, Inc., October 1992, Phase II Soil and Groundwater Investigation for Harbor Bay Isle Associates, 500 Maitland Drive, Alameda, California.
- Exceltech, August 28, 1990., Review of Environmental Site Assessment Conducted at Island City Gun Club, 500 Maitland Drive, Alameda, California.

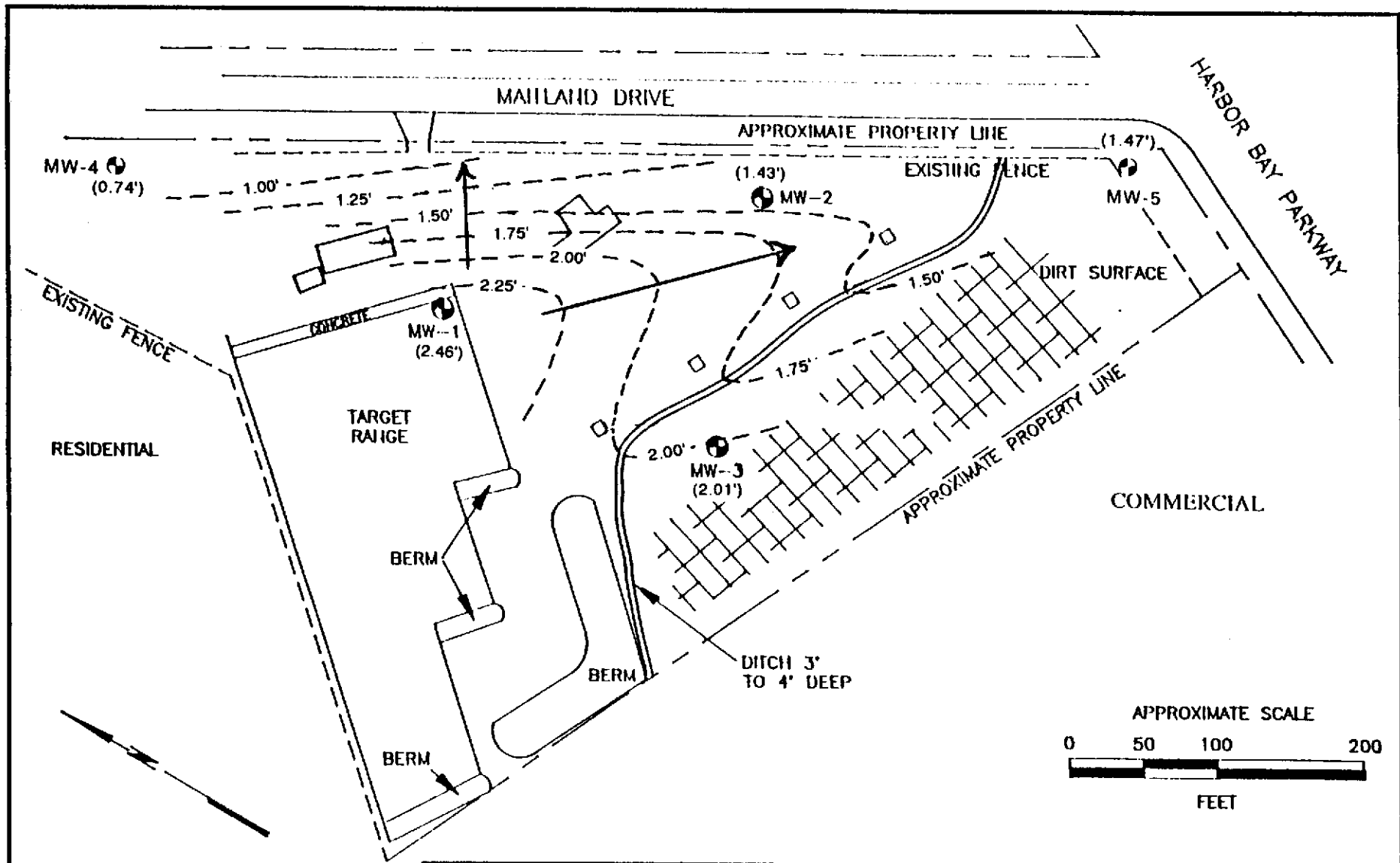


Legend

Monitoring Well MW-1

Figure 1 - Site Plan
Former Gun Club
500 Maitland Drive, Alameda

May 27, 1994	Drawn By: MCK	Project No.: 6140-1
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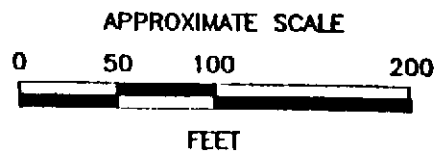
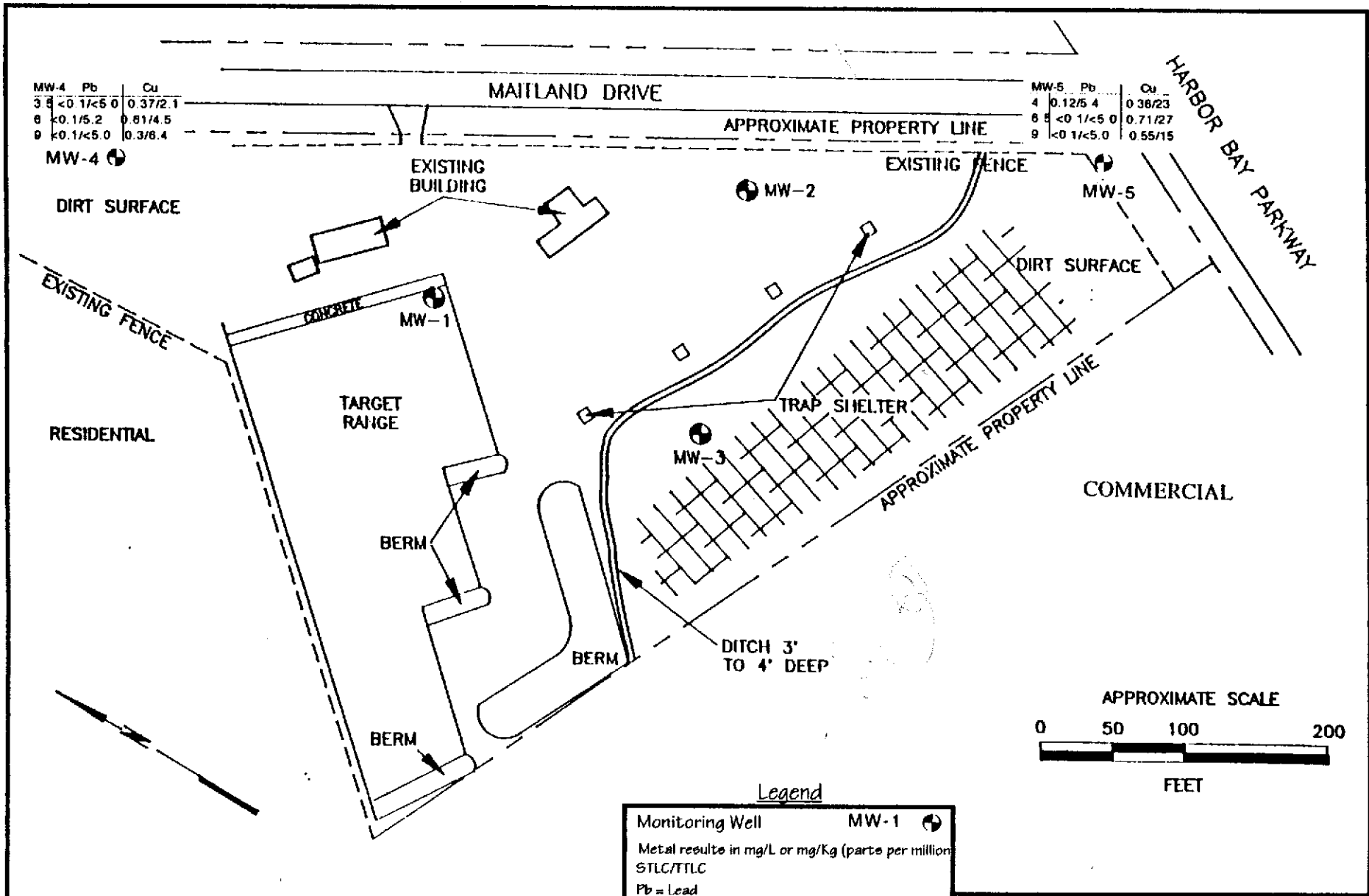
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Monitoring Well MW-1

Elevations in Feet Above Mean Sea Level

Figure 2 - Groundwater Gradient
Former Gun Club
500 Maitland Drive, Alameda

May 11, 1994 Drawn By: MCK Project No.: 6140-1



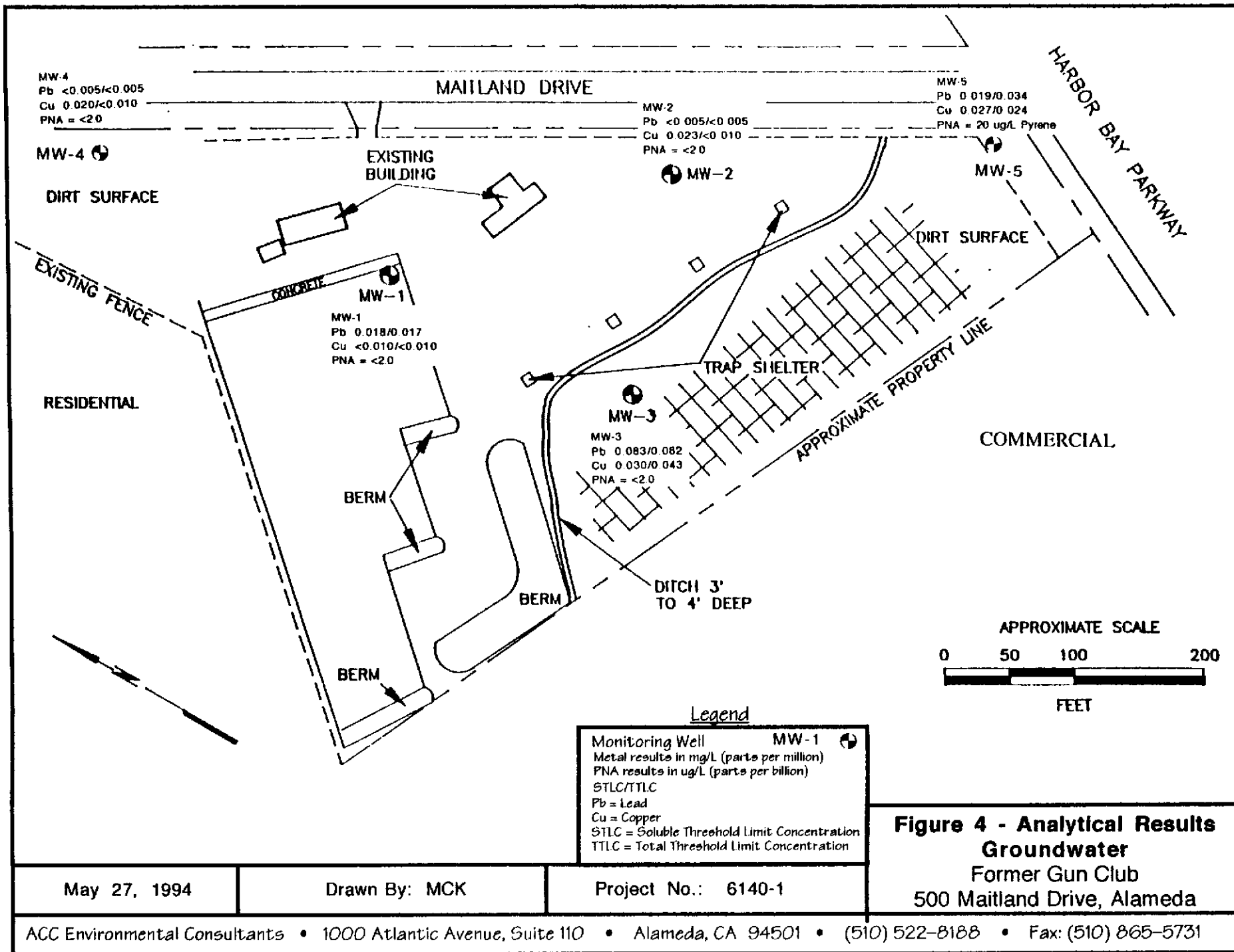
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Monitoring Well MW-1

Metal results in mg/L or mg/Kg (parts per million)
STLC/TTLC

Pb = Lead
Cu = Copper
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

Figure 3 - Analytical Results Soil
Former Gun Club
500 Maitland Drive, Alameda



APPENDIX A

An aerial photograph showing a residential neighborhood. A large, irregular white outline is drawn on a lot in the upper right quadrant, possibly indicating a specific area of interest or a boundary. The image is high-contrast, with dark shadows and bright highlights.

A.C.C

ENVIRONMENTAL
CONSULTANTS

Aerial Photograph
No. AV-2717-10-6
Taken October 4, 1985
Scale: 1" = ± 250'

A high-contrast, black and white aerial photograph showing a complex network of roads and fields. The roads are prominent, winding paths that divide the landscape into various sized plots. The terrain appears to be a mix of open fields and wooded areas, with the roads acting as clear boundaries. The overall image has a grainy, high-contrast quality typical of older aerial photography.

A·C·C
ENVIRONMENTAL
CONSULTANTS

Aerial Photograph
No. AV-28-17-27
Taken April 14-1950
Scale: 1" = \pm 270'

APPENDIX B

WELL INVENTORY LIST

WELL #	WELL OWNER	WELL ADDRESS	INSTALL DATE	TOTAL DEPTH	WELL USE	DIAM	DEPTH TO H2O
2S/3W 19F 1	BAY-FARM ISLAND SCHOOL	MAITLAND DR, ALA.	-	-	GEO	-	-
2S/3W 19F 2	ALAMEDA GOLF COURSE	MAITLAND & GOLF COURSE, ALA.	5/89	-	ABN	12	60
2S/3W 19H 9	WASTE MANAGEMENT OF N. AM	HARBOR BAY & DOOLITTLE DR, ALA.	10/89	15	MON	4	5
2S/3W 19H10	WASTE MANAGEMENT OF N. AM	HARBOR BAY & DOOLITTLE DR, ALA.	10/89	15	MON	4	4
2S/3W 19H11	WASTE MANAGEMENT OF N. AM	HARBOR BAY & DOOLITTLE DR, ALA.	10/89	12	MON	4	5
2S/3W 19H12	WASTE MANAGEMENT OF N. AM	HARBOR BAY & DOOLITTLE DR, ALA.	10/89	12	MON	4	3
2S/3W 19K 1	CITY OF ALAMEDA	MAITLAND & DOOLITTLE DR.	7/66	619	IRR	14	-
2S/3W 19K 2	ALAMEDA GOLF COURSE MW-1	1 MEMORIAL DR.	-	10	MON	2	-
2S/3W 19K 3	ALAMEDA GOLF COURSE MW-2	1 MEMORIAL DR.	-	10	MON	2	-
2S/3W 19K 4	ALAMEDA GOLF COURSE MW-3	1 MEMORIAL DR.	-	10	MON	2	-
2S/3W 19M 1	BAY FARM ISLAND	MAITLAND DR.	-	-	GEO*	-	-
2S/3W 19N 1	BAY FARM ISLAND	1 ISLAND DR.	-	744	IRR	14	-
2S/3W 19N 2	HARBOR BAY ISLE	SAN. SEWER-BAY FARM	5/75	-	GEO*	-	-
2S/3W 19N 3	BEDFORD PROPERTIES NW-1	3255 MCCARTNEY RD, ALA.	12/91	16	MON	2	7
2S/3W 19N 4	BEDFORD PROPERTIES MW-2	3255 MCCARTNEY RD, ALA.	12/91	16	MON	2	6
2S/3W 19N 5	BEDFORD PROPERTIES NW-3	3255 MCCARTNEY RD, ALA.	12/91	16	MON	2	7
2S/3W 19Q 3	CITY OF ALAMEDA (GOLF COURSE)	CLUBHOUSE ROAD, ALA.	6/86	14	MON	2	4
2S/3W 30A 1	ALAMEDA MUNICIPAL GOLF	GOLF COURSE BAY FARM ISLAND, AL	7/89	498	IRR	12	-

Well Inventory Definitions and Abbreviations

Well #	Wells are numbered according to their location in the rectangular system of the Public Land Survey. The part of the number preceding the slash indicates the township; the part following the slash indicates the range and section number; the letter following the section number indicated the 40-acre subdivision; and the final digit is a serial number for wells in each 40-acre subdivision. Wells without a number are not listed registered with the Alameda County Public Works Agency.
Total Depth	The depth of the well usually designates the complete well depth.
Depth to H2O	Depth to water usually indicated the standing groundwater level in the well on the date of completion.
Well Use	The well use as indicated the well driller's report is the reason for the excavation.
GEO	Geotechnical boring - A temporary boring made to determine certain engineering properties of soils. An asterisk (*) indicates that the state well number assigned to the boring represents more than one boring at a particular site.
ABN	Abandoned well - A well whose use has been permanently discontinued or which is in such a state of disrepair that no water can be produced. In the inventory, this may include wells which are covered or capped but not properly destroyed.
MON	Monitoring or observation well
IRR	Irrigation well - A water well used to supply water only for irrigation or other agricultural purposes.
TES	Test well and test hole - A test well is constructed for the purpose of obtaining the information needed to design a well prior to its construction.

APPENDIX C

TIDAL INFLUENCE

Date	Time Recorded	Depth to Water from Top of Casing			Groundwater Elevation (MSL)			Published High/Low Tides (Bay Farm Is., San Leandro Bay)
					MW1	MW2	MW3	
		MW1	MW2	MW3	5.05	5.60	4.76	
4/21/94	1640	3.81	4.36	2.69	1.24	1.24	2.07	
	1740	3.80	4.36	2.68	1.25	1.24	2.08	
	1840	3.81	4.36	2.68	1.24	1.24	2.08	
	1940	3.82	4.37	2.68	1.23	1.23	2.08	
	2040	3.82	4.36	2.67	1.23	1.24	2.09	
	2140	3.82	4.36	2.67	1.23	1.24	2.09	
	2240	3.82	4.36	2.67	1.13	1.24	2.09	2213 H (5.9')
	2340	3.81	4.36	2.66	1.24	1.24	2.10	
4/22/94	2440	3.80	4.35	2.66	1.25	1.25	2.10	
	0140	3.78	4.33	2.66	1.25	1.27	2.10	
	0240	3.78	4.34	2.66	1.25	1.26	2.10	
	0340	3.80	4.33	2.66	1.25	1.27	2.11	0413 L (0.9')
	0440	3.78	4.39	2.66	1.25	1.26	2.10	
	0540	3.81	4.35	2.66	1.24	1.25	2.10	
	0640	3.81	4.36	3.66	1.24	1.24	2.10	
	0740	3.83	4.37	3.67	1.23	1.23	2.09	
	0840	3.83	4.37	3.67	1.22	1.23	2.09	
	0940	3.84	4.34	2.66	1.21	1.26	2.11	
	1040	3.85	4.40	2.70	1.20	1.20	2.06	1020 H (5.5')
	1140	3.83	4.37	2.68	1.22	1.23	2.08	
	1240	3.81	4.34	2.66	1.24	1.26	2.10	
	1340	3.81	4.37	2.66	1.24	1.23	2.10	
	1440	3.80	4.35	2.66	1.25	1.25	2.10	
	1540	3.81	4.35	2.67	1.25	1.25	2.09	
	1640	3.82	4.36	2.68	1.23	1.24	2.08	1614 L (0.5')
	1740	3.83	4.37	2.68	1.23	1.23	2.08	
	1840	3.84	4.38	2.68	1.21	1.22	2.08	

Date	Time Recorded	Depth to Water from Top of Casing			Groundwater Elevation (MSL)			Published High/Low Tides (Bay Farm Is., San Leandro Bay)
					MW1	MW2	MW3	
		MW1	MW2	MW3	5.05	5.60	4.76	
	1940	3.85	4.39	2.69	1.20	1.21	2.07	
	2040	3.86	4.40	2.69	1.19	1.20	2.08	
	2140	3.86	4.41	2.69	1.19	1.19	2.07	
	2240	3.87	4.41	2.69	1.18	1.19	2.07	2250 H (6.3')
	2340	3.87	4.41	2.69	1.18	1.19	2.07	
	2440	3.86	4.40	2.69	1.19	1.20	2.07	
4/23/94	0140	3.86	4.41	2.69	1.19	1.19	2.07	
	0240	3.86	4.39	2.48	1.19	1.21	2.08	
	0340	3.86	4.40	2.69	1.19	1.20	2.07	
	0440	3.86	4.39	2.69	1.19	1.21	2.07	
	0540	3.87	4.41	2.69	1.18	1.19	2.07	0500 L (0.1')
	0640	3.87	4.41	2.69	1.18	1.19	2.07	
	0740	3.87	4.42	2.70	1.18	1.18	2.06	
	0840	3.88	4.42	2.70	1.17	1.18	2.06	
	0940	3.88	4.42	2.71	1.17	1.18	2.05	
	1040	3.88	4.42	2.69	1.17	1.18	2.07	
	1140	3.88	4.42	2.70	1.17	1.18	2.06	1123 H (5.7')

TIDAL INFLUENCE

Date	Time Recorded	Depth to Water from Top of Casing			Groundwater Elevation (MSL)			Published High/Low Tides (Bay Farm Is., San Leandro Bay)
					MW1	MW2	MW3	
		MW1	MW2	MW3	5.05	5.60	4.76	
4/21/94	1640	3.81	4.36	2.69	1.24	1.24	2.07	
	1740	3.80	4.36	2.68	1.25	1.24	2.08	
	1840	3.81	4.36	2.68	1.24	1.24	2.08	
	1940	3.82	4.37	2.68	1.23	1.23	2.08	
	2040	3.82	4.36	2.67	1.23	1.24	2.09	
	2140	3.82	4.36	2.67	1.23	1.24	2.09	
	2240	3.82	4.36	2.67	1.13	1.24	2.09	2213 H (5.9')
	2340	3.81	4.36	2.66	1.24	1.24	2.10	
4/22/94	2440	3.80	4.35	2.66	1.25	1.25	2.10	
	0140	3.78	4.33	2.66	1.25	1.27	2.10	
	0240	3.78	4.34	2.66	1.25	1.26	2.10	
	0340	3.80	4.33	2.66	1.25	1.27	2.11	0413 L (0.9')
	0440	3.78	4.39	2.66	1.25	1.26	2.10	
	0540	3.81	4.35	2.66	1.24	1.25	2.10	
	0640	3.81	4.36	3.66	1.24	1.24	2.10	
	0740	3.83	4.37	3.67	1.23	1.23	2.09	
	0840	3.83	4.37	3.67	1.22	1.23	2.09	
	0940	3.84	4.34	2.66	1.21	1.26	2.11	
	1040	3.85	4.40	2.70	1.20	1.20	2.06	1020 H (5.5')
	1140	3.83	4.37	2.68	1.22	1.23	2.08	
	1240	3.81	4.34	2.66	1.24	1.26	2.10	
	1340	3.81	4.37	2.66	1.24	1.23	2.10	
	1440	3.80	4.35	2.66	1.25	1.25	2.10	
	1540	3.81	4.35	2.67	1.25	1.25	2.09	
	1640	3.82	4.36	2.68	1.23	1.24	2.08	1614 L (0.5')
	1740	3.83	4.37	2.68	1.23	1.23	2.08	
	1840	3.84	4.38	2.68	1.21	1.22	2.08	

Date	Time Recorded	Depth to Water from Top of Casing			Groundwater Elevation (MSL)			Published High/Low Tides (Bay Farm Is., San Leandro Bay)
					MW1	MW2	MW3	
		MW1	MW2	MW3	5.05	5.60	4.76	
	1940	3.85	4.39	2.69	1.20	1.21	2.07	
	2040	3.86	4.40	2.69	1.19	1.20	2.08	
	2140	3.86	4.41	2.69	1.19	1.19	2.07	
	2240	3.87	4.41	2.69	1.18	1.19	2.07	2250 H (6.3')
	2340	3.87	4.41	2.69	1.18	1.19	2.07	
	2440	3.86	4.40	2.69	1.19	1.20	2.07	
4/23/94	0140	3.86	4.41	2.69	1.19	1.19	2.07	
	0240	3.86	4.39	2.48	1.19	1.21	2.08	
	0340	3.86	4.40	2.69	1.19	1.20	2.07	
	0440	3.86	4.39	2.69	1.19	1.21	2.07	
	0540	3.87	4.41	2.69	1.18	1.19	2.07	0500 L (0.1')
	0640	3.87	4.41	2.69	1.18	1.19	2.07	
	0740	3.87	4.42	2.70	1.18	1.18	2.06	
	0840	3.88	4.42	2.70	1.17	1.18	2.06	
	0940	3.88	4.42	2.71	1.17	1.18	2.05	
	1040	3.88	4.42	2.69	1.17	1.18	2.07	
	1140	3.88	4.42	2.70	1.17	1.18	2.06	1123 H (5.7')

SE2000
Environmental Logger
04/21 15:41

Unit# 154DT Test 0

Setups:	INPUT 1	INPUT 2	INPUT 3
Type	Level (F)	Level (F)	Level (F)
Mode	TOC	TOC	TOC
I.D.	161401	261401	361401
Reference	3.790	4.360	2.700
SG	1.000	1.000	1.000
Linearity	0.050	0.001	0.045
Scale factor	10.055	9.951	10.075
Offset	-0.067	-0.031	-0.004
Delay mSEC	50.000	50.000	50.000

Step 0 04/19 17:45:30

Elapsed Time	INPUT 1	INPUT 2	INPUT 3
0.0000	3.796	4.356	2.703
5.0000	3.802	4.372	2.703
10.0000	3.802	4.369	2.696
15.0000	3.802	4.372	2.703
20.0000	3.809	4.369	2.703
25.0000	3.805	4.363	2.696
30.0000	3.812	4.366	2.696
35.0000	3.805	4.363	2.693
40.0000	3.809	4.366	2.693
45.0000	3.805	4.366	2.693
50.0000	3.809	4.366	2.690
55.0000	3.809	4.363	2.690
60.0000	3.809	4.360	2.690
65.0000	3.809	4.363	2.690
70.0000	3.805	4.366	2.690
75.0000	3.809	4.363	2.687
80.0000	3.809	4.363	2.687
85.0000	3.805	4.360	2.687
90.0000	3.805	4.356	2.684
95.0000	3.805	4.356	2.684
100.000	3.802	4.356	2.684
105.000	3.802	4.353	2.684
110.000	3.805	4.356	2.684
115.000	3.805	4.356	2.684
120.000	3.802	4.356	2.684
125.000	3.802	4.356	2.684
130.000	3.805	4.356	2.684
135.000	3.802	4.356	2.684
140.000	3.805	4.356	2.680
145.000	3.805	4.356	2.684
150.000	3.809	4.356	2.684

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155.000	3.809	4.356	2.684
160.000	3.812	4.356	2.684
165.000	3.812	4.363	2.687
170.000	3.812	4.360	2.684
175.000	3.812	4.356	2.684
180.000	3.812	4.356	2.684
185.000	3.812	4.360	2.684
190.000	3.815	4.363	2.687
195.000	3.815	4.360	2.687
200.000	3.815	4.360	2.687
205.000	3.815	4.363	2.684
210.000	3.815	4.363	2.687
215.000	3.818	4.366	2.687
220.000	3.818	4.366	2.687
225.000	3.821	4.369	2.687
230.000	3.818	4.366	2.684
235.000	3.821	4.366	2.687
240.000	3.821	4.366	2.684
245.000	3.821	4.366	2.684
250.000	3.821	4.363	2.684
255.000	3.821	4.366	2.684
260.000	3.821	4.366	2.684
265.000	3.821	4.366	2.684
270.000	3.825	4.366	2.680
275.000	3.821	4.369	2.677
280.000	3.825	4.372	2.677
285.000	3.821	4.369	2.677
290.000	3.821	4.369	2.677
295.000	3.825	4.366	2.677
300.000	3.821	4.363	2.674
305.000	3.821	4.366	2.677
310.000	3.821	4.366	2.674
315.000	3.821	4.363	2.674
320.000	3.821	4.363	2.674
325.000	3.821	4.363	2.674
330.000	3.818	4.363	2.674
335.000	3.821	4.363	2.671
340.000	3.821	4.363	2.674
345.000	3.821	4.363	2.671
350.000	3.821	4.360	2.671
355.000	3.821	4.363	2.674
360.000	3.818	4.360	2.668
365.000	3.821	4.360	2.671
370.000	3.818	4.360	2.671
375.000	3.818	4.363	2.671
380.000	3.821	4.366	2.674
385.000	3.821	4.363	2.674
390.000	3.818	4.360	2.668
395.000	3.818	4.360	2.671
400.000	3.815	4.356	2.668
405.000	3.818	4.363	2.671
410.000	3.818	4.360	2.668
415.000	3.815	4.360	2.668
420.000	3.818	4.363	2.671
425.000	3.818	4.366	2.674

430.000	3.818	4.366	2.674
435.000	3.815	4.360	2.668
440.000	3.812	4.356	2.668
445.000	3.815	4.363	2.668
450.000	3.809	4.353	2.661
455.000	3.809	4.356	2.661
460.000	3.809	4.353	2.661
465.000	3.809	4.356	2.664
470.000	3.809	4.356	2.664
475.000	3.805	4.350	2.661
480.000	3.809	4.356	2.661
485.000	3.805	4.353	2.661
490.000	3.805	4.353	2.664
495.000	3.805	4.356	2.664
500.000	3.805	4.356	2.661
505.000	3.805	4.353	2.664
510.000	3.805	4.356	2.661
515.000	3.802	4.353	2.661
520.000	3.802	4.353	2.661
525.000	3.802	4.353	2.661
530.000	3.802	4.350	2.661
535.000	3.802	4.353	2.661
540.000	3.802	4.353	2.661
545.000	3.802	4.347	2.661
550.000	3.802	4.338	2.655
555.000	3.805	4.344	2.664
560.000	3.802	4.344	2.661
565.000	3.802	4.341	2.658
570.000	3.802	4.334	2.655
575.000	3.802	4.338	2.658
580.000	3.805	4.347	2.664
585.000	3.802	4.341	2.661
590.000	3.799	4.334	2.658
595.000	3.799	4.334	2.658
600.000	3.799	4.334	2.658
605.000	3.799	4.338	2.658
610.000	3.802	4.341	2.661
615.000	3.802	4.338	2.658
620.000	3.799	4.338	2.658
625.000	3.799	4.338	2.658
630.000	3.799	4.338	2.658
635.000	3.799	4.338	2.658
640.000	3.799	4.338	2.658
645.000	3.799	4.338	2.658
650.000	3.799	4.338	2.658
655.000	3.799	4.338	2.658
660.000	3.799	4.338	2.658
665.000	3.799	4.338	2.658
670.000	3.799	4.334	2.655
675.000	3.796	4.334	2.658
680.000	3.799	4.334	2.655
685.000	3.796	4.334	2.655
690.000	3.796	4.334	2.658
695.000	3.796	4.334	2.655
700.000	3.796	4.331	2.655

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705.000	3.796	4.334	2.655
710.000	3.799	4.338	2.658
715.000	3.796	4.334	2.655
720.000	3.796	4.334	2.655
725.000	3.799	4.338	2.658
730.000	3.796	4.334	2.655
735.000	3.796	4.331	2.655
740.000	3.796	4.334	2.655
745.000	3.796	4.334	2.655
750.000	3.796	4.331	2.655
755.000	3.796	4.334	2.655
760.000	3.796	4.334	2.655
765.000	3.796	4.334	2.655
770.000	3.796	4.334	2.655
775.000	3.799	4.338	2.658
780.000	3.799	4.338	2.658
785.000	3.802	4.338	2.658
790.000	3.802	4.341	2.661
795.000	3.805	4.344	2.661
800.000	3.805	4.344	2.661
805.000	3.805	4.341	2.658
810.000	3.805	4.344	2.661
815.000	3.805	4.341	2.658
820.000	3.805	4.341	2.658
825.000	3.809	4.347	2.661
830.000	3.809	4.347	2.661
835.000	3.809	4.347	2.661
840.000	3.809	4.347	2.661
845.000	3.809	4.347	2.661
850.000	3.809	4.347	2.661
855.000	3.809	4.347	2.658
860.000	3.809	4.350	2.661
865.000	3.809	4.350	2.661
870.000	3.812	4.353	2.664
875.000	3.812	4.353	2.664
880.000	3.812	4.350	2.661
885.000	3.812	4.350	2.661
890.000	3.815	4.353	2.664
895.000	3.815	4.353	2.664
900.000	3.812	4.356	2.664
905.000	3.815	4.356	2.668
910.000	3.815	4.356	2.664
915.000	3.818	4.360	2.664
920.000	3.818	4.360	2.668
925.000	3.815	4.353	2.664
930.000	3.818	4.360	2.664
935.000	3.818	4.363	2.671
940.000	3.821	4.366	2.671
945.000	3.815	4.356	2.661
950.000	3.821	4.366	2.674
955.000	3.815	4.353	2.661
960.000	3.825	4.369	2.674
965.000	3.821	4.366	2.668
970.000	3.834	4.381	2.680
975.000	3.818	4.353	2.664

980.000	3.821	4.363	2.671
985.000	3.825	4.378	2.677
990.000	3.825	4.363	2.664
995.000	3.850	4.410	2.700
1000.00	3.809	4.331	2.648
1005.00	3.847	4.403	2.700
1010.00	3.815	4.347	2.655
1015.00	3.825	4.334	2.658
1020.00	3.831	4.375	2.671
1025.00	3.828	4.378	2.674
1030.00	3.825	4.372	2.677
1035.00	3.825	4.375	2.674
1040.00	3.844	4.391	2.687
1045.00	3.831	4.366	2.674
1050.00	3.837	4.378	2.680
1055.00	3.844	4.394	2.690
1060.00	3.844	4.403	2.693
1065.00	3.847	4.394	2.680
1070.00	3.834	4.388	2.677
1075.00	3.840	4.391	2.690
1080.00	3.844	4.341	2.655
1085.00	3.825	4.372	2.680
1090.00	3.853	4.419	2.700
1095.00	3.847	4.403	2.684
1100.00	3.847	4.394	2.696
1105.00	3.815	4.325	2.645
1110.00	3.837	4.378	2.684
1115.00	3.850	4.397	2.690
1120.00	3.834	4.381	2.664
1125.00	3.863	4.422	2.706
1130.00	3.850	4.425	2.700
1135.00	3.818	4.338	2.652
1140.00	3.847	4.403	2.696
1145.00	3.818	4.363	2.655
1150.00	3.828	4.388	2.684
1155.00	3.831	4.375	2.671
1160.00	3.828	4.369	2.671
1165.00	3.828	4.378	2.677
1170.00	3.828	4.369	2.671
1175.00	3.812	4.366	2.671
1180.00	3.815	4.369	2.674
1185.00	3.818	4.366	2.674
1190.00	3.821	4.363	2.668
1195.00	3.828	4.385	2.680
1200.00	3.828	4.372	2.680
1205.00	3.828	4.366	2.677
1210.00	3.831	4.369	2.674
1215.00	3.812	4.366	2.674
1220.00	3.828	4.375	2.674
1225.00	3.825	4.372	2.674
1230.00	3.828	4.366	2.680
1235.00	3.825	4.372	2.677
1240.00	3.825	4.378	2.680
1245.00	3.825	4.366	2.671
1250.00	3.812	4.366	2.671

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1255.00	3.821	4.372	2.677
1260.00	3.812	4.344	2.658
1265.00	3.831	4.363	2.671
1270.00	3.825	4.363	2.677
1275.00	3.818	4.366	2.674
1280.00	3.831	4.375	2.684
1285.00	3.825	4.366	2.668
1290.00	3.815	4.356	2.664
1295.00	3.821	4.366	2.668
1300.00	3.828	4.366	2.671
1305.00	3.805	4.360	2.661
1310.00	3.812	4.356	2.664
1315.00	3.818	4.347	2.661
1320.00	3.812	4.366	2.661
1325.00	3.802	4.344	2.655
1330.00	3.805	4.344	2.661
1335.00	3.805	4.347	2.661
1340.00	3.815	4.356	2.664
1345.00	3.818	4.366	2.674
1350.00	3.805	4.353	2.664
1355.00	3.815	4.360	2.671
1360.00	3.805	4.353	2.664
1365.00	3.805	4.363	2.671
1370.00	3.812	4.356	2.668
1375.00	3.802	4.356	2.668
1380.00	3.802	4.350	2.664
1385.00	3.805	4.353	2.671
1390.00	3.802	4.347	2.664
1395.00	3.796	4.347	2.668
1400.00	3.799	4.341	2.661
1405.00	3.805	4.347	2.668
1410.00	3.799	4.338	2.661
1415.00	3.799	4.344	2.664
1420.00	3.805	4.347	2.668
1425.00	3.809	4.353	2.674
1430.00	3.802	4.347	2.668
1435.00	3.809	4.347	2.671
1440.00	3.805	4.350	2.671
1445.00	3.809	4.350	2.674
1450.00	3.812	4.350	2.674
1455.00	3.812	4.356	2.677
1460.00	3.815	4.360	2.677
1465.00	3.815	4.353	2.674
1470.00	3.815	4.360	2.677
1475.00	3.815	4.356	2.677
1480.00	3.815	4.356	2.674
1485.00	3.818	4.360	2.677
1490.00	3.818	4.356	2.677
1495.00	3.818	4.360	2.677
1500.00	3.818	4.360	2.677
1505.00	3.818	4.360	2.677
1510.00	3.818	4.363	2.677
1515.00	3.818	4.360	2.674
1520.00	3.818	4.363	2.677
1525.00	3.818	4.363	2.677

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1530.00	3.818	4.363	2.677
1535.00	3.821	4.363	2.677
1540.00	3.821	4.366	2.680
1545.00	3.818	4.366	2.680
1550.00	3.825	4.366	2.680
1555.00	3.825	4.366	2.680
1560.00	3.825	4.369	2.680
1565.00	3.825	4.369	2.684
1570.00	3.828	4.372	2.684
1575.00	3.828	4.372	2.684
1580.00	3.828	4.372	2.684
1585.00	3.831	4.372	2.687
1590.00	3.831	4.375	2.684
1595.00	3.831	4.375	2.684
1600.00	3.831	4.375	2.684
1605.00	3.834	4.375	2.687
1610.00	3.834	4.378	2.687
1615.00	3.837	4.381	2.687
1620.00	3.837	4.381	2.680
1625.00	3.837	4.381	2.684
1630.00	3.840	4.385	2.684
1635.00	3.844	4.385	2.684
1640.00	3.844	4.385	2.684
1645.00	3.847	4.388	2.684
1650.00	3.847	4.391	2.687
1655.00	3.847	4.391	2.684
1660.00	3.853	4.391	2.687
1665.00	3.850	4.397	2.687
1670.00	3.853	4.394	2.687
1675.00	3.856	4.397	2.690
1680.00	3.853	4.394	2.687
1685.00	3.853	4.394	2.687
1690.00	3.853	4.394	2.687
1695.00	3.853	4.397	2.687
1700.00	3.856	4.397	2.690
1705.00	3.853	4.397	2.687
1710.00	3.860	4.403	2.693
1715.00	3.856	4.397	2.687
1720.00	3.856	4.397	2.687
1725.00	3.860	4.400	2.690
1730.00	3.860	4.400	2.690
1735.00	3.860	4.403	2.690
1740.00	3.860	4.403	2.690
1745.00	3.863	4.403	2.693
1750.00	3.863	4.403	2.690
1755.00	3.863	4.403	2.693
1760.00	3.863	4.407	2.690
1765.00	3.863	4.403	2.690
1770.00	3.863	4.403	2.690
1775.00	3.863	4.403	2.690
1780.00	3.863	4.403	2.690
1785.00	3.863	4.403	2.690
1790.00	3.863	4.407	2.693
1795.00	3.863	4.403	2.690
1800.00	3.863	4.407	2.690

1805.00	3.863	4.403	2.690
1810.00	3.863	4.403	2.690
1815.00	3.866	4.407	2.693
1820.00	3.863	4.403	2.690
1825.00	3.866	4.407	2.690
1830.00	3.866	4.407	2.693
1835.00	3.866	4.410	2.693
1840.00	3.866	4.407	2.693
1845.00	3.866	4.410	2.693
1850.00	3.866	4.410	2.693
1855.00	3.866	4.407	2.693
1860.00	3.869	4.407	2.693
1865.00	3.869	4.413	2.693
1870.00	3.869	4.410	2.693
1875.00	3.869	4.410	2.693
1880.00	3.869	4.410	2.693
1885.00	3.869	4.413	2.693
1890.00	3.872	4.413	2.693
1895.00	3.869	4.410	2.690
1900.00	3.872	4.413	2.693
1905.00	3.869	4.410	2.693
1910.00	3.869	4.410	2.693
1915.00	3.869	4.407	2.690
1920.00	3.869	4.410	2.693
1925.00	3.866	4.403	2.687
1930.00	3.866	4.403	2.690
1935.00	3.863	4.403	2.687
1940.00	3.860	4.403	2.684
1945.00	3.860	4.400	2.687
1950.00	3.860	4.403	2.687
1955.00	3.860	4.403	2.687
1960.00	3.863	4.407	2.690
1965.00	3.860	4.403	2.687
1970.00	3.860	4.403	2.687
1975.00	3.860	4.407	2.690
1980.00	3.860	4.403	2.690
1985.00	3.860	4.403	2.687
1990.00	3.860	4.403	2.687
1995.00	3.860	4.400	2.687
2000.00	3.860	4.403	2.687
2005.00	3.860	4.400	2.687
2010.00	3.860	4.400	2.687
2015.00	3.863	4.403	2.687
2020.00	3.863	4.403	2.690
2025.00	3.860	4.403	2.690
2030.00	3.860	4.403	2.690
2035.00	3.860	4.403	2.690
2040.00	3.860	4.407	2.690
2045.00	3.863	4.407	2.690
2050.00	3.863	4.407	2.693
2055.00	3.863	4.407	2.693
2060.00	3.863	4.407	2.690
2065.00	3.863	4.407	2.690
2070.00	3.860	4.400	2.684
2075.00	3.860	4.400	2.684

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2080.00	3.856	4.397	2.687
2085.00	3.860	4.397	2.684
2090.00	3.856	4.394	2.680
2095.00	3.856	4.394	2.684
2100.00	3.856	4.394	2.684
2105.00	3.863	4.394	2.687
2110.00	3.860	4.397	2.687
2115.00	3.860	4.397	2.687
2120.00	3.860	4.397	2.687
2125.00	3.856	4.394	2.684
2130.00	3.856	4.394	2.684
2135.00	3.856	4.397	2.684
2140.00	3.856	4.394	2.684
2145.00	3.856	4.394	2.684
2150.00	3.856	4.394	2.684
2155.00	3.863	4.397	2.687
2160.00	3.856	4.397	2.687
2165.00	3.856	4.400	2.687
2170.00	3.856	4.394	2.684
2175.00	3.856	4.394	2.684
2180.00	3.863	4.397	2.690
2185.00	3.856	4.400	2.684
2190.00	3.856	4.397	2.680
2195.00	3.856	4.394	2.684
2200.00	3.856	4.394	2.684
2205.00	3.860	4.397	2.684
2210.00	3.860	4.397	2.684
2215.00	3.856	4.394	2.684
2220.00	3.856	4.394	2.687
2225.00	3.860	4.397	2.687
2230.00	3.860	4.397	2.687
2235.00	3.863	4.400	2.690
2240.00	3.866	4.403	2.690
2245.00	3.869	4.407	2.696
2250.00	3.869	4.410	2.693
2255.00	3.869	4.410	2.693
2260.00	3.869	4.413	2.693
2265.00	3.869	4.413	2.696
2270.00	3.869	4.416	2.696
2275.00	3.869	4.410	2.690
2280.00	3.869	4.410	2.693
2285.00	3.869	4.410	2.690
2290.00	3.869	4.410	2.690
2295.00	3.869	4.410	2.693
2300.00	3.869	4.413	2.693
2305.00	3.866	4.413	2.693
2310.00	3.869	4.410	2.690
2315.00	3.866	4.413	2.690
2320.00	3.869	4.413	2.693
2325.00	3.869	4.413	2.693
2330.00	3.869	4.416	2.696
2335.00	3.872	4.416	2.700
2340.00	3.866	4.413	2.693
2345.00	3.869	4.416	2.696
2350.00	3.869	4.419	2.696

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2355.00	3.872	4.416	2.693
2360.00	3.869	4.416	2.696
2365.00	3.872	4.419	2.693
2370.00	3.869	4.416	2.696
2375.00	3.872	4.419	2.696
2380.00	3.875	4.422	2.696
2385.00	3.872	4.422	2.696
2390.00	3.872	4.422	2.693
2395.00	3.875	4.425	2.696
2400.00	3.866	4.422	2.696
2405.00	3.869	4.419	2.696
2410.00	3.869	4.422	2.703
2415.00	3.863	4.400	2.684
2420.00	3.872	4.419	2.696
2425.00	3.869	4.422	2.700
2430.00	3.866	4.413	2.693
2435.00	3.869	4.413	2.696
2440.00	3.872	4.425	2.703
2445.00	3.869	4.425	2.706
2450.00	3.879	4.429	2.703
2455.00	3.866	4.422	2.703
2460.00	3.879	4.422	2.703
2465.00	3.866	4.413	2.696
2470.00	3.866	4.410	2.696
2475.00	3.875	4.425	2.709
2480.00	3.875	4.425	2.706
2485.00	3.866	4.422	2.696
2490.00	3.872	4.416	2.706
2495.00	3.869	4.419	2.706
2500.00	3.872	4.416	2.703
2505.00	3.872	4.425	2.706
2510.00	3.875	4.429	2.709
2515.00	3.872	4.416	2.696
2520.00	3.879	4.416	2.706
2525.00	3.866	4.429	2.703
2530.00	3.879	4.413	2.696
2535.00	3.882	4.435	2.719
2540.00	3.872	4.413	2.703
2545.00	3.875	4.416	2.706
2550.00	3.872	4.413	2.703
2555.00	3.866	4.394	2.693
2560.00	3.869	4.407	2.693
2565.00	3.863	4.400	2.690
2570.00	3.875	4.416	2.687
2575.00	3.872	4.419	2.693
2580.00	3.879	4.419	2.690
2585.00	3.869	4.400	2.684
2590.00	3.879	4.438	2.703
2595.00	3.879	4.438	2.703
2600.00	3.869	4.413	2.696
2605.00	3.885	4.422	2.696
2610.00	3.885	4.429	2.703
2615.00	3.869	4.403	2.684
2620.00	3.882	4.432	2.709
2625.00	3.882	4.407	2.684

2630.00	3.866	4.413	2.703
2635.00	3.875	4.419	2.696
2640.00	3.879	4.416	2.703
2645.00	3.885	4.422	2.696
2650.00	3.872	4.397	2.687
2655.00	3.860	4.391	2.680
2660.00	3.869	4.407	2.696
2665.00	3.866	4.413	2.696
2670.00	3.872	4.410	2.693

APPENDIX D



ACC Environmental Consultants Client Project ID: 6140-1 Gun Club Sampled: May 6, 1994
 1000 Atlantic Ave., #10 Sample Descript: Soil, MW 4-3 1/2 Received: May 9, 1994
 Alameda, CA 94501 Attention: Misty Kaltreider Lab Number: 4E56901 Reported: May 25, 1994

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	560	0.010	-	2,500	0.50	-
Cobalt	80	0.050	-	8,000	2.5	-
Copper	25	0.010	0.37	2,500	0.50	2.1
Lead	5.0	0.10	N.D.	1,000	5.0	N.D.
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

Noelle Northey
 Noelle Northey
 Project Manager

4E56901.AAA <1>





ACC Environmental Consultants
1000 Atlantic Ave., #10
Alameda, CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Soil, MW 4-6
Lab Number: 4E56902

Sampled: May 6, 1994
Received: May 9, 1994
Reported: May 25, 1994

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	560	0.010	-	2,500	0.50	-
Cobalt	80	0.050	-	8,000	2.5	-
Copper	25	0.010	0.61	2,500	0.50	4.5
Lead	5.0	0.10	N.D.	1,000	5.0	5.2
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

Noelle Northey
Noelle Northey
Project Manager

4E56901.AAA <2>





ACC Environmental Consultants Client Project ID: 6140-1 Gun Club Sampled: May 6, 1994
1000 Atlantic Ave., #10 Sample Descript: Soil, MW 4-9 Received: May 9, 1994
Alameda, CA 94501 Lab Number: 4E56903 Reported: May 25, 1994
Attention: Misty Kaltreider

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	560	0.010	-	2,500	0.50	-
Cobalt	80	0.050	-	8,000	2.5	-
Copper	25	0.010	0.36	2,500	0.50	6.4
Lead	5.0	0.10	N.D.	1,000	5.0	N.D.
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

u.
Noelle Northey
Project Manager

4E56901.AAA <3>





ACC Environmental Consultants
 1000 Atlantic Ave., #10
 Alameda, CA 94501
 Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
 Sample Descript: Soil, MW 5-4
 Lab Number: 4E56904

Sampled: May 6, 1994
 Received: May 9, 1994
 Reported: May 25, 1994

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	560	0.010	-	2,500	0.50	-
Cobalt	80	0.050	-	8,000	2.5	-
Copper	25	0.010	0.38	2,500	0.50	23
Lead	5.0	0.10	0.12	1,000	5.0	5.4
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

For Noelle Northey
 Project Manager

4E56901.AAA <4>





ACC Environmental Consultants Client Project ID: 6140-1 Gun Club Sampled: May 6, 1994
1000 Atlantic Ave., #10 Sample Descript: Soil, MW 5-6 1/2 Received: May 9, 1994
Alameda, CA 94501 Lab Number: 4E56905 Reported: May 25, 1994
Attention: Misty Kaitreider

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	560	0.010	-	2,500	0.50	-
Cobalt	80	0.050	-	8,000	2.5	-
Copper	25	0.010	0.71	2,500	0.50	27
Lead	5.0	0.10	N.D.	1,000	5.0	N.D.
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

For

Noelle Northey
Project Manager

4E56901.AAA <5>





ACC Environmental Consultants
1000 Atlantic Ave., #10
Alameda, CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Soil, MW 5-9
Lab Number: 4E56906

Sampled: May 6, 1994
Received: May 9, 1994
Reported: May 25, 1994

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	560	0.010	-	2,500	0.50	-
Cobalt	80	0.050	-	8,000	2.5	-
Copper	25	0.010	0.65	2,500	0.50	15
Lead	5.0	0.10	N.D.	1,000	5.0	N.D.
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

For Noelle Northey
Project Manager

4E56901.AAA <6>





ACC Environmental Consultants
1000 Atlantic Ave., #10
Alameda, CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Soil, MW 4-3 1/2
Analysis Method: EPA 8100
Lab Number: 4E56901

Sampled: May 6, 1994
Received: May 9, 1994
Extracted: May 18, 1994
Analyzed: May 19, 1994
Reported: May 25, 1994

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8100)

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Acenaphthene.....	100	N.D.
Acenaphthylene.....	100	N.D.
Anthracene.....	100	N.D.
Benzo (a) anthracene.....	100	N.D.
Benzo (a) pyrene.....	100	N.D.
Benzo (b) fluoranthene.....	100	N.D.
Benzo (g,h,i) perylene.....	100	N.D.
Benzo (k) fluoranthene.....	100	N.D.
Chrysene.....	100	N.D.
Dibenzo (a,h) anthracene.....	100	N.D.
Fluoranthene.....	100	N.D.
Fluorene.....	100	N.D.
Indeno (1,2,3-cd) pyrene.....	100	N.D.
Naphthalene.....	100	N.D.
Phenanthrene.....	100	N.D.
Pyrene.....	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

FOR

Noelle Northey
Project Manager

4E56901.AAA <7>





ACC Environmental Consultants
1000 Atlantic Ave., #10
Alameda, CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Soil, MW 4-6
Analysis Method: EPA 8100
Lab Number: 4E56902

Sampled: May 6, 1994
Received: May 9, 1994
Extracted: May 18, 1994
Analyzed: May 19, 1994
Reported: May 25, 1994

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8100)

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Acenaphthene.....	100	N.D.
Acenaphthylene.....	100	N.D.
Anthracene.....	100	N.D.
Benzo (a) anthracene.....	100	N.D.
Benzo (a) pyrene.....	100	N.D.
Benzo (b) fluoranthene.....	100	N.D.
Benzo (g,h,i) perylene.....	100	N.D.
Benzo (k) fluoranthene.....	100	N.D.
Chrysene.....	100	N.D.
Dibenzo (a,h) anthracene.....	100	N.D.
Fluoranthene.....	100	N.D.
Fluorene.....	100	N.D.
Indeno (1,2,3-cd) pyrene.....	100	N.D.
Naphthalene.....	100	N.D.
Phenanthrene.....	100	N.D.
Pyrene.....	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Noelle Northey
Project Manager

Fax





ACC Environmental Consultants
1000 Atlantic Ave., #10
Alameda, CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Soil, MW 4-9
Analysis Method: EPA 8100
Lab Number: 4E56903

Sampled: May 6, 1994
Received: May 9, 1994
Extracted: May 18, 1994
Analyzed: May 19, 1994
Reported: May 25, 1994

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8100)

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Acenaphthene.....	100	N.D.
Acenaphthylene.....	100	N.D.
Anthracene.....	100	N.D.
Benzo (a) anthracene.....	100	N.D.
Benzo (a) pyrene.....	100	N.D.
Benzo (b) fluoranthene.....	100	N.D.
Benzo (g,h,i) perylene.....	100	N.D.
Benzo (k) fluoranthene.....	100	N.D.
Chrysene.....	100	N.D.
Dibenzo (a,h) anthracene.....	100	N.D.
Fluoranthene.....	100	N.D.
Fluorene.....	100	N.D.
Indeno (1,2,3-cd) pyrene.....	100	N.D.
Naphthalene.....	100	N.D.
Phenanthrene.....	100	N.D.
Pyrene.....	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Noelle Northey
Project Manager

FOR

4E56901.AAA <9>





ACC Environmental Consultants 1000 Atlantic Ave., #10 Alameda, CA 94501 Attention: Misty Kaltreider	Client Project ID: 6140-1 Gun Club Sample Descript: Soil, MW 5-4 Analysis Method: EPA 8100 Lab Number: 4E56904	Sampled: May 6, 1994 Received: May 9, 1994 Extracted: May 18, 1994 Analyzed: May 19, 1994 Reported: May 25, 1994
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POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8100)

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Acenaphthene.....	100	N.D.
Acenaphthylene.....	100	N.D.
Anthracene.....	100	N.D.
Benzo (a) anthracene.....	100	N.D.
Benzo (a) pyrene.....	100	N.D.
Benzo (b) fluoranthene.....	100	N.D.
Benzo (g,h,i) perylene.....	100	N.D.
Benzo (k) fluoranthene.....	100	N.D.
Chrysene.....	100	N.D.
Dibenzo (a,h) anthracene.....	100	N.D.
Fluoranthene.....	100	N.D.
Fluorene.....	100	N.D.
Indeno (1,2,3-cd) pyrene.....	100	N.D.
Naphthalene.....	100	N.D.
Phenanthrene.....	100	N.D.
Pyrene.....	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Noelle Northey
Project Manager

4E56901.AAA <10>





ACC Environmental Consultants 1000 Atlantic Ave., #10 Alameda, CA 94501 Attention: Misty Kaltreider	Client Project ID: 6140-1 Gun Club Sample Descript: Soil, MW 5-6 1/2 Analysis Method: EPA 8100 Lab Number: 4E56905	Sampled: May 6, 1994 Received: May 9, 1994 Extracted: May 18, 1994 Analyzed: May 19, 1994 Reported: May 25, 1994
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POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8100)

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Acenaphthene.....	100	N.D.
Acenaphthylene.....	100	N.D.
Anthracene.....	100	N.D.
Benzo (a) anthracene.....	100	N.D.
Benzo (a) pyrene.....	100	N.D.
Benzo (b) fluoranthene.....	100	N.D.
Benzo (g,h,i) perylene.....	100	N.D.
Benzo (k) fluoranthene.....	100	N.D.
Chrysene.....	100	N.D.
Dibenzo (a,h) anthracene.....	100	N.D.
Fluoranthene.....	100	N.D.
Fluorene.....	100	N.D.
Indeno (1,2,3-cd) pyrene.....	100	N.D.
Naphthalene.....	100	N.D.
Phenanthrene.....	100	N.D.
Pyrene.....	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

NR
Noelle Northey
Project Manager

4E56901.AAA <11>





ACC Environmental Consultants
1000 Atlantic Ave., #10
Alameda, CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Soil, MW 5-9
Analysis Method: EPA 8100
Lab Number: 4E56906

Sampled: May 6, 1994
Received: May 9, 1994
Extracted: May 18, 1994
Analyzed: May 19, 1994
Reported: May 25, 1994

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8100)

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Acenaphthene.....	100	N.D.
Acenaphthylene.....	100	N.D.
Anthracene.....	100	N.D.
Benzo (a) anthracene.....	100	N.D.
Benzo (a) pyrene.....	100	N.D.
Benzo (b) fluoranthene.....	100	N.D.
Benzo (g,h,i) perylene.....	100	N.D.
Benzo (k) fluoranthene.....	100	N.D.
Chrysene.....	100	N.D.
Dibenzo (a,h) anthracene.....	100	N.D.
Fluoranthene.....	100	N.D.
Fluorene.....	100	N.D.
Indeno (1,2,3-cd) pyrene.....	100	N.D.
Naphthalene.....	100	N.D.
Phenanthrene.....	100	N.D.
Pyrene.....	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

u.
Noelle Northey
Project Manager





ACC Environmental Consultants
1000 Atlantic Ave., #10
Alameda, CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Matrix: Solid

QC Sample Group: 4E56901 - 07

Reported: May 25, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Beryllium TTLC	Cadmium TTLC	Chromium TTLC	Nickel TTLC
Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Analyst:	S. O'Donnell	S. O'Donnell	S. O'Donnell	S. O'Donnell

MS/MSD Batch#:	4E67409	4E67409	4E67409	4E67409
Date Prepared:	5/12/94	5/12/94	5/12/94	5/12/94
Date Analyzed:	5/13/94	5/13/94	5/13/94	5/13/94
Instrument I.D.#:	MTJA-2	MTJA-2	MTJA-2	MTJA-2
Conc. Spiked:	100 mg/kg	100 mg/kg	100 mg/kg	100 mg/kg
Matrix Spike % Recovery:	82	91	84	86
Matrix Spike Duplicate % Recovery:	82	90	84	86
Relative % Difference:	0.0	1.1	0.0	0.0

LCS Batch#:	BLK0512994	BLK0512994	BLK0512994	BLK0512994
Date Prepared:	5/12/94	5/12/94	5/12/94	5/12/94
Date Analyzed:	5/13/94	5/13/94	5/13/94	5/13/94
Instrument I.D.#:	MTJA-2	MTJA-2	MTJA-2	MTJA-2
LCS % Recovery:	94	92	94	97

% Recovery Control Limits:	75-125	75-125	75-125	75-125
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SEQUOIA ANALYTICAL

Noelle Northey
Project Manager

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.





Sequoia Analytical

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Redwood City, CA 94063
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(510) 686-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 686-9689
FAX (916) 921-0100

ACC Environmental Consultants
1000 Atlantic Ave., #10
Alameda, CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Matrix: Liquid

QC Sample Group: 4E56901 - 07

Reported: May 25, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Beryllium STLC	Cadmium STLC	Chromium STLC	Nickel STLC
Method:	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
Analyst:	C.Medefesser	C.Medefesser	C.Medefesser	C.Medefesser

MS/MSD Batch#:	4E72502	4E72502	4E72502	4E72502
Date Prepared:	5/13/94	5/13/94	5/13/94	5/13/94
Date Analyzed:	5/14/94	5/14/94	5/14/94	5/14/94
Instrument I.D.#:	MTJA-2	MTJA-2	MTJA-2	MTJA-2
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
Matrix Spike % Recovery:	97	98	97	94
Matrix Spike Duplicate % Recovery:	100	100	99	97
Relative % Difference:	3.1	2.0	2.0	3.1

LCS Batch#:	BLK0513994	BLK0513994	BLK0513994	BLK0513994
Date Prepared:	5/13/94	5/13/94	5/13/94	5/13/94
Date Analyzed:	5/14/94	5/14/94	5/14/94	5/14/94
Instrument I.D.#:	MTJA-2	MTJA-2	MTJA-2	MTJA-2
LCS % Recovery:	102	102	101	101

% Recovery Control Limits:	75-125	75-125	75-125	75-125
-------------------------------	--------	--------	--------	--------

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

u.
Noelle Northey
Project Manager

4E56901.AAA <14>





ACC Environmental Consultants
1000 Atlantic Ave., #10
Alameda, CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Matrix: Solid

QC Sample Group: 4E56901 - 07

Reported: May 25, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Pyrene	Acenaphthene	Naphthalene
Method:	EPA 8100	EPA 8100	EPA 8100
Analyst:	L.Laikhtman	L.Laikhtman	L.Laikhtman

MS/MSD Batch#:	4E56901	4E56901	4E56901
Date Prepared:	5/18/94	5/18/94	5/18/94
Date Analyzed:	5/19/94	5/19/94	5/19/94
Instrument I.D.#:	GCHP-11	GCHP-11	GCHP-11
Conc. Spiked:	50 µg/kg	50 µg/kg	50 µg/kg
Matrix Spike % Recovery:	75	90	98
Matrix Spike Duplicate % Recovery:	84	90	96
Relative % Difference:	11	0.0	2.1

LCS Batch#:

Date Prepared:
Date Analyzed:
Instrument I.D.#:

LCS %
Recovery:

% Recovery Control Limits:	DL-140	DL-124	DL-122

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

u.
Noelle Northey
Project Manager



ACC Environmental Consultants
 1000 Atlantic Ave, Suite 110
 Alameda, CA 94501

Lab Name Sequoia Analytical
 (415) 364-9600
~~John Manning~~
 Noel Northey

CHAIN OF CUSTODY RECORD

PROJECT NUMBER		PROJECT NAME					# Containers	ANALYTES							Remarks		
6140-1		Gun Club						PNA'S Lead STLC, TLIC Copper STLC, TLIC									
SAMPLER(S): (Signature)																	
ID#	Depth	Date	Time	Water	Soil	Location											
MW4-3 1/2	3 1/2	7/6/94			S		1	X	X	X							Standard -01
MW4-6	6						1	X	X	X							TURN Around -02
MW4-9	9						1	X	X	X							Time -03
MW5-4	4						1	X	X	X							-04
MW5-6 1/2	6 1/2						1	X	X	X							-05
MW5-9	9						1	X	X	X							-06
																	-07
Relinquished by (Signature)		Date	Time	Received by (Signature)		Relinquished by (Signature)		Date	Time	Received by (Signature)		Relinquished by (Signature)		Date	Time	Received by (Signature)	
Misty Seiber		7/9/94	12:51	D Wright		D Wright		7/9/94	1:32								
Relinquished by (Signature)		Date	Time	Received by (Signature)		Relinquished by (Signature)		Date	Time	Received by (Signature)		Relinquished by (Signature)		Date	Time	Received by (Signature)	
Relinquished by (Signature)		Date	Time	Received by (Signature)		Date	Time	Sample Integrity:									
















✓
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16E 1
 DRK IV
 JMC

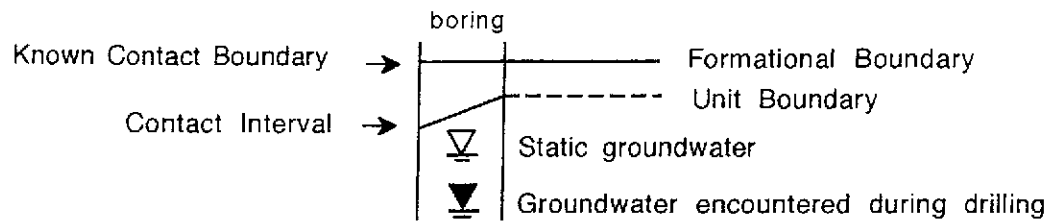
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APPENDIX E

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS		TYPICAL NAMES		
COARSE GRAINED SOILS more than half > #200 sieve	GRAVELS more than half coarse fraction is larger than No. 4 sieve	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW 	well graded gravels, gravel-sand mixtures
		GRAVELS WITH OVER 12% FINES	GP 	poorly graded gravels, gravel-sand mixtures
		GRAVELS WITH OVER 12% FINES	GM 	silty gravels, poorly graded gravel-sand silt mixtures
		GRAVELS WITH OVER 12% FINES	GC 	clayey gravels, poorly graded gravel-sand clay mixtures
	SANDS more than half coarse fraction is smaller than No. 4 sieve	CLEAN SANDS WITH LITTLE OR NO FINES	SW 	well graded sands, gravelly sands
		CLEAN SANDS WITH LITTLE OR NO FINES	SP 	poorly graded sands, gravelly sands
SANDS WITH OVER 12% FINES		SM 	silty sands, poorly graded sand-silt mixtures	
SANDS WITH OVER 12% FINES		SC 	clayey sands, poorly graded sand-clay mixtures	
FINE GRAINED SOILS more than half < #200 sieve	SILTS AND CLAYS liquid limit less than 50	ML 	inorg. silts and v. fine sands, rock flour silty or clayey sands, or clayey silts w/sl. plasticity	
		CL 	inorg. clays of low-med plasticity, gravelly clays, sandy clays, silty clays, lean clays	
		OL 	organic clays and organic silty clays of low plasticity	
	SILTY AND CLAYS liquid limit greater than 50	MH 	inorganic silty, micaceous or diatomaceous fine sandy or silty soils, elastic silts	
		CH 	inorganic clays of high plasticity, fat clays	
		OH 	organic clays of medium to high plasticity organic silts	
HIGHLY ORGANIC SOILS		Pt 	peat and other highly organic soils	

LEGEND FOR BORING LOGS



ACC ENVIRONMENTAL CONSULTANTS
1000 ATLANTIC AVENUE, SUITE 110
ALAMEDA, CA 94501









Soil Classification System

Project No. 6139-1

Date: 5/12/94

DRN: MCK



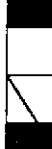


Former Gun Club
500 Maitland Dr., Alameda

Gregg Drilling B-53 Drill Rig.	HNu (ppm)	SAMPLE #	Sample Int.	Depth (feet)	Equipment: Hollow Stem Auger Logged By: M. Kaltreider PROJECT: Former Gun Club Start Date: 05/06/94
Soil color described using Munsell soil color charts <u>Color code</u> (2.5Y - 4/2)		MW4-3.5		0	Fill: Dark brown silty sand (SM), very fine grained sand; 60%, medium dense, slightly moist.
		MW4-4		2  4	Dark greyish brown sand (SM) with silt (75% sand), dense, saturated.
		MW4-6 MW4-6.5		6	Brown clayey sand (SC) with roots, medium dense, wet. Possible Merritt Sand Formations Material.
		MW4-8.5 MW4-9		8	Dark greyish brown sand (SP) with trace silt (95% sand), medium dense, saturated.
		MW4-11 MW4-11.5		10	Dark greyish brown sand (SP) with reddish silty sand laminae (1/8" thick) shell fragments, medium dense, saturated.
		MW4-14		14	Same as above
		MW4-16.5		16	BOTTOM OF BORING @ 16.5 FEET
				18	
				20	
				22	
		24			
		26			
		28			

ACC ENVIRONMENTAL CONSULTANTS
 1000 ATLANTIC AVEUNUE, SUITE 110
 ALAMEDA, CA 94501

JOB NO: 6139-1
 DATE: 5/22/94

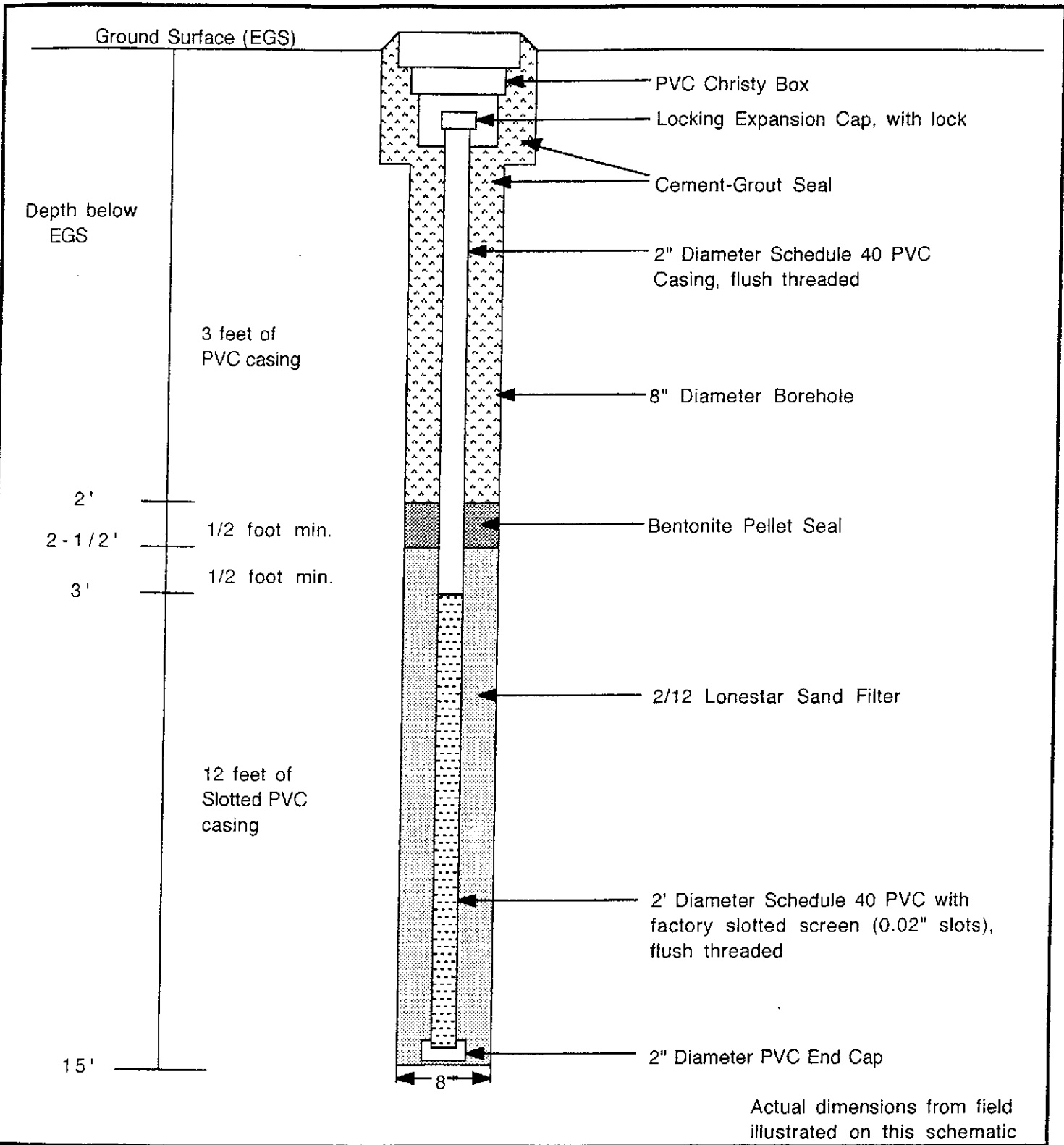
Boring MW-4
 Former Gun Club
 500 Maitland Dr., Alameda, CA

<p>Gregg Drilling B-53 Drill Rig.</p>	<p>HNu (ppm)</p>	<p>SAMPLE #</p>	<p>Sample Int.</p>	<p>Depth (feet)</p>	<p>Equipment: Hollow Stem Auger Logged By: M. Kaltreider PROJECT: Former Gun Club Start Date: 05/06/94</p>
<p>Soil color described using Munsell soil color charts <u>Color code</u> (2.5Y - 4/2)</p>	<p>0</p>	<p>MW5-4</p>		<p>0 4</p>	<p>Fill: Reddish brown sandy gravel (GC), with clay, medium dense, moist.</p>
		<p>MW5-6.5</p>		<p>4 6</p>	<p>Very dark brown silty clay (CL) with roots, and black laminae, very plastic, stiff, very moist, organic odor.</p>
		<p>MW5-9</p>		<p>6 8</p>	<p>Very dark brown silty sand (SM), with trace clay, medium dense, saturated. Possible Merritt Sand Formational Material</p>
		<p>MW5-11.5</p>		<p>8 10 11.5</p>	<p>Dark grey clayey sand (SC), 65% sand, medium dense, saturated.</p>
		<p>0</p>		<p>10 12 14 16 18 20 22 24 26 28</p>	<p>Dark grey sand (SP) with 10% clay and trace silt, medium dense, saturated.</p>
<p>BOTTOM OF BORING @ 12.5 FEET</p>					

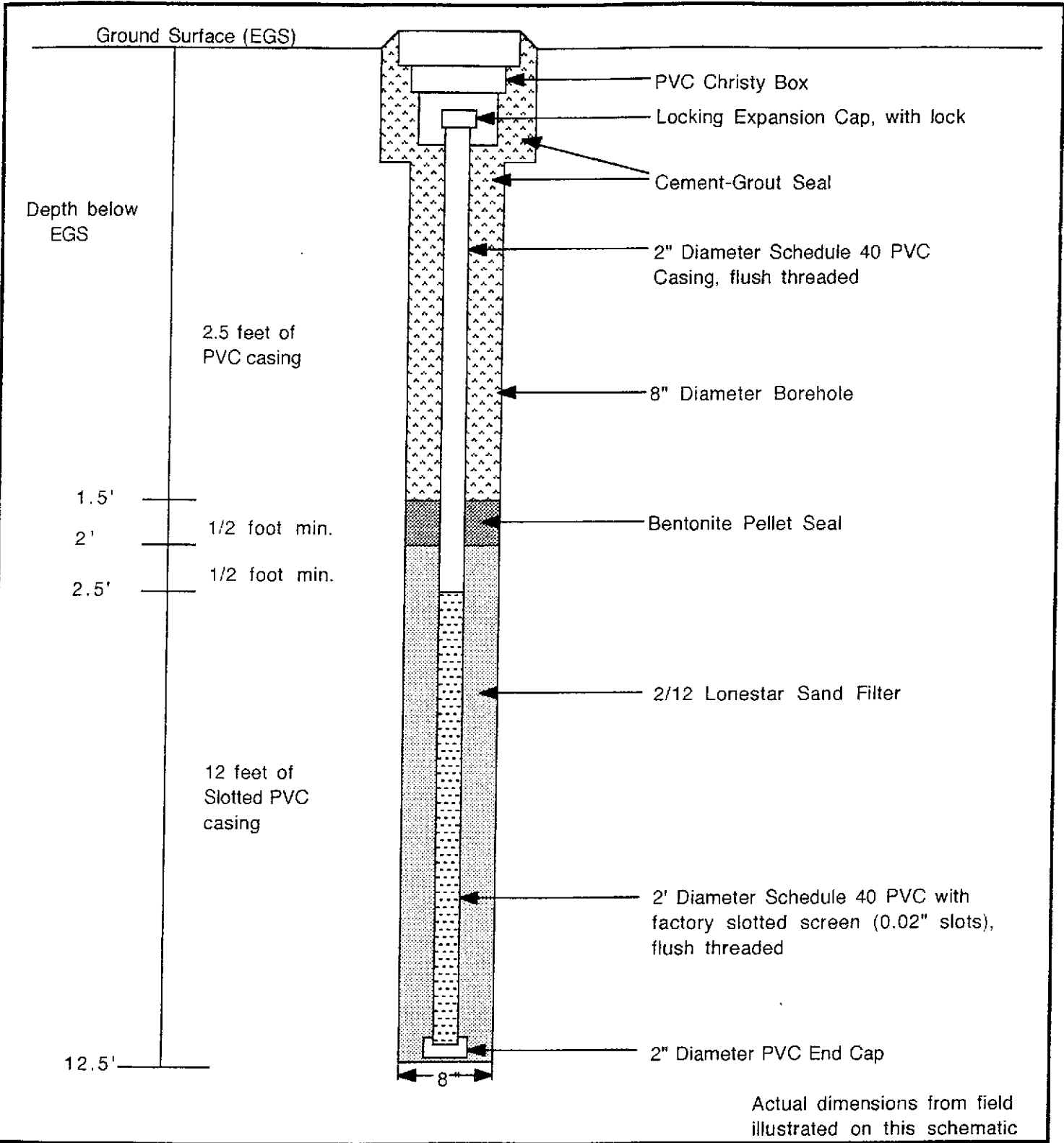
ACC ENVIRONMENTAL CONSULTANTS
1000 ATLANTIC AVEUNUE, SUITE 110
ALAMEDA, CA 94501

JOB NO: 6139-1
DATE: 5/22/94

Boring MW-5
Former Gun Club
500 Maitland Dr., Alameda, CA



ACC Environmental Consultants 1000 Atlantic Avenue, Suite 110 Alameda, CA 94501	Job No.: 6139-1	Schematic of Monitoring Well No.: MW-4
	Date: 6/7/94	Former Gun Club Alameda, CA



ACC Environmental Consultants 1000 Atlantic Avenue, Suite 110 Alameda, CA 94501	Job No.: 6139-1	Schematic of Monitoring Well No.: MW-5
	Date: 6/7/94	Former Gun Club Alameda, CA



ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE

PLEASANTON, CALIFORNIA 94588

VOICE (510) 484-2600

FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 500 Marland Drive
Alameda, CA

PERMIT NUMBER 94279
LOCATION NUMBER _____

CLIENT

Name Harbor Bay Isle Assoc. Suite 241
Address 1141 Harbor Bay Place Voice 769-5100
City Alameda, CA Zip 94502

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT

Name ACC Environmental Consultants, Inc
Misty K. Schneider Fax (510) 865-5731
Address 1000 Atlantic Ave. Suite 110 Voice (510) 522-8188
City Alameda, CA Zip 94501

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	_____	General	_____
Water Supply	_____	Contamination	_____
Monitoring	<u>X</u>	Well Destruction	_____

PROPOSED WATER SUPPLY WELL USE

Domestic	_____	Industrial	_____	Other	<u>Monitoring</u>
Municipal	_____	Irrigation	_____		

DRILLING METHOD:

Mud Rotary	_____	Air Rotary	_____	Auger	<u>None</u>
Cable	_____	Other	_____		<u>Stem</u>

DRILLER'S LICENSE NO. C57-485165

WELL PROJECTS

Drill Hole Diameter	<u>8</u> in.	Maximum	
Casing Diameter	<u>2</u> in.	Depth	<u>15</u> ft.
Surface Seal Depth	<u>4</u> ft.	Number	<u>2</u>

GEOTECHNICAL PROJECTS

Number of Borings	<u>2</u>	Maximum	
Hole Diameter	<u>8</u> in.	Depth	<u>15</u> ft.

ESTIMATED STARTING DATE 5/10/94
ESTIMATED COMPLETION DATE 5/16/94

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Misty Schneider Date 5/2/94

- A. GENERAL**
 1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
 2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
 3. Permit is void if project not begun within 90 days of approval date.
- B. WATER WELLS, INCLUDING PIEZOMETERS**
 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
- C. GEOTECHNICAL.** Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremie cement grout shall be used in place of compacted cuttings.
- D. CATHODIC.** Fill hole above anode zone with concrete placed by tremie.
- E. WELL DESTRUCTION.** See attached.

Approved Wyman Hong Date 9 May 94
Wyman Hong

APPENDIX F

Well Sampling



Well Development



check one

Well Number: MW-1Job Number: 6140-1Job Name: Gun ClubDate: 5/11/94Sampler: Burt GilbertDepth to Water (measured from TOC): 2.59'Inside Diameter of Casing: 2"Depth of Boring: 13.51'Method of well development/purging: BailAmount of Water Bailed/Pumped from well: 7.2 g

Depth to Water after well development: _____

Depth to water prior to sampling: ~~3.02~~ 3.02Bailed water stored on-site ? How ? 2mmNumber of well volumes removed: 4TSP wash, distilled rinse, new rope ? New

Water Appearance:

	yes	no
froth		
irridescence		
oil		
smell		
product		
other, describe		

Gallons Removed	pH	EC	Temp
5	7.74	3.16	61.1
10	7.75	2.94	61.3
15	7.40	3.00	61.3
20	7.47	2.74	61.2
25	7.41	2.41	61.2
30	7.40	2.40	61.2
35	7.45	2.45	61.2
40			
45			
50			

Samples Obtained:

TPH (gasoline)
 TPH (diesel)
 TPH (motor oil)
 BTXE
 EPA 624
 EPA 625
 EPA 608
 PCBs only
 Metals
 Other, specify
 Field Blank

<input type="checkbox"/>
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PNA'S

Well Sampling

Well Development

check one

Well Number: MW-2Job Number: 6140-1Job Name: Gun ClubDate: 5/11/94Sampler: Box CulvertDepth to Water (measured from TOC): 4.17'Inside Diameter of Casing: 2"Depth of Boring: 13.52Method of well development/purging: bailAmount of Water Bailed/Pumped from well: 6.4

Depth to Water after well development: _____

Depth to water prior to sampling: 4.42'Bailed water stored on-site ? How ? DrumsNumber of well volumes removed: 4TSP wash, distilled rinse, new rope ? New

Water Appearance:

	yes	no
froth		
irridescence		
oil		
smell		
product		
other, describe		

Gallons Removed	pH	EC	Temp
5	7.79	7.54	58.8
10	7.83	7.61	58.2
15	7.85	7.67	58.2
20	7.82	7.60	58.2
25	7.83	7.60	58.2
30			
35			
40			
45			
50			

Samples Obtained:

TPH (gasoline)
 TPH (diesel)
 TPH (motor oil)
 BTXE
 EPA 624
 EPA 625
 EPA 608
 PCBs only
 Metals
 Other, specify
 Field Blank

Well Sampling



Well Development



check one

Well Number: MW-3Job Number: G40-1Job Name: Gun ClubDate: 5/11/94Sampler: Bret GilbertDepth to Water (measured from TOC): 2'.75Inside Diameter of Casing: 2"Depth of Boring: 12.60'Method of well development/purging: BailAmount of Water Bailed/Pumped from well: 6.4

Depth to Water after well development: _____

Depth to water prior to sampling: 3.00'Bailed water stored on-site ? How ? DrumsNumber of well volumes removed: 4TSP wash, distilled rinse, new rope ? New

Water Appearance:

	yes	no
froth		
irridescence		
oil		
smell		
product		
other, describe		

Gallons Removed	pH	EC	Temp
5	8.06	2.60	56.8
10	7.71	2.44	56.9
15	7.61	2.45	56.7
20	7.50	2.50	56.5
25	7.50	2.60	56.5
30	7.95	2.60	56.5
35	7.58	2.60	56.5
40			
45			
50			

Samples Obtained:

TPH (gasoline)
 TPH (diesel)
 TPH (motor oil)
 BTXE
 EPA 624
 EPA 625
 EPA 608
 PCBs only
 Metals
 Other, specify
 Field Blank

Well Sampling Well Development check one

Well Number:
 Job Number: 6140-1
 Job Name: Gum Club
 Date: 5/11/94
 Sampler: Burt Culbert

Depth to Water (measured from TOC): 2.13'

Inside Diameter of Casing: 2"

Depth of Boring: 14'

Method of well development/purging: boil

Amount of Water Bailed/Pumped from well: 8 gallons

Depth to Water after well development:

Depth to water prior to sampling: 2.2'

Bailed water stored on-site? How? Drums

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope? New

Water Appearance:

	yes	no
froth		
irridescence		
oil		
smell		
product		
other, describe		

Samples Obtained:

- TPH (gasoline)
- TPH (diesel)
- TPH (motor oil)
- BTXE
- EPA 624
- EPA 625
- EPA 608
- PCBs only
- Metals
- Other, specify
- Field Blank

Gallons Removed	pH	EC	Temp
5	7.12	11.36	61.0
10	7.12	11.61	61.1
15	7.08	11.49	61.2
20	7.10	11.71	61.0
25	7.08	11.70	61.1
30	7.06	11.65	61.1
35	7.08	11.70	61.1
40			
45			
50			

APPENDIX G



ACC Environmental Consultants Client Project ID: 6140-1 Gun Club Sampled: May 11, 1994
 1000 Atlantic Avenue, #110 Sample Descript: Water, MW-1 Received: May 12, 1994
 Alameda, CA 94501 Attention: Misty Kaltreider Lab Number: 4E89901 Reported: May 27, 1994

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/L)	Detection Limit (mg/L)	Analysis Result (mg/L)
Antimony	15	0.10	-	500	0.10	-
Arsenic	5	0.10	-	500	0.10	-
Barium	100	0.10	-	10,000	0.10	-
Beryllium	0.75	0.010	-	75	0.010	-
Cadmium	1	0.010	-	100	0.010	-
Chromium (VI)	5	0.0050	-	500	0.0050	-
Chromium	560	0.010	-	2,500	0.010	-
Cobalt	80	0.050	-	8,000	0.050	-
Copper	25	0.010	N.D.	2,500	0.010	N.D.
Lead	5	0.0050	0.018	1,000	0.0050	0.017
Mercury	0.2	0.00020	-	20	0.00020	-
Molybdenum	350	0.050	-	3,500	0.050	-
Nickel	20	0.050	-	2,000	0.050	-
Selenium	1	0.10	-	100	0.10	-
Silver	5	0.010	-	500	0.010	-
Thallium	7	0.10	-	700	0.10	-
Vanadium	24	0.050	-	2,400	0.050	-
Zinc	250	0.010	-	5,000	0.010	-
Asbestos	-	10	-	10,000	10	-
Fluoride	180	0.10	-	18,000	0.10	-

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

SEQUOIA ANALYTICAL

Noelle Northey

Noelle Northey
Project Manager





ACC Environmental Consultants
1000 Atlantic Avenue, #110
Alameda, CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Water, MW-2
Lab Number: 4E89902

Sampled: May 11, 1994
Received: May 12, 1994
Reported: May 27, 1994

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/L)	Detection Limit (mg/L)	Analysis Result (mg/L)
Antimony	15	0.10	-	500	0.10	-
Arsenic	5	0.10	-	500	0.10	-
Barium	100	0.10	-	10,000	0.10	-
Beryllium	0.75	0.010	-	75	0.010	-
Cadmium	1	0.010	-	100	0.010	-
Chromium (VI)	5	0.0050	-	500	0.0050	-
Chromium	560	0.010	-	2,500	0.010	-
Cobalt	80	0.050	-	8,000	0.050	-
Copper	25	0.010	0.023	2,500	0.010	N.D.
Lead	5	0.0050	N.D.	1,000	0.0050	N.D.
Mercury	0.2	0.00020	-	20	0.00020	-
Molybdenum	350	0.050	-	3,500	0.050	-
Nickel	20	0.050	-	2,000	0.050	-
Selenium	1	0.10	-	100	0.10	-
Silver	5	0.010	-	500	0.010	-
Thallium	7	0.10	-	700	0.10	-
Vanadium	24	0.050	-	2,400	0.050	-
Zinc	250	0.010	-	5,000	0.010	-
Asbestos	-	10	-	10,000	10	-
Fluoride	180	0.10	-	18,000	0.10	-

Asbestos results are reported as fibers/g.

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

SEQUOIA ANALYTICAL

Noelle Northey

Noelle Northey
Project Manager

4E89901.AAA <2>





ACC Environmental Consultants
1000 Atlantic Avenue, #110
Alameda, CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Water, MW-3
Lab Number: 4E89903

Sampled: May 11, 1994
Received: May 12, 1994
Reported: May 27, 1994

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/L)	Detection Limit (mg/L)	Analysis Result (mg/L)
Antimony	15	0.10	-	500	0.10	-
Arsenic	5	0.10	-	500	0.10	-
Barium	100	0.10	-	10,000	0.10	-
Beryllium	0.75	0.010	-	75	0.010	-
Cadmium	1	0.010	-	100	0.010	-
Chromium (VI)	5	0.0050	-	500	0.0050	-
Chromium	560	0.010	-	2,500	0.010	-
Cobalt	80	0.050	-	8,000	0.050	-
Copper	25	0.010	0.030	2,500	0.010	0.043
Lead	5	0.0050	0.083	1,000	0.0050	0.082
Mercury	0.2	0.00020	-	20	0.00020	-
Molybdenum	350	0.050	-	3,500	0.050	-
Nickel	20	0.050	-	2,000	0.050	-
Selenium	1	0.10	-	100	0.10	-
Silver	5	0.010	-	500	0.010	-
Thallium	7	0.10	-	700	0.10	-
Vanadium	24	0.050	-	2,400	0.050	-
Zinc	250	0.010	-	5,000	0.010	-
Asbestos	-	10	-	10,000	10	-
Fluoride	180	0.10	-	18,000	0.10	-

Asbestos results are reported as fibers/g.

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

SEQUOIA ANALYTICAL

Noelle Northey
Project Manager





ACC Environmental Consultants
1000 Atlantic Avenue, #110
Alameda, CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Water, MW-4
Lab Number: 4E89904

Sampled: May 11, 1994
Received: May 12, 1994
Reported: May 27, 1994

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/L)	Detection Limit (mg/L)	Analysis Result (mg/L)
Antimony	15	0.10	-	500	0.10	-
Arsenic	5	0.10	-	500	0.10	-
Barium	100	0.10	-	10,000	0.10	-
Beryllium	0.75	0.010	-	75	0.010	-
Cadmium	1	0.010	-	100	0.010	-
Chromium (VI)	5	0.0050	-	500	0.0050	-
Chromium	560	0.010	-	2,500	0.010	-
Cobalt	80	0.050	-	8,000	0.050	-
Copper	25	0.010	0.020	2,500	0.010	N.D.
Lead	5	0.0050	N.D.	1,000	0.0050	N.D.
Mercury	0.2	0.00020	-	20	0.00020	-
Molybdenum	350	0.050	-	3,500	0.050	-
Nickel	20	0.050	-	2,000	0.050	-
Selenium	1	0.10	-	100	0.10	-
Silver	5	0.010	-	500	0.010	-
Thallium	7	0.10	-	700	0.10	-
Vanadium	24	0.050	-	2,400	0.050	-
Zinc	250	0.010	-	5,000	0.010	-
Asbestos	-	10	-	10,000	10	-
Fluoride	180	0.10	-	18,000	0.10	-

Asbestos results are reported as fibers/g.

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

SEQUOIA ANALYTICAL

Noelle Northey

Noelle Northey
Project Manager





ACC Environmental Consultants Client Project ID: 6140-1 Gun Club Sampled: May 11, 1994
1000 Atlantic Avenue, #110 Sample Descript: Water, MW-5 Received: May 12, 1994
Alameda, CA 94501
Attention: Misty Kaltreider Lab Number: 4E89905 Reported: May 27, 1994

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/L)	Detection Limit (mg/L)	Analysis Result (mg/L)
Antimony	15	0.10	-	500	0.10	-
Arsenic	5	0.10	-	500	0.10	-
Barium	100	0.10	-	10,000	0.10	-
Beryllium	0.75	0.010	-	75	0.010	-
Cadmium	1	0.010	-	100	0.010	-
Chromium (VI)	5	0.0050	-	500	0.0050	-
Chromium	560	0.010	-	2,500	0.010	-
Cobalt	80	0.050	-	8,000	0.050	-
Copper	25	0.010	0.027	2,500	0.010	0.024
Lead	5	0.0050	0.019	1,000	0.0050	0.034
Mercury	0.2	0.00020	-	20	0.00020	-
Molybdenum	350	0.050	-	3,500	0.050	-
Nickel	20	0.050	-	2,000	0.050	-
Selenium	1	0.10	-	100	0.10	-
Silver	5	0.010	-	500	0.010	-
Thallium	7	0.10	-	700	0.10	-
Vanadium	24	0.050	-	2,400	0.050	-
Zinc	250	0.010	-	5,000	0.010	-
Asbestos	-	10	-	10,000	10	-
Fluoride	180	0.10	-	18,000	0.10	-

Asbestos results are reported as fibers/g.

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

SEQUOIA ANALYTICAL

Noelle Northey
Project Manager





ACC Environmental Consultants
1000 Atlantic Avenue, #110
Alameda CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Water, MW-1
Analysis Method: EPA 8100
Lab Number: 4E89901

Sampled: May 11, 1994
Received: May 12, 1994
Extracted: May 18, 1994
Analyzed: May 24, 1994
Reported: May 26, 1994

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8100)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene.....	2.0	N.D.
Acenaphthylene.....	2.0	N.D.
Anthracene.....	2.0	N.D.
Benzo (a) anthracene.....	2.0	N.D.
Benzo (a) pyrene.....	2.0	N.D.
Benzo (b) fluoranthene.....	2.0	N.D.
Benzo (g,h,i) perylene.....	2.0	N.D.
Benzo (k) fluoranthene.....	2.0	N.D.
Chrysene.....	2.0	N.D.
Dibenzo (a,h) anthracene.....	2.0	N.D.
Fluoranthene.....	2.0	N.D.
Fluorene.....	2.0	N.D.
Indeno (1,2,3-cd) pyrene.....	2.0	N.D.
Naphthalene.....	2.0	N.D.
Phenanthrene.....	2.0	N.D.
Pyrene.....	2.0	N.D.

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

SEQUOIA ANALYTICAL

Noelle Northey

Noelle Northey
Project Manager





ACC Environmental Consultants
1000 Atlantic Avenue, #110
Alameda CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Water, MW-2
Analysis Method: EPA 8100
Lab Number: 4E89902

Sampled: May 11, 1994
Received: May 12, 1994
Extracted: May 18, 1994
Analyzed: May 24, 1994
Reported: May 26, 1994

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8100)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene.....	2.0	N.D.
Acenaphthylene.....	2.0	N.D.
Anthracene.....	2.0	N.D.
Benzo (a) anthracene.....	2.0	N.D.
Benzo (a) pyrene.....	2.0	N.D.
Benzo (b) fluoranthene.....	2.0	N.D.
Benzo (g,h,i) perylene.....	2.0	N.D.
Benzo (k) fluoranthene.....	2.0	N.D.
Chrysene.....	2.0	N.D.
Dibenzo (a,h) anthracene.....	2.0	N.D.
Fluoranthene.....	2.0	N.D.
Fluorene.....	2.0	N.D.
Indeno (1,2,3-cd) pyrene.....	2.0	N.D.
Naphthalene.....	2.0	N.D.
Phenanthrene.....	2.0	N.D.
Pyrene.....	2.0	N.D.

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

SEQUOIA ANALYTICAL

Noelle Northey
Noelle Northey
Project Manager

4E89901.AAA <7>





ACC Environmental Consultants
1000 Atlantic Avenue, #110
Alameda CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Water, MW-3
Analysis Method: EPA 8100
Lab Number: 4E89903

Sampled: May 11, 1994
Received: May 12, 1994
Extracted: May 18, 1994
Analyzed: May 24, 1994
Reported: May 26, 1994

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8100)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene.....	2.0	N.D.
Acenaphthylene.....	2.0	N.D.
Anthracene.....	2.0	N.D.
Benzo (a) anthracene.....	2.0	N.D.
Benzo (a) pyrene.....	2.0	N.D.
Benzo (b) fluoranthene.....	2.0	N.D.
Benzo (g,h,i) perylene.....	2.0	N.D.
Benzo (k) fluoranthene.....	2.0	N.D.
Chrysene.....	2.0	N.D.
Dibenzo (a,h) anthracene.....	2.0	N.D.
Fluoranthene.....	2.0	N.D.
Fluorene.....	2.0	N.D.
Indeno (1,2,3-cd) pyrene.....	2.0	N.D.
Naphthalene.....	2.0	N.D.
Phenanthrene.....	2.0	N.D.
Pyrene.....	2.0	N.D.

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

SEQUOIA ANALYTICAL

Noelle Northey

Noelle Northey
Project Manager





ACC Environmental Consultants
1000 Atlantic Avenue, #110
Alameda CA 94501
Attention: Misty Kaitreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Water, MW-4
Analysis Method: EPA 8100
Lab Number: 4E89904

Sampled: May 11, 1994
Received: May 12, 1994
Extracted: May 18, 1994
Analyzed: May 24, 1994
Reported: May 26, 1994

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8100)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene.....	2.0	N.D.
Acenaphthylene.....	2.0	N.D.
Anthracene.....	2.0	N.D.
Benzo (a) anthracene.....	2.0	N.D.
Benzo (a) pyrene.....	2.0	N.D.
Benzo (b) fluoranthene.....	2.0	N.D.
Benzo (g,h,i) perylene.....	2.0	N.D.
Benzo (k) fluoranthene.....	2.0	N.D.
Chrysene.....	2.0	N.D.
Dibenzo (a,h) anthracene.....	2.0	N.D.
Fluoranthene.....	2.0	N.D.
Fluorene.....	2.0	N.D.
Indeno (1,2,3-cd) pyrene.....	2.0	N.D.
Naphthalene.....	2.0	N.D.
Phenanthrene.....	2.0	N.D.
Pyrene.....	2.0	N.D.

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

SEQUOIA ANALYTICAL

Noelle Northey
Noelle Northey
Project Manager





ACC Environmental Consultants
1000 Atlantic Avenue, #110
Alameda CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Sample Descript: Water, MW-5
Analysis Method: EPA 8100
Lab Number: 4E89905

Sampled: May 11, 1994
Received: May 12, 1994
Extracted: May 18, 1994
Analyzed: May 24, 1994
Reported: May 26, 1994

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8100)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene.....	2.0	N.D.
Acenaphthylene.....	2.0	N.D.
Anthracene.....	2.0	N.D.
Benzo (a) anthracene.....	2.0	N.D.
Benzo (a) pyrene.....	2.0	N.D.
Benzo (b) fluoranthene.....	2.0	N.D.
Benzo (g,h,i) perylene.....	2.0	N.D.
Benzo (k) fluoranthene.....	2.0	N.D.
Chrysene.....	2.0	N.D.
Dibenzo (a,h) anthracene.....	2.0	N.D.
Fluoranthene.....	2.0	N.D.
Fluorene.....	2.0	N.D.
Indeno (1,2,3-cd) pyrene.....	2.0	N.D.
Naphthalene.....	2.0	N.D.
Phenanthrene.....	2.0	N.D.
Pyrene.....	2.0	20

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

SEQUOIA ANALYTICAL

Noelle Northey

Noelle Northey
Project Manager





ACC Environmental Consultants
1000 Atlantic Avenue, #110
Alameda CA 94501
Attention: Misty Kaitreider

Client Project ID: 6140-1 Gun Club
Matrix: Liquid

QC Sample Group: 4E89901-05

Reported: May 26, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Beryllium	Cadmium	Chromium	Nickel	Lead
Method:	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 239.2
Analyst:	S. O'Donnell	S. O'Donnell	S. O'Donnell	S. O'Donnell	J. Martinez

MS/MSD					
Batch#:	4E80516	4E80516	4E80516	4E80516	4E95701
Date Prepared:	5/17/94	5/17/94	5/17/94	5/17/94	5/17/94
Date Analyzed:	5/17/94	5/17/94	5/17/94	5/17/94	5/18/94
Instrument I.D.#:	MTJA-2	MTJA-2	MTJA-2	MTJA-2	MTJA-1
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L	0.050 mg/L
Matrix Spike					
% Recovery:	97	99	96	97	103
Matrix Spike					
Duplicate %					
Recovery:	97	99	97	98	103
Relative %					
Difference:	0.0	0.0	1.0	1.0	0.0

LCS Batch#:	BLK051794	BLK051794	BLK051794	BLK051794	BLK051794
Date Prepared:	5/17/94	5/17/94	5/17/94	5/17/94	5/17/94
Date Analyzed:	5/17/94	5/17/94	5/17/94	5/17/94	5/18/94
Instrument I.D.#:	MTJA-2	MTJA-2	MTJA-2	MTJA-2	MTJA-1
LCS %					
Recovery:	95	97	95	96	101

% Recovery					
Control Limits:	75-125	75-125	75-125	75-125	75-125

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Noelle Northey

Noelle Northey
Project Manager

4E89901.AAA <11>





ACC Environmental Consultants
1000 Atlantic Avenue, #110
Alameda CA 94501
Attention: Misty Kaltreider

Client Project ID: 6140-1 Gun Club
Matrix: Liquid

QC Sample Group: 4E89901-05

Reported: May 26, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Pyrene	Acenaphthene	Naphthalene
Method:	EPA 8100	EPA 8100	EPA 8100
Analyst:	L. Laikhtman	L. Laikhtman	L. Laikhtman

MS/MSD			
Batch#:	4E89904	4E89904	4E89904
Date Prepared:	5/18/94	5/18/94	5/18/94
Date Analyzed:	5/24/94	5/24/94	5/24/94
Instrument I.D.#:	GCHP-11	GCHP-11	GCHP-11
Conc. Spiked:	50 µg/L	50 µg/L	50 µg/L
Matrix Spike			
% Recovery:	40	75	65
Matrix Spike Duplicate			
% Recovery:	55	86	74
Relative % Difference:	32	14	13

LCS Batch#:

Date Prepared:
Date Analyzed:
Instrument I.D.#:

LCS %
Recovery:

% Recovery	DL-140	DL-124	DL-122
Control Limits:			

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Noelle Northey

Noelle Northey
Project Manager

4E89901.AAA <12>



ACC Environmental Consultants
 1000 Atlantic Ave, Suite 110
 Alameda, CA 94501

Lab Name Sequoia Analytical
 (415) 364-9600
 Noel Northey

CHAIN OF CUSTODY RECORD

9405899

PROJECT NUMBER		PROJECT NAME					# Containers	<div style="text-align: center;"> PUA'S Lead STLC, TLIC Copper STLC, TLIC </div>					Remarks	
6140-1		Gun Club												
SAMPLER(S): (Signature)														
Misty Kalthreider														
ID#	Depth	Date	Time	Water	Soil	Location								
MW-1		5/1/94		X			2	X	X	X		01 A/B		
MW-2							2	X	X	X		02 A/B		
MW-3							2	X	X	X		03 A/B		
MW-4							4	X	X	X		04A-D		
MW-5							2	X	X	X		05 A/B		
Relinquished by (Signature)							Date	Time	Received by (Signature)			Date	Time	Received by (Signature)
Misty Kalthreider							5/12/94	12:20	Dan Northey			5/12	13:30	
Relinquished by (Signature)							Date	Time	Received by (Signature)			Date	Time	Received by (Signature)
Relinquished by (Signature)							Date	Time	Received by (Signature)			Date	Time	Received by (Signature)
Relinquished by (Signature)							Date	Time	Received by (Signature)			Sample Integrity:		
							5/12	2:00pm						

MAY 12 3 32

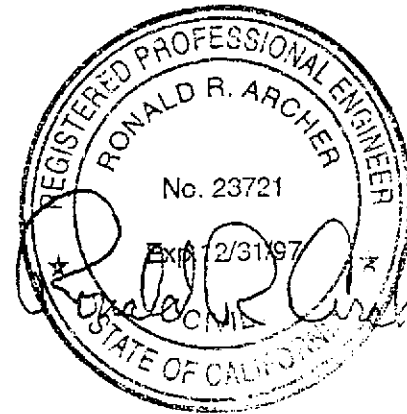
APPENDIX H

RON ARCHER

CIVIL ENGINEER, INC.

CONSULTING • PLANNING • DESIGN • SURVEYING

4133 Mohr Ave., Suite E • Pleasanton, CA 94566
(510) 462-9372



MAY 16, 1994

JOB NO. 1960

ELEVATIONS OF EXISTING MONITORING WELLS AT THE FORMER ISLAND GUN CLUB SITE, LOCATED AT 500 MAITLAND DRIVE AT HARBOR BAY PARKWAY CITY OF ALAMEDA, ALAMEDA COUNTY, CALIFORNIA

FOR: ACC ENVIRONMENTAL INC.
PROJECT NO. 6140-1

BENCHMARK:

A FOUND CHISELED SQUARE IN TOP OF CURB AT AN EXISTING CATCH BASIN AT THE SOUTHWESTERLY CORNER OF INTERSECTION OF MAITLAND DRIVE AND HARBOR BAY PARKWAY. ELEVATION TAKEN AS 4.68 M.S.L., N.G.S DATUM

MONITORING WELL DATA TABLE

WELL DESIGNATION	ELEV	DESCRIPTION
MW1	5.05 5.32	TOP OF PVC CASING TOP OF BOX
MW2	5.60 5.87	TOP OF PVC CASING TOP OF BOX
MW3	4.76 5.57	TOP OF PVC CASING TOP OF BOX
MW4	2.87 3.37	TOP OF PVC CASING TOP OF BOX
MW5	3.47 3.89	TOP OF PVC CASING TOP OF BOX

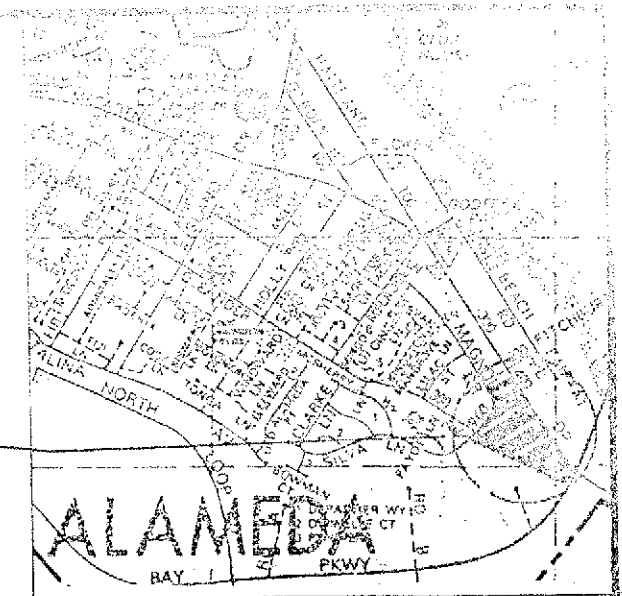
MAY 16, 1994

JOB NO. 1969

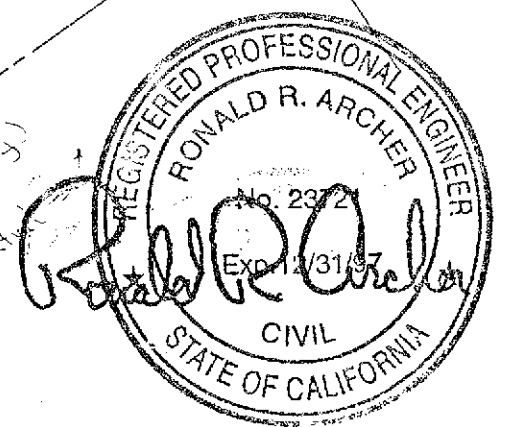
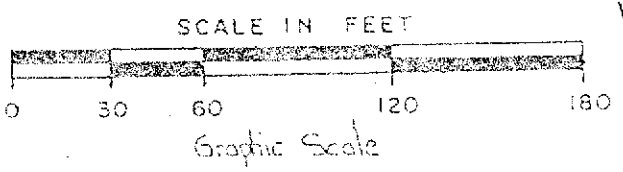
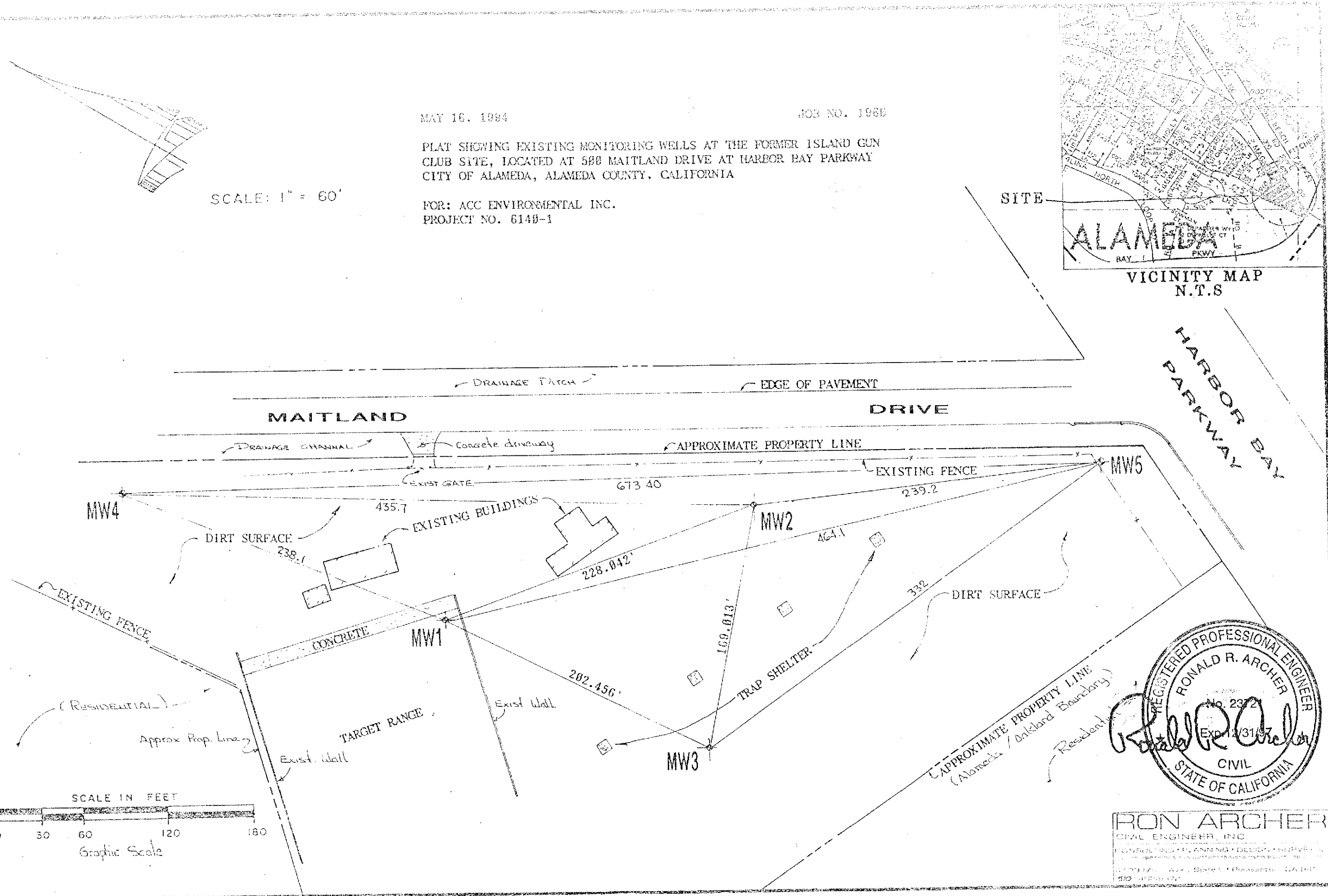
PLAT SHOWING EXISTING MONITORING WELLS AT THE FORMER ISLAND GUN CLUB SITE, LOCATED AT 588 MAITLAND DRIVE AT HARBOR BAY PARKWAY CITY OF ALAMEDA, ALAMEDA COUNTY, CALIFORNIA

FOR: ACC ENVIRONMENTAL INC.
PROJECT NO. 6149-1

SCALE: 1" = 60'



SITE



RON ARCHER
CIVIL ENGINEER, INC.
CONSULTING • PLANNING • DESIGN • CONSTRUCTION