



ENVIRONMENTAL
PROTECTION
95 MAR 16 PM 1:02

Underground Contamination Investigations, Groundwater Consultants, Environmental Engineering

**PROPOSED WORKPLAN
FOR
SOIL AND WATER INVESTIGATION (SWI)**

**RODDING-CLEANING SERVICE
2585 Nicholson Street
San Leandro, CA**

November 7, 1994

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I. INTRODUCTION

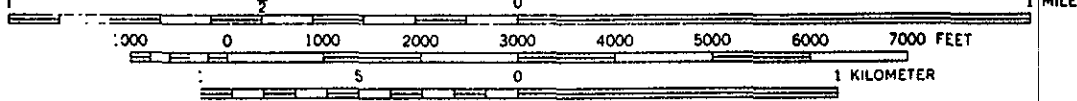
The site location is the Rodding-Cleaning Service facility in San Leandro, California. The location of the site is shown in Figure 1. In conjunction with the facility operation, the site has historically operated one underground fuel storage tank and one underground waste oil storage tank for a number of years.

The two underground storage tanks were removed from the site by Scott-Broadway in 1991. At the time of the removal, four soil samples and two groundwater samples were collected from the two tank excavations. The results of the analysis of soil samples collected from the tank sidewalls indicated the presence of Diesel and Gasoline at concentrations of up to 470 mg/kg (ppm) and 1,400 mg/kg (ppm), respectively. In addition, the results of the groundwater sample analyses indicated the presence of Total Petroleum Hydrocarbons as Gasoline at concentrations of up to 38 mg/L (ppm).

The current layout of the site is shown in Figure 2 (site map).

This proposed workplan for a Soil and Water Investigation (SWI) is provided in response to a request by Scott Seery, Alameda County Health Department, in a letter to Stephen Birch of Rodding-Cleaning Services and Robert Eckstein of Bank of America, dated October 7, 1994. A copy of that letter is included in Attachment A.

SCALE 1:24 000



CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

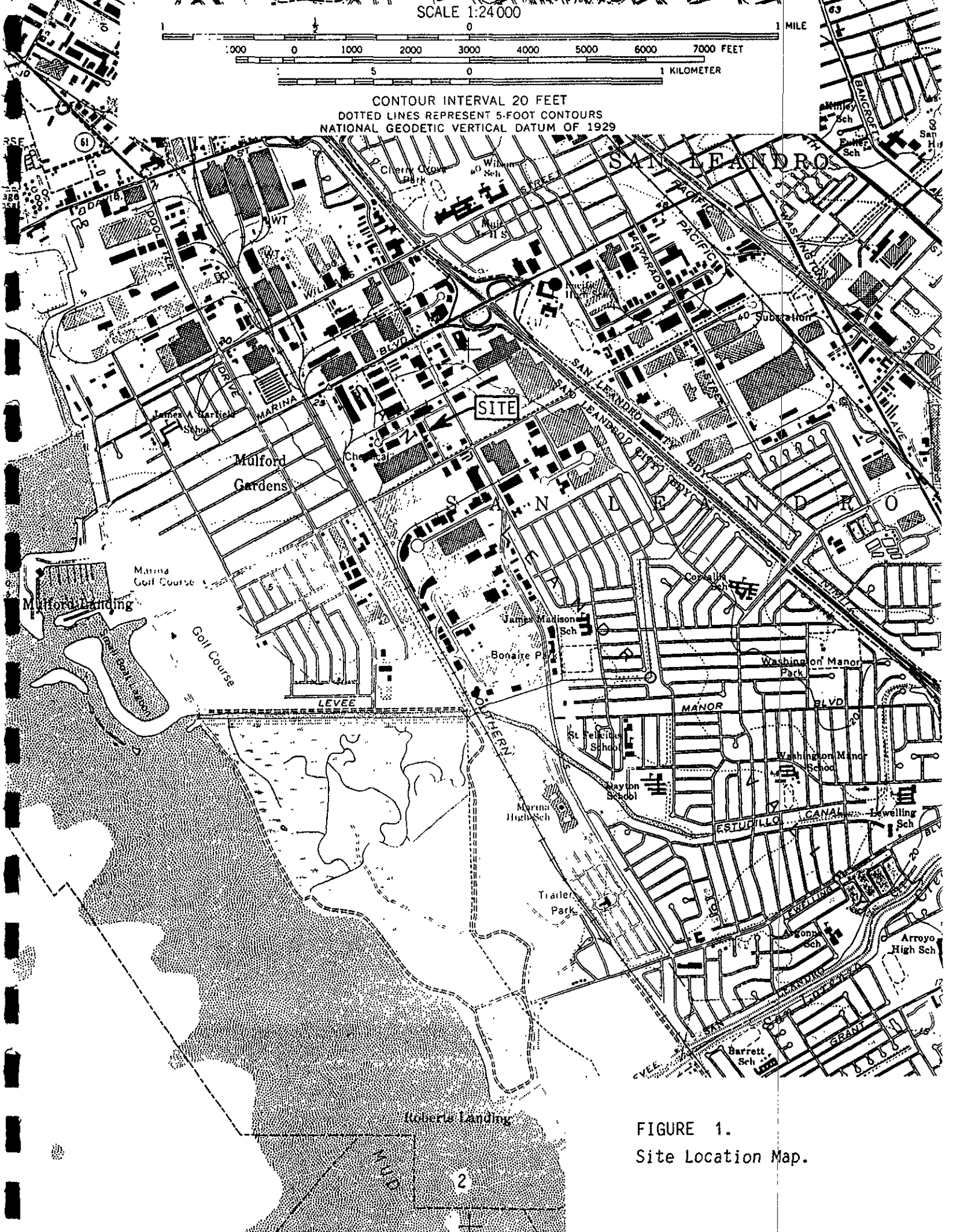
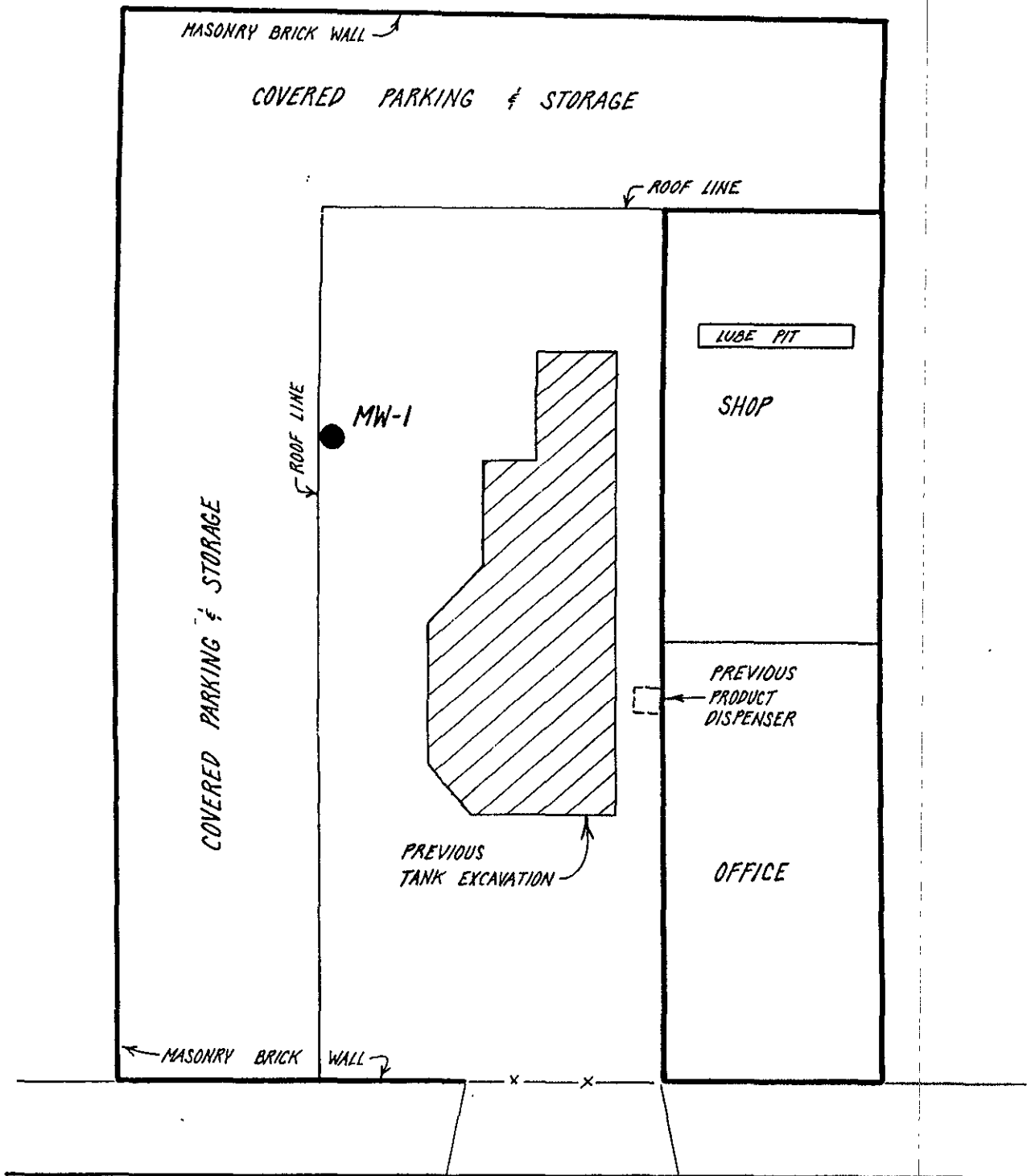


FIGURE 1.
Site Location Map.



NORTH
1"=20'

NICHOLSON STREET

FIGURE 2.
Site Map.

II. RESULTS OF PREVIOUS ON-SITE WORK

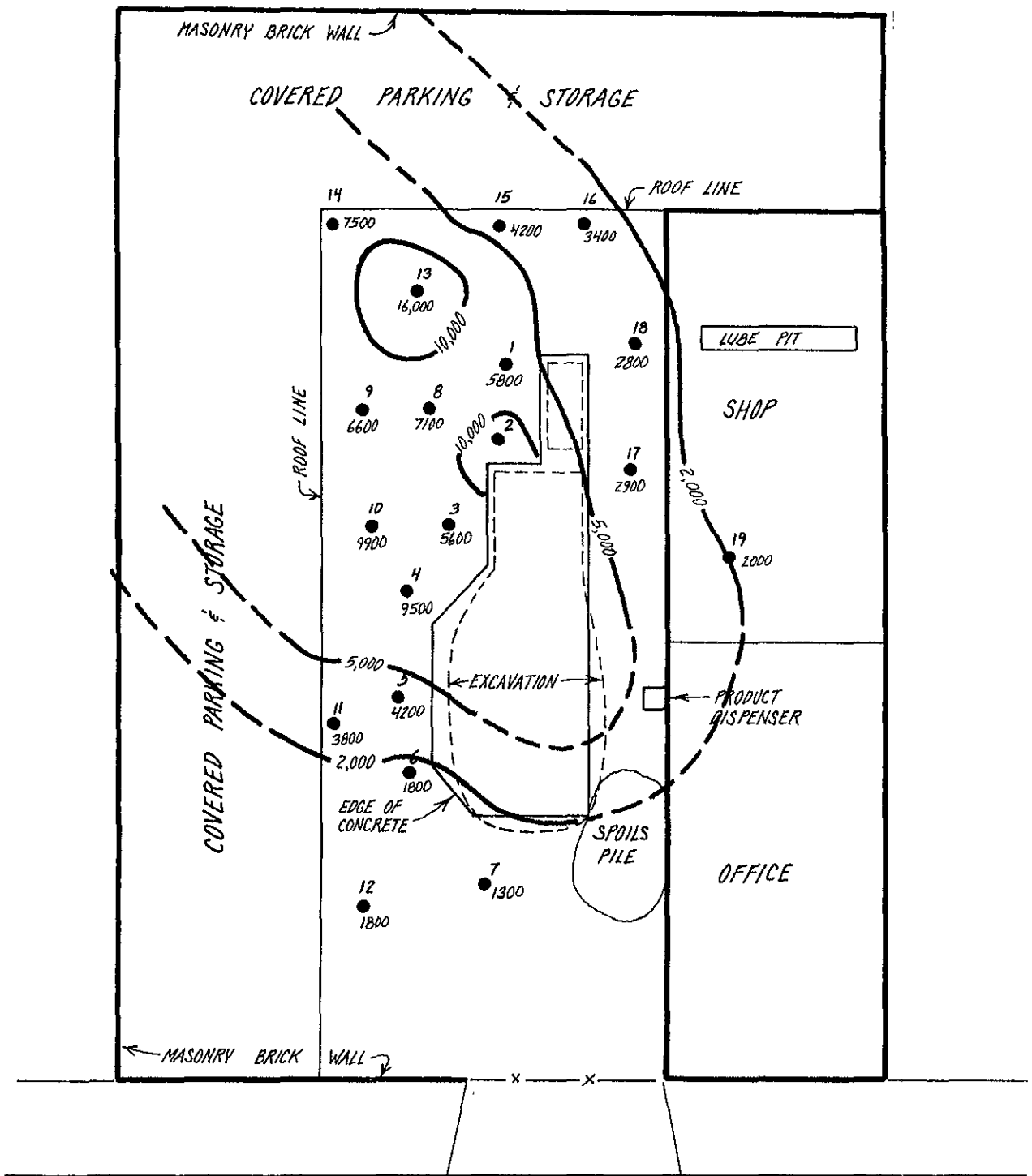
The previous scope of work undertaken by Hageman-Aguiar, Inc., has involved 1) the conduct of a soil sampling program in order to determine the lateral extent of subsurface soil contamination surrounding the locations of the former underground storage tanks, 2) the backfilling of the existing underground tank excavation, 3) the installation of one shallow groundwater monitoring at the perceived down-gradient location, and 4) the conduct of regular quarterly groundwater sampling at the site.

Soil Sampling

On May 15, 1992, nineteen soil borings were drilled on the property. At each soil boring location, soil samples for chemical analyses were collected at the 4- and 6-foot depths. All samples were immediately brought to an on-site mobile laboratory where the sample was immediately analyzed for Total Recoverable Hydrocarbons by infrared spectroscopy (EPA Method 418.1).

Shallow Groundwater was encountered in each of the borings at a depth of approximately 6.5 feet below the ground surface. The shallow groundwater appeared to be present in a sand & gravel layer that began somewhere near the 6-foot depth.

Figure 3 shows lines of equal concentration of Total Recoverable Hydrocarbons in the subsurface soils beneath the site at the 6-foot depth. These data indicate significant Petroleum concentrations in the soil at the 6-foot depth,



NORTH
1" = 20'

NICHOLSON STREET

FIGURE 3. Lines of Equal Concentration of Total Recoverable Hydrocarbons in mg/Kg (ppm) in the Soil at 6-foot Depth.

corresponding to a location immediately above the shallow groundwater table. The plot suggests that the Petroleum Hydrocarbon concentrations are centered around the locations of the former underground storage tanks, and that the concentrations have "spread out" toward the south, consistent with the mechanism of longitudinal dispersion in the direction of the shallow groundwater flow. The data clearly indicate a well-defined plume of petroleum concentrations migrating to the south, either floating on top of, or dissolved within the shallow groundwater. Any free-product migration can be expected to occur within the capillary fringe above the shallow water table.

Follow-up analysis of selected soil samples at a stationary California State Certified laboratory by gas chromatographic methods (EPA 8015 & 8020) indicated that the petroleum contamination consisted of both Gasoline and Diesel, along with significant Benzene concentrations.

Excavation Backfill

Following the soil investigation, it appeared that further excavation around the tank pit would not be practical due to the apparently extensive down-gradient migration of petroleum concentrations, either floating on top of, or dissolved within the shallow groundwater. In addition, the petroleum hydrocarbons concentrations within the unsaturated zone immediately adjacent to the tank excavation appeared to be only somewhat elevated.

On May 26, 1992, the excavation was backfilled with pea gravel. The backfill was capped with approximately one foot of Class II base rock, followed by Portland cement concrete pavement.

Monitoring Well Installation

The location of monitoring well MW-1 is shown in Figure 2 (site map). The location was selected based upon the expected shallow groundwater flow direction, based both upon the expected regional hydrogeology and the results of the previous soil sampling program (delineation of contaminant plume).

On June 2, 1992, the shallow groundwater monitoring well was installed on the site. The well was installed with a truck-mounted drill rig using 12-inch hollow-stem augers. Well MW-1 was cased with 15 feet of 6-inch PVC slotted screen pipe (0.02" slots) and completed to a depth of 19 feet below the ground surface. The larger well casing diameter was selected in order that the well could be utilized for successful free product recovery, should the need arise.

The annular space of well MW-1 was packed with #3 Monterey sand to approximately one foot above the top of the screened section. Approximately one-half foot of wetted bentonite pellets were placed upon the sand pack, followed by a neat cement grout seal up to the ground surface. The well was fitted with a water-tight locking cap and a water-tight steel traffic lid.

For the initial round of shallow groundwater sampling conducted on June 8, 1992, Gasoline was detected in the sample collected from well MW-1 at the concentration of 10,000 $\mu\text{g/L}$ (ppb). In addition, Benzene was detected in the sample collected from well MW-1 at a concentration of 110 $\mu\text{g/L}$ (ppb). No detectable concentration of Diesel was found in the shallow groundwater sample.

Quarterly Groundwater Sampling

To date, seven shallow groundwater sampling events have been conducted. Table 1 presents the results of free-floating product thickness measurements collected since June 8, 1992. As shown by these data, up to 1.9 inches of free-floating petroleum product have been detected on the water column in well MW-1.

Table 2 presents the results of the laboratory analysis for of the groundwater samples collected from monitoring well MW-1. As shown by the data in this table, laboratory analysis of the shallow groundwater samples have indicated the presence of Gasoline, Benzene and Diesel in significant concentrations.

TABLE 1.

**Product Thickness
(inches)**

Well	Date of Measurement									
	6-8-92	11-9-92	4-23-93	7-28-93	12-10-93	3-14-94	6-30-94	9-14-94		
MW-1	0	0	1.9	0.4	0	1.2	0.36	0.24		

TABLE 2.

Shallow Groundwater Sampling Results

Well	Date	TPH as Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	TPH as Diesel (ug/L)	Kerosene (ug/L)	Motor Oil (mg/L)	Stoddard Solvent (ug/L)
MW-1	06-08-92	10,000	110	81	62	280	ND	—	—	—
	11-09-92	9,800	23	14	22	96	ND	—	—	—
	04-23-93	18,000	42	47	50	190	560	ND	ND	370
	07-28-93	27,000	40	45	63	190	ND	ND	ND	ND
	12-10-93	7,800	13	16	20	77	3,800	ND	ND	ND
	03-14-94	280,000	970	880	620	1,700	620	ND	ND	3,300
	06-30-94	8,500	23	13	8.5	19	ND	ND	ND	ND
	09-14-94	2,400	5.3	2.6	2.5	6.0	52	ND	ND	ND
Detection Limit		50	0.5	0.5	0.5	0.5	50	50	0.5	50

ND = not detected

III. SITE DESCRIPTION

Hydrogeologic Setting

The soils beneath the site consist of Quaternary Alluvium overlying Franciscan bedrock (Geologic Map of California, San Francisco Sheet, State of California Division of Mines and Geology, 1980). Bedrock is likely to occur at a depth of greater than 50 feet beneath the site. On this portion of the low-lying Bay Plain in close proximity to San Francisco Bay, the soils beneath the site can be expected to consist primarily of fine grain soils (silts and clays), with the majority of shallow groundwater movement occurring in thin sand and gravel layers and/or "stringers".

Based upon the surface topography, as well as the various hydrologic features shown on the vicinity map, the general regional shallow groundwater can be expected to flow from the San Leandro Hills (area of groundwater recharge) and move southwesterly toward San Francisco Bay (area of discharge).

Site Description

Figure 4 is an aerial photograph of the property and surrounding area taken by Pacific Aerial Surveys, Oakland, California, on June 12, 1990. This photograph shows the condition of the subject site at the time of this most recent subsurface investigation, along with the locations of buildings on various neighboring properties. At the present time, the entire site is covered by Portland cement concrete pavement.

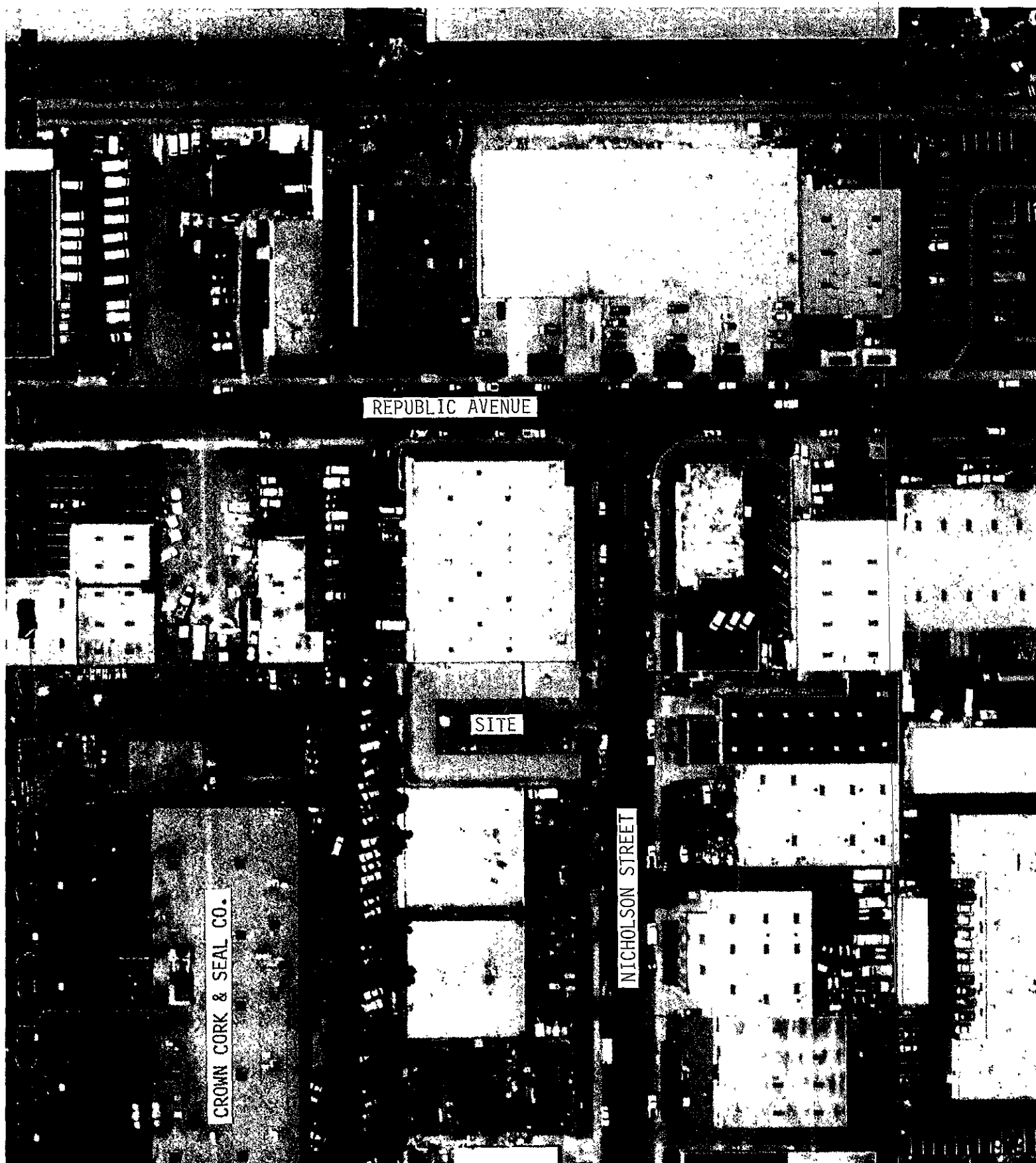


FIGURE 4.
Aerial Photograph, June 12, 1990
Photo AV-3845-12-42
Pacific Aerial Surveys
Scale: 1" = 100'

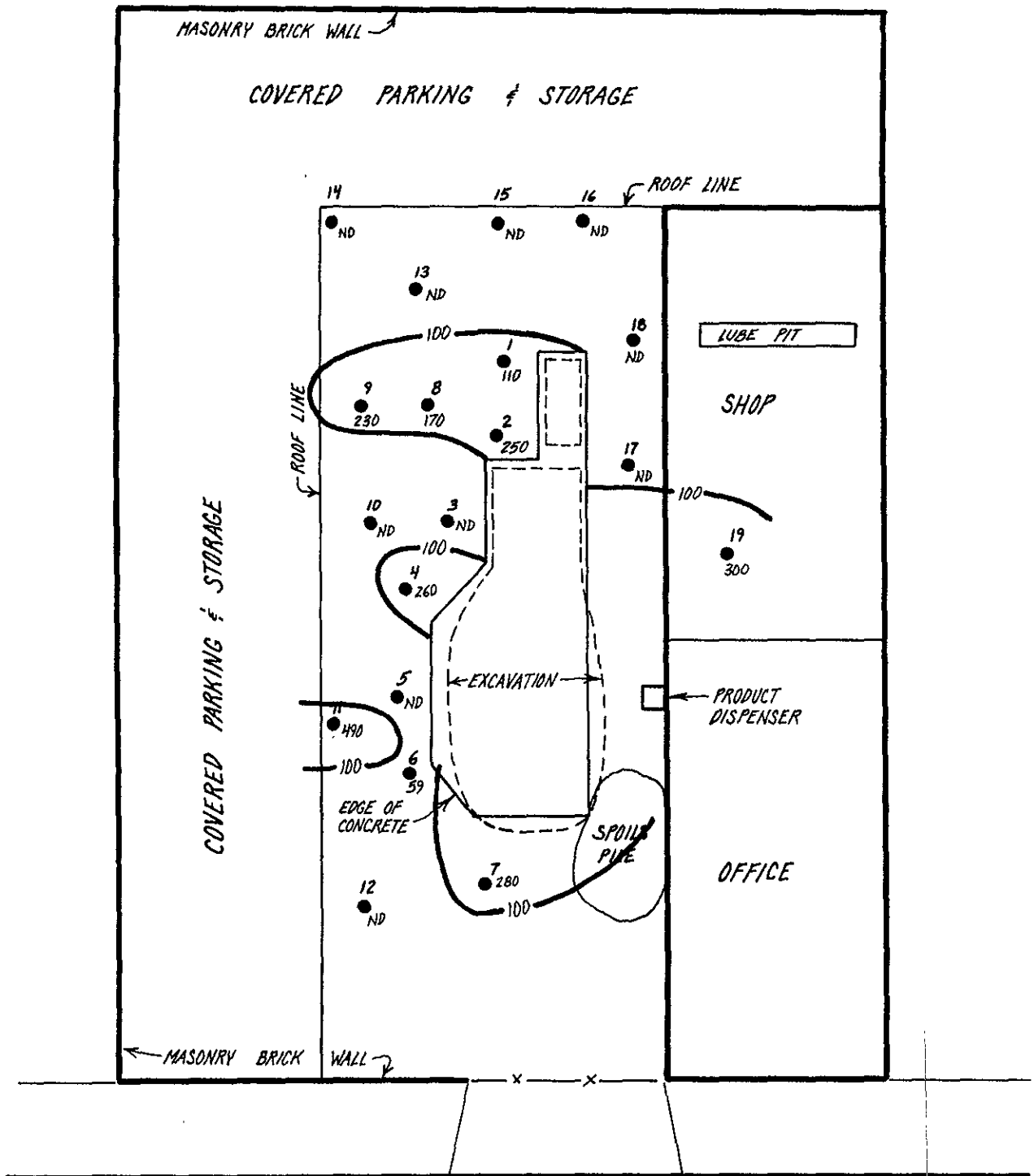
IV. EXTENT OF SOIL CONTAMINATION ON SITE

The analysis of soil samples collected during the underground storage tank removals indicated the presence of Diesel and Gasoline at concentrations of up to 470 mg/kg (ppm) and 1,400 mg/kg (ppm), respectively.

The subsequent soil sampling program conducted by Hageman-Aguilar, Inc., resulted in a relatively definition of petroleum hydrocarbons concentrations in the soil above the shallow groundwater table. Figure 5 shows lines of equal concentration of Total Recoverable Hydrocarbons in the subsurface soils beneath the site at the 4-foot depth. As shown in Figure 5, the soil concentrations are obviously centered around the locations of the former underground tanks, and have apparently migrated laterally out in the unsaturated zone up to 20 feet from the previous tank locations.

The areal extent of Petroleum concentrations in the soil at the 6-foot depth was previously discussed in Section II, and was illustrated in Figure 3 (lines of equal concentration of Total Recoverable Hydrocarbons in the subsurface soils beneath the site at the 6-foot depth). The data clearly indicated a well-defined plume of petroleum concentrations migrating to the south, either floating on top of, or dissolved within the shallow groundwater. Any free-product migration can be expected to occur within the capillary fringe above the shallow water table.

The plan for determining groundwater contamination, as discussed in Section V of this workplan, provides for the analysis of all soil samples for 1) total petroleum hydrocarbons as Gasoline, 2) total petroleum hydrocarbons as



NORTH
1" = 20'

NICHOLSON STREET

FIGURE 5. Lines of Equal Concentration of Total Recoverable Hydrocarbons in mg/Kg (ppm) in the Soil at 4-foot Depth.

Diesel, and 3) Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX). An attempt will be made to determine the concentrations of any detectable hydrocarbons that may still be remaining in the native soil by sampling during the soil boring procedures. An attempt will also be made to correlate any new soil sampling data with those from the previous soil sample analyses.

V. PLAN FOR DETERMINING GROUNDWATER CONTAMINATION

Placement of Monitoring Wells

The proposed locations of four shallow groundwater monitoring wells are shown in Figure 6. As shown in this figure, two of the proposed wells are located on-site, while the other two are located off-site on the adjoining Crown Cork & Seal property.

The proposed monitoring well locations have been selected based upon 1) known locations of soil contamination on-site, 2) the expected shallow groundwater flow direction, and 3) what is believed to be good spacing between data points in order to achieve reasonable plume definitions of any contaminants that may be present in the shallow groundwater.

Monitoring Well Installations

Each well will be installed with a truck-mounted drill rig using 8-inch hollow-stem augers. During the drilling, soil samples for chemical analyses will be collected at 5-foot intervals until the shallow water table is encountered at an expected depth of approximately 6 feet below the ground surface. Each soil sample will be collected by driving directly into the native soil below the augers with a 2-inch split-barrel sampler fitted with clean brass liners. All samples will be immediately placed on ice, then transported under chain-of-custody to the laboratory by the end of the work day.

REPUBLIC AVENUE

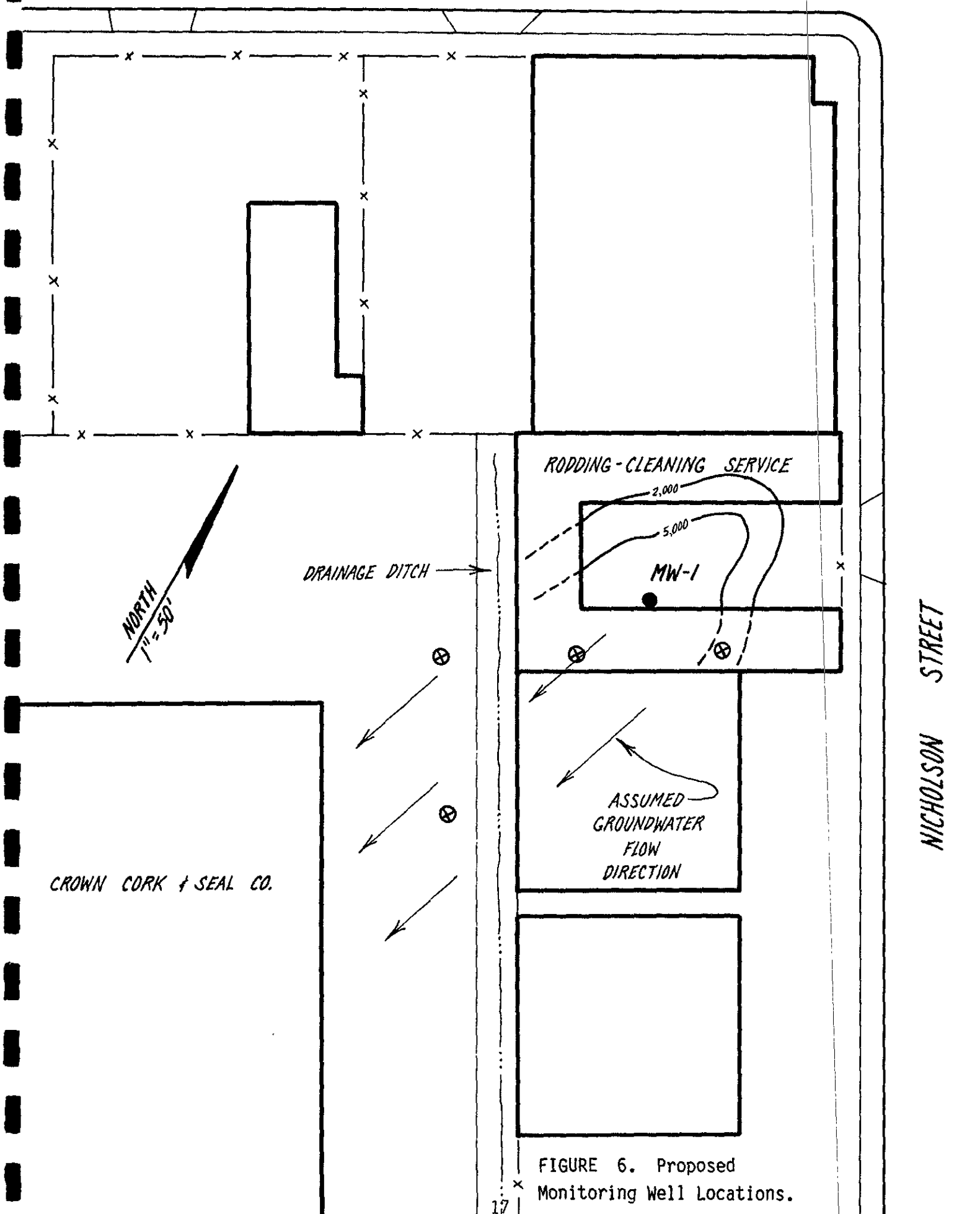


FIGURE 6. Proposed Monitoring Well Locations.

The well borings will extend to approximately 10 feet below the shallow water table. Each well will be cased to approximately three to five feet above the shallow water table with 2-inch PVC slotted screen pipe (0.01" slots). The annular space of each well will be packed to one foot above the slotted section with #2/12 Monterey Sand.

At least one foot of wetted bentonite pellets will be placed upon the sand pack, followed by a neat cement/bentonite seal up to the ground surface. Each well will be fitted with a locking steel traffic lid. The borings will be logged in the field by Gary Aguiar, Registered Civil Engineer #34262. A typical Well Construction Diagram is shown in Figure 7.

Decontamination

Prior to the installation of each well, all drilling equipment, including augers, drill stem, and split barrel samplers, will be steam-cleaned on-site. Prior to the installation of each well, all drilling equipment, including augers, drill stem, and split barrel samplers, will be steam-cleaned.

All on-site steam-cleaning will be conducted within a temporary bermed area, covered by a plastic liner. Wash water collected in this area will subsequently be transferred into appropriate 55-gallon drums, and stored on-site until the results of laboratory analyses of water samples are obtained. Depending upon these results, the water will be sewerred as a non-hazardous liquid waste in accordance with local sewerreding agency permit requirements, or else it will be transported as a hazardous liquid waste under proper manifest to an appropriate TSD facility for treatment and disposal.

MONITORING WELL

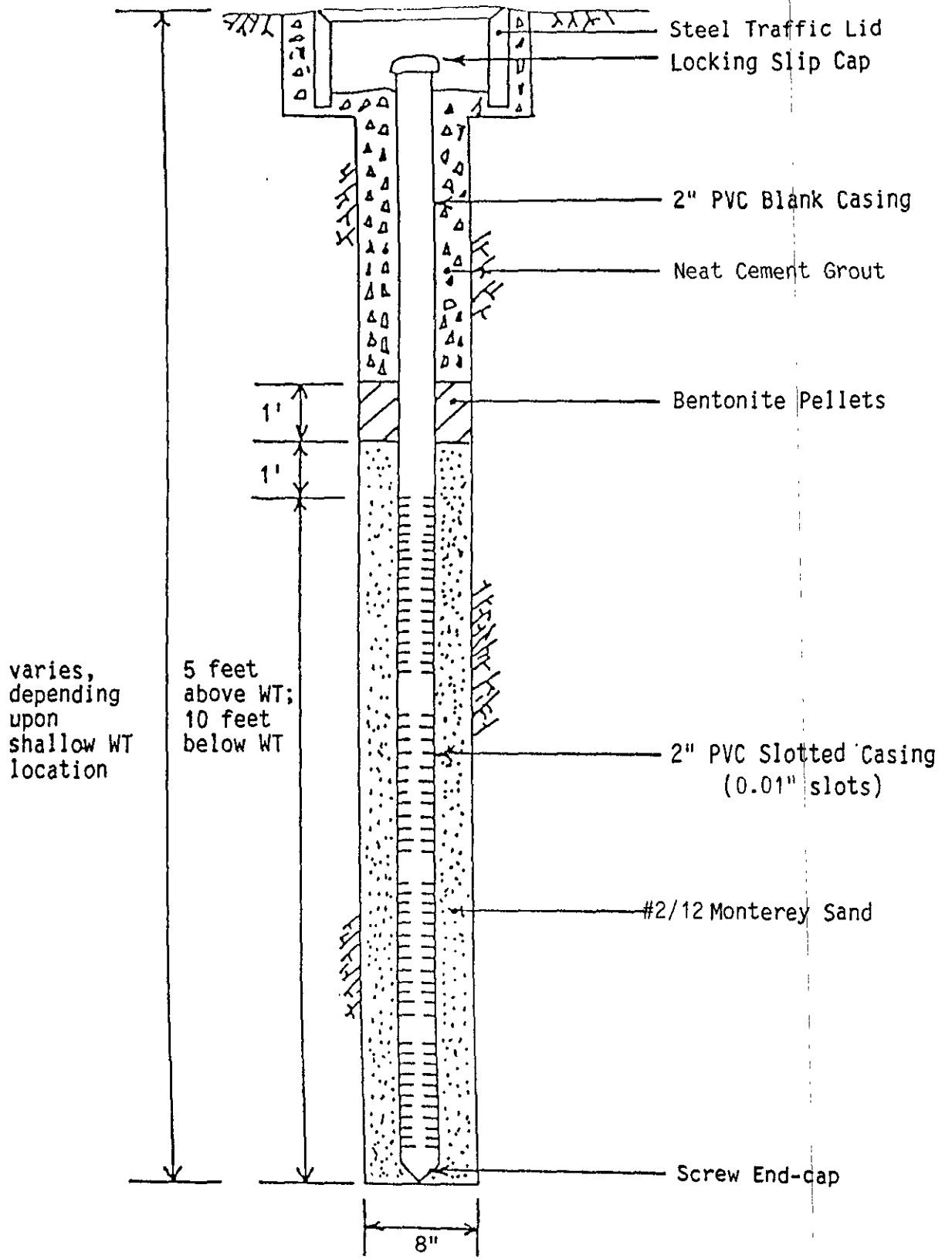


FIGURE 7.
Typical Monitoring
Well Construction.

Groundwater Sampling Plan

The development of the newly installed monitoring wells will not occur for at least 72 hours after construction. It is proposed that each well will be developed by removing water with a mechanical air-lift pump until the water is relatively clear, or until the apparent turbidity of the water being removed has stabilized. Typically, in addition to pumping, further development is achieved using a mechanical surge block and bailer.

Groundwater sampling shall not occur less than 24 hours after well development. Prior to groundwater sampling, all three monitoring wells will be purged by bailing 4 to 10 casing volumes of water. Field conductivity, temperature, and pH meters will be present on-site during the monitoring well sampling. As the purging process proceeds, these three parameters will be monitored. Purging must continue until readings appear to have reasonably stabilized. After the water level has attained 80% or more of the original static water level in a particular monitoring well, a groundwater sample will be collected using a clean teflon bailer. The water sample will be placed inside appropriate 40 mL VOA vials and 1-liter amber bottles free of any headspace. The sample will immediately be placed on crushed ice, then transported under chain-of-custody to the laboratory at the end of the work day.

At the time each monitoring well is sampled, the following information will be recorded in the field: 1) depth-to-water prior to purging, using an electrical well sounding tape, 2) identification of any floating product, sheen, or odor prior to purging, using a clear teflon bailer, 3) sample pH, 4) sample temperature, and 5) specific conductance of the sample.

Laboratory Analysis

All analyses will be conducted by a California State DOHS certified laboratory in accordance with EPA recommended procedures.

Soil samples will be analyzed for:

- 1) total petroleum hydrocarbons as Gasoline
(EPA method 8015)
- 2) total extractable petroleum hydrocarbons as Diesel,
Kerosene, Motor Oil and Stoddard Solvent (EPA method
8015)
- 3) Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)
(EPA method 8020)

Groundwater samples will be analyzed for:

- 1) total petroleum hydrocarbons as Gasoline
(EPA method 8015)
- 2) total extractable petroleum hydrocarbons as Diesel,
Kerosene, Motor Oil and Stoddard Solvent (EPA method
8015)
- 3) Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)
(EPA method 602)

Waste Generation

All drill cuttings will be stockpiled and stored on-site until the results of laboratory analyses are obtained. Depending upon these results, the cuttings will be disposed of as either a non-hazardous waste, or else transported as a hazardous waste under proper manifest to an appropriate TSD facility. In the case of contaminated soil, it may be possible to remove residual Gasoline concentrations by aeration under permit from the Bay Area Air Quality Management District (BAAQMD), and thereby facilitate disposal as a non-hazardous waste.

All water removed from the well during development and purging will be drummed and stored on-site until the results of laboratory analyses are obtained. Depending upon these results, it may be possible to sewer the water as a non-hazardous liquid waste in accordance with local sewerage agency permit requirements, or else it must be transported as a hazardous liquid waste under proper manifest to an appropriate TSD facility for treatment and disposal.

Top-of-Casing Survey

In order to determine groundwater flow direction, the top-of-casing elevation at each monitoring well will be surveyed to within 0.01 feet Mean Sea Level (MSL) of an established City of San Leandro or Alameda County bench mark.

VI. REPORT

A report will be written that will provide a description of all field work, present the geologic log, and present all laboratory results. The report will include, but not be limited to, the following:

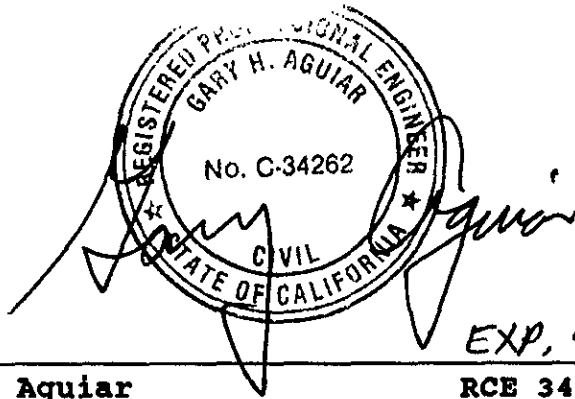
- 1) a map showing well locations and elevations.
- 2) soil and formation conditions.
- 3) geologic logs.
- 4) depths to groundwater.
- 5) shallow groundwater contour map.
- 6) report of presence of free product.
- 7) results of laboratory analyses.
- 8) contaminant plume definitions.
- 9) contaminant source identification.
- 10) recommendations for further investigation, if deemed necessary.

VII. SITE SAFETY PLAN

A site-specific set of health and safety operating procedures for field investigations of underground spills of motor oil and petroleum distillate fuel is provided in Attachment B. In order to maintain a safe working environment for field personnel, a copy of these operating procedures will be kept on-site during the field operations, and will be followed in accordance with the magnitude of petroleum contamination encountered.

PROPOSED WORKPLAN FOR SOIL AND WATER INVESTIGATION (SWI)
RODDING-CLEANING SERVICE
2585 Nicholson Street, San Leandro, CA.

November 7, 1994



EXP. 9-30-95

Gary Aguiar

RCE 34262

ATTACHMENT A

BACKGROUND DATA

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, Assistant Agency Director

STID 3570

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Division
80 Swan Way, Rm. 200
Oakland, CA 94621
(510) 271-4320

October 7, 1994



Mr. Stephen Birch
Rodding-Cleaning Services, Inc.
2585 Nicholson Street
San Leandro, CA 94677-4276

Mr. Robert Eckstein
Bank of America
300 Ellinwood Way, Ste. 260
Pleasant Hill, CA 94523-4811

RE: RODDING-CLEANING SERVICES, 2585 NICHOLSON STREET, SAN
LEANDRO - REQUIREMENT FOR SOIL AND WATER INVESTIGATION

Dear Messrs. Birch and Eckstein:

I am in receipt of the environmental investigation data package submitted under Rodding-Cleaning Services, Inc. cover dated September 30, 1994. The referenced data package included the report documenting the initial assessment of the subject site which occurred during 1992, and other reports documenting the subsequent sampling of the sole well at the site beginning late 1992, up to September 1994.

The assessment work performed to date indicates a significant release of fuel from the former underground storage tanks (UST) at this site has impacted underlying sediments and shallow ground water. Soil and ground water contamination in substantial concentrations has been mapped towards the southern site boundary. Free-phase (undissolved) fuel compounds were identified in many of the 19 shallow soil borings, as well as measurable thicknesses on ground water encountered in monitoring well MW-1. Currently the extent of the environmental impact from the release has not been defined, nor have ground water flow directions been confirmed.

Pursuant to provisions of Article 11, Title 23, California Code of Regulations (CCR), you are required to perform a soil and water investigation (SWI). The SWI must be designed to define the extent of the soil and ground water pollution associated with this site, and confirm ground water flow directions. Such work will minimally require the installation of several more soil borings and monitoring wells. In order to substantially define the limits of the pollutant plumes, however, it is anticipated that during this phase of the investigation many of these borings and wells will need to encroach onto adjoining properties.

Messrs. Birch and Eckstein
RE: 2585 Nicholson Street, San Leandro
October 7, 1994
Page 2 of 3

The results of the SWI will be used in preparing a viable corrective action plan (CAP), pursuant to Section 2725 et seq., Article 11, 23CCR. The CAP must include, among other elements: 1) an assessment of impacts to the site; 2) a feasibility study of several remediation methodologies; and, 3) applicable cleanup levels. Free-phase product removal is an interim, minimum objective which should be employed at this time pending completion of the SWI and CAP development phases of the project.

A SWI work plan must be submitted for review. This work plan is due within 90 days of the date of this letter. Work should commence no later than 30 days following work plan approval.

A report must be submitted within 45 days of the completion of field activities associated with this phase of work at the site. Subsequent reports are to be submitted quarterly until this site qualifies for final RWQCB "sign off."

The referenced SWI and quarterly reports must describe the status of the investigation and include, among other elements, the following:

- o Details and results of all work performed during the designated reporting period: records of field observations and data, boring and well construction logs, water level data, chain-of-custody forms, laboratory results for all samples collected and analyzed (including QA/QC data), tabulations of free product thicknesses and dissolved fractions, etc.
- o Status of ground water contamination and characterization
- o Interpretation of results: water level contour maps showing gradients, free and dissolved product plume definition maps for each target compound, geologic cross sections, etc.
- o Recommendations for additional work

All reports and proposals must be submitted under seal of a California-registered geologist or civil engineer with the appropriate environmental background. Please include a statement of qualifications for each lead professional involved with this project.

Messrs. Birch and Eckstein
RE: 2585 Nicholson Street, San Leandro
October 7, 1994
Page 2 of 3

Please be advised that this letter constitutes a formal request for technical reports pursuant to California Water Code Section 13267(b). Failure to respond may result in the referral of this case to the RWQCB or other enforcement agency for action.

Please also bear in mind that, in order to maintain SB2004 fund eligibility, specific bidding requirements and contracting criteria must be met. You are encouraged to contact your SWRCB fund representative (916/227-4529) for more case-specific information.

Please feel free to call me at 510/567-6783, or -6700, should you have any questions.

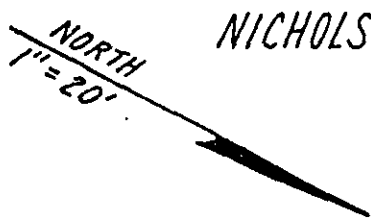
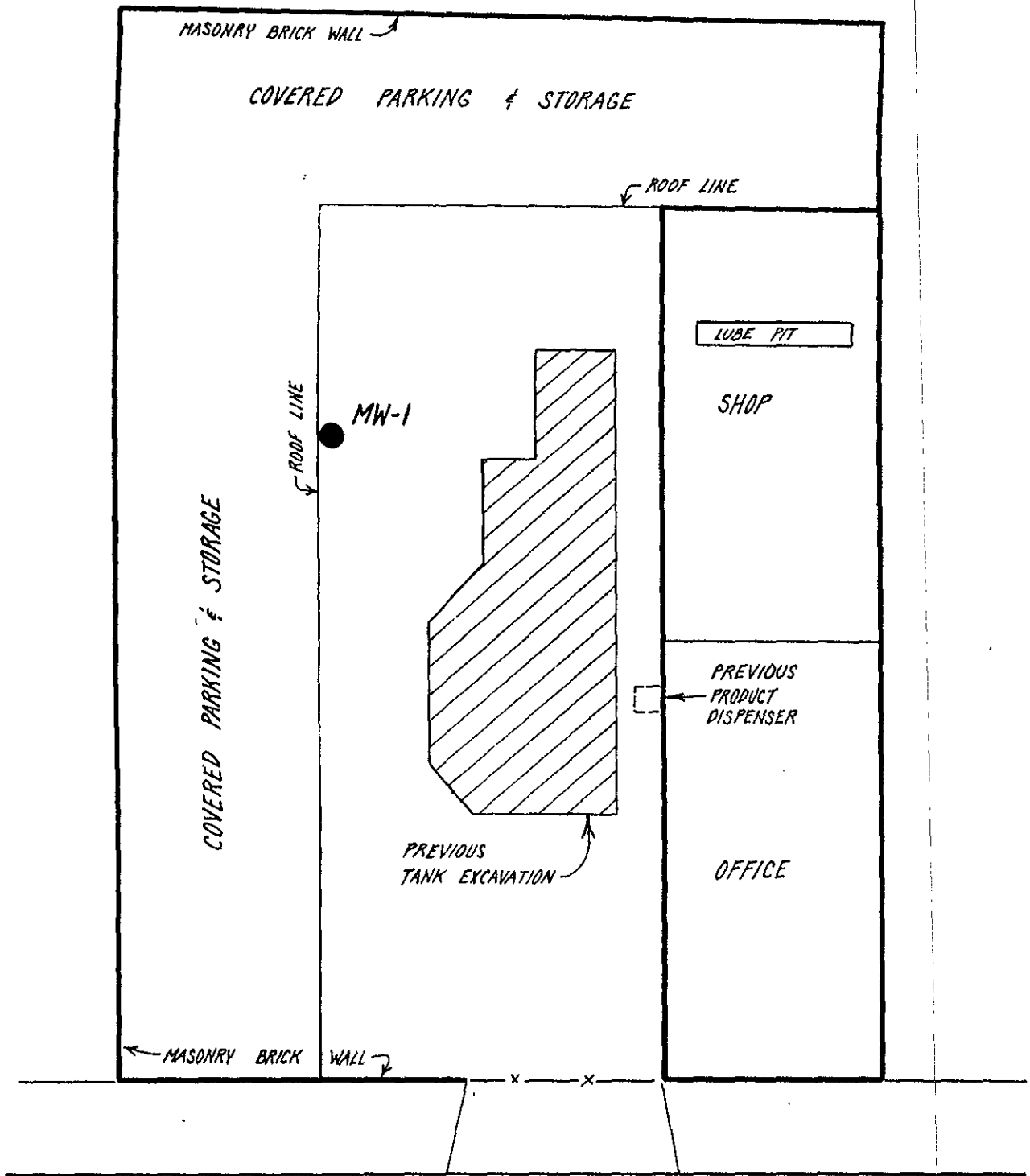
Sincerely,



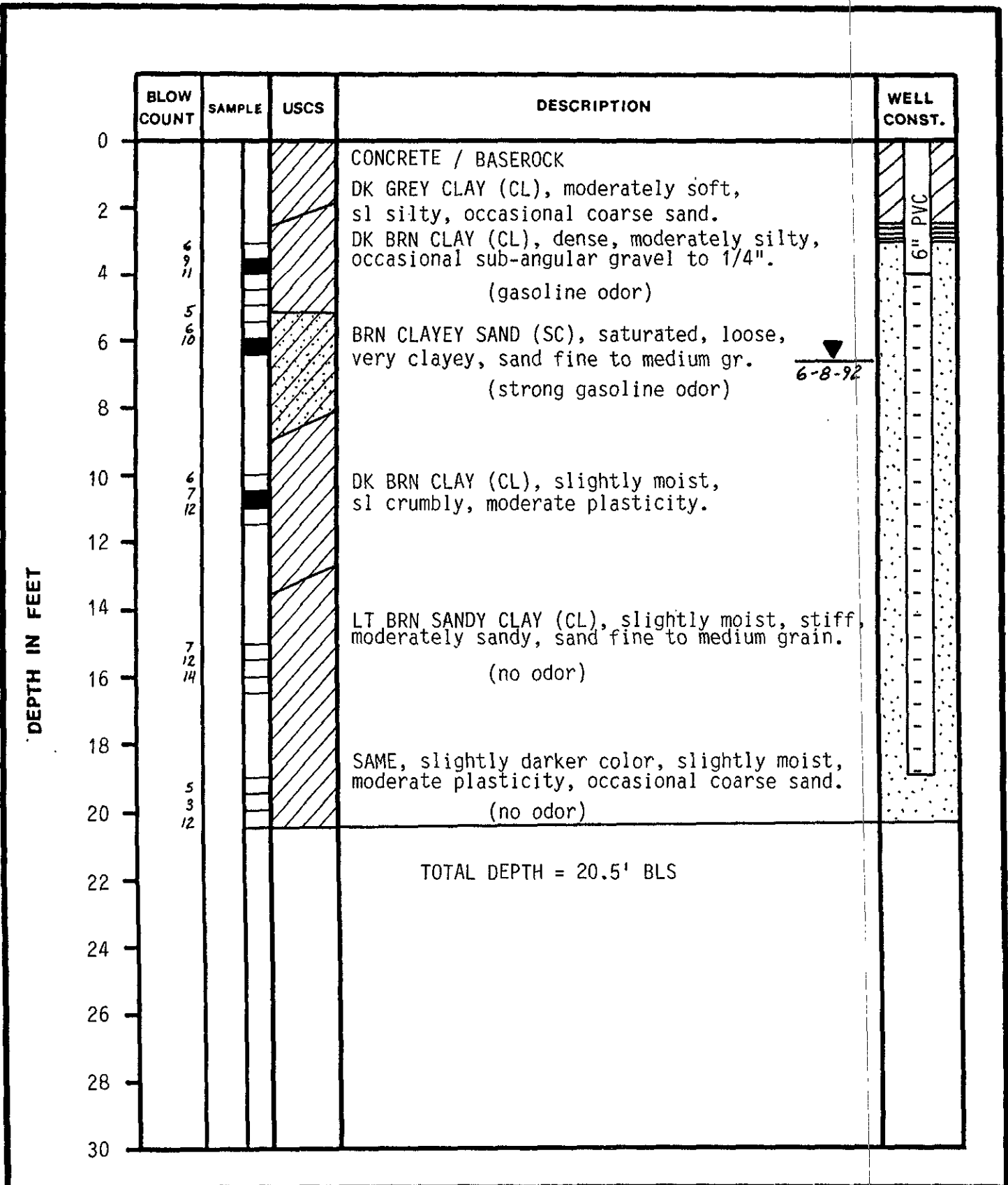
Scott O. Seery, CHMM
Senior Hazardous Materials Specialist

attachment

cc: Rafat A. Shahid, Assistant Agency Director, Env. Health
Gil Jensen, Alameda County District Attorney's Office
Mike Bakaldin, San Leandro Fire District
Robert Weston, ACDEH

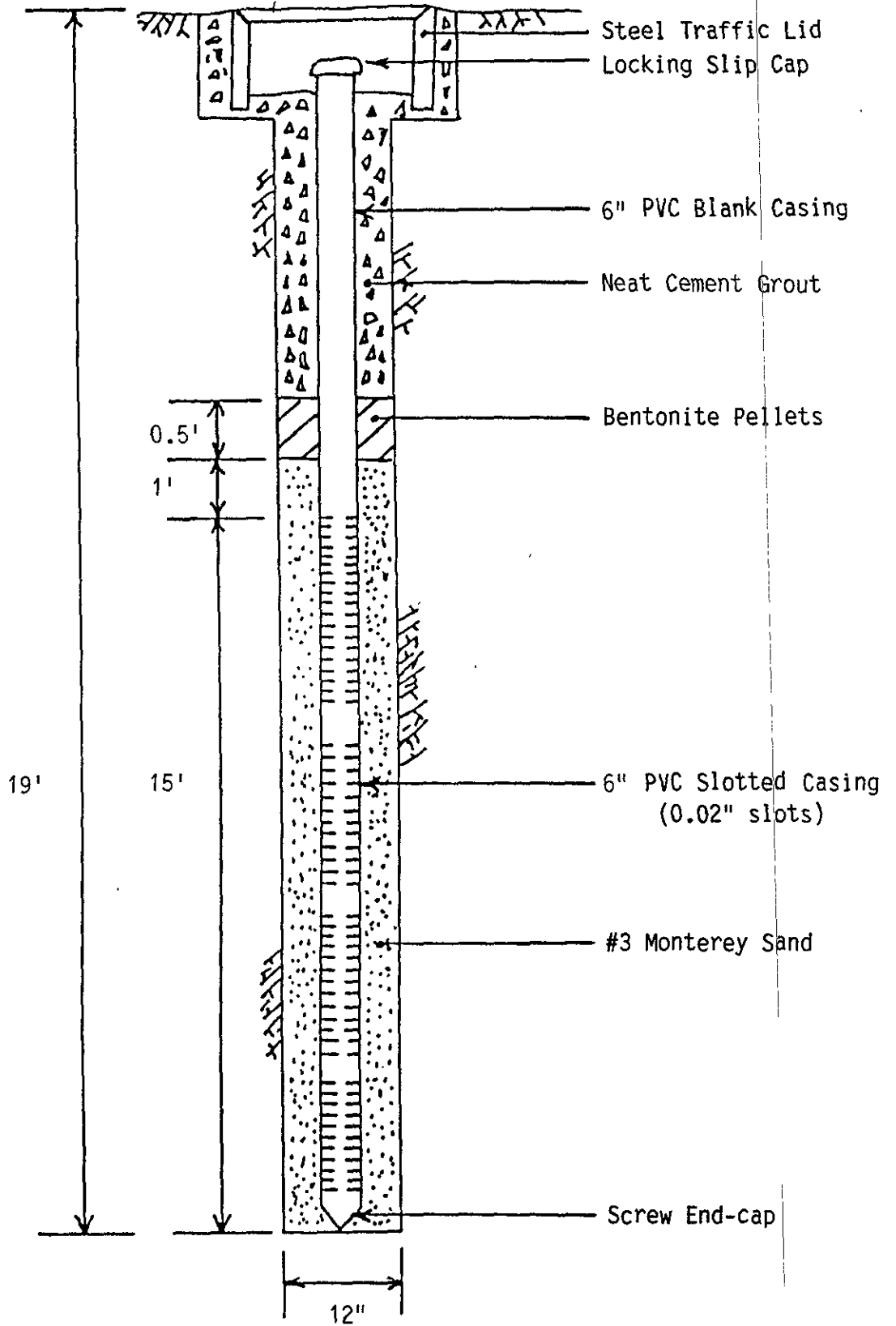


NICHOLSON STREET



HAGEMAN - AGUIAR, INC.	LOG OF MONITORING WELL MW-1 Rodding-Cleaning Service 2585 Nicholson Street, San Leandro, CA	FIGURE 8
DATE June 2, 1992	PROJECT NO.	
TOC ELEVATION	EQUIPMENT 12" Hollow Stem Auger	

MONITORING WELL MW-1



ORIGINAL
File with DWR

Page 1 of 1

Owner's Well No. MW-1

Date Work Began 6-2-92 Ended 6-2-92

Local Permit Agency Zone-7, Alameda County Flood Control

Permit No. 92280 Permit Date 6-2-92

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 403280

DWR USE ONLY - DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

GEOLOGIC LOG

WELL OWNER

ORIENTATION (∠) VERTICAL HORIZONTAL ANGLE _____ (SPECIFY)

Name Rodding-Cleaning Service
Mailing Address 2585 Nicholson Street
San Leandro, CA 94577

DEPTH TO FIRST WATER _____ (Ft.) BELOW SURFACE

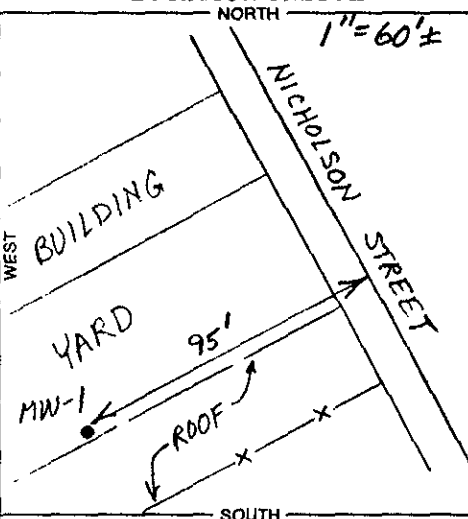
CITY _____ STATE _____ ZIP _____

DEPTH FROM SURFACE

DEPTH FROM SURFACE		DESCRIPTION
Ft.	to Ft.	
0	2.5	DK GREY CLAY (CL), dry
2.5	5.5	DK BRN CLAY (CL), dry
5.5	8	BRN CLAYEY SAND (SC), saturated
8	14	DK BRN CLAY (CL), slightly moist
14	20.5	LT BRN SANDY CLAY (CL), sl moist

WELL LOCATION
Address 2585 Nicholson Street
City San Leandro
County Alameda
APN Book _____ Page _____ Parcel _____
Township _____ Range _____ Section _____
Latitude _____ Longitude _____

LOCATION SKETCH



ACTIVITY (∠)

- NEW WELL
- MODIFICATION/REPAIR
- Deepen
- Other (Specify) _____
- DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")
- PLANNED USE(S)
- (∠) MONITORING
- WATER SUPPLY
- Domestic
- Public
- Irrigation
- Industrial
- "TEST WELL"
- CATHODIC PROTECTION
- OTHER (Specify) _____

Illustrate or Describe Distance of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc. PLEASE BE ACCURATE & COMPLETE.

DRILLING METHOD Hollow Stem Auger FLUID _____

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 6.6 (Ft.) & DATE MEASURED 6-8-92

ESTIMATED YIELD* _____ (GPM) & TEST TYPE _____

TEST LENGTH _____ (Hrs.) TOTAL DRAWDOWN _____ (Ft.)

* May not be representative of a well's long-term yield.

TOTAL DEPTH OF BORING 20.5 (Feet)

TOTAL DEPTH OF COMPLETED WELL 19 (Feet)

DEPTH FROM SURFACE	BORE-HOLE DIA. (Inches)	CASING(S)						DEPTH FROM SURFACE	ANNULAR MATERIAL				
		TYPE (∠)				MATERIAL / GRADE	INTERNAL DIAMETER (Inches)		GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)	TYPE		
Ft.	to Ft.	BLANK	SCREEN	CON- DUCTOR	FILL PIPE								
0	4	12	X			PVC	6	sch-40					
4	19	12	X			PVC	6	sch-40	0.02"				
													#3 Monterey Sand

ATTACHMENTS (∠)

- Geologic Log
- Well Construction Diagram
- Geophysical Log(s)
- Soil/Water Chemical Analyses
- Other _____

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Gary Aguiar, Hageman-Aguiar, Inc.

ADDRESS 3732 Mt Diablo Blvd, Suite 372, Lafayette, CA 94549

Signed Gary Aguiar 7/16/92

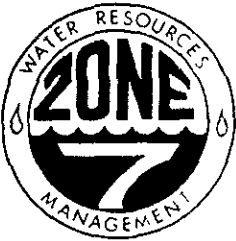
STATE CALIFORNIA CITY GREGG DRILLING ZIP 485165

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

WELL DRILLER/AUTHORIZED REPRESENTATIVE

DATE SIGNED

C-57 LICENSE NUMBER



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 (510) 484-2600

2 June 1992

Hageman Aguiar, Inc.
3732 Mt. Diablo Boulevard, Suite 372
Lafayette, CA 94549

Gentlemen:

Enclosed is drilling permit 92280 for a monitoring well construction project at 2585 Nicholson Street in San Leandro for Rodding-Cleaning Service.

Please note that permit condition A-2 requires that a well construction report be submitted after completion of the work. The report should include drilling and completion logs, location sketch, and permit number.

If you have any questions, please contact Wyman Hong or me at 484-2600.

Very truly yours,

Craig A. Mayfield
Craig A. Mayfield
Water Resources Engineer

WH:mm
Enc.



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 Rodding-Cleaning Service
2585 Nicholson Street
San Leandro, CA 94577-4276

PERMIT NUMBER 92280
LOCATION NUMBER _____

CLIENT
Name Rodding-Cleaning Service
Address 2585 Nicholson Street Phone (510)357-8875
City San Leandro Zip 94577-4276

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT
Name Hageman Aguiar, Inc. (Gary Aguiar)
3732 Mt Diablo Blvd
Address Suite 372 Phone (510)284-1661
City Lafayette, CA Zip 94549

TYPE OF PROJECT
Well Construction _____ Geotechnical Investigation _____
Cathodic Protection _____ General _____
Water Supply _____ Contamination _____
Monitoring X Well Destruction _____

PROPOSED WATER SUPPLY WELL USE
Domestic _____ Industrial _____ Other _____
Municipal _____ Irrigation _____

DRILLING METHOD:
Mud Rotary _____ Air Rotary _____ Auger X
Cable _____ Other _____

DRILLER'S LICENSE NO. Gregg Drilling 485165

WELL PROJECTS
Drill Hole Diameter 12 in. Maximum _____
Casing Diameter 6 in. Depth 20 ft.
Surface Seal Depth 4 ft. Number 1

GEOTECHNICAL PROJECTS
Number of Borings _____ Maximum _____
Hole Diameter _____ in. Depth _____ ft.

ESTIMATED STARTING DATE June 2, 1992
ESTIMATED COMPLETION DATE June 2, 1992

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

APPLICANT'S SIGNATURE Gary Aguiar Date 5/28/92

Approved

Wyman Hong
Wyman Hong

Date 1 Jun 92

- 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, tremied 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.

SIEVE ANALYSIS

Rodding-Cleaning Service

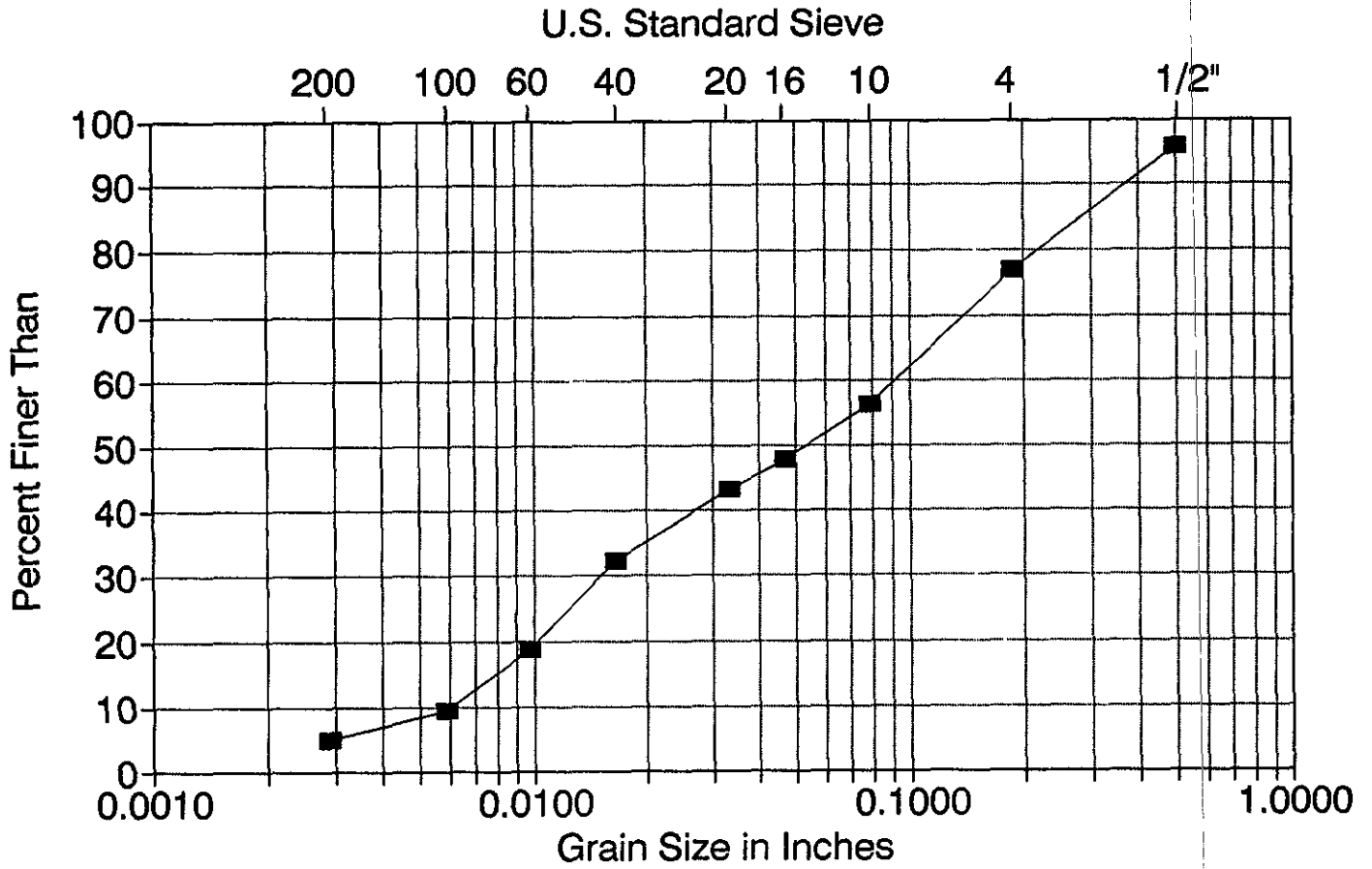
Aquifer Material at 6 feet

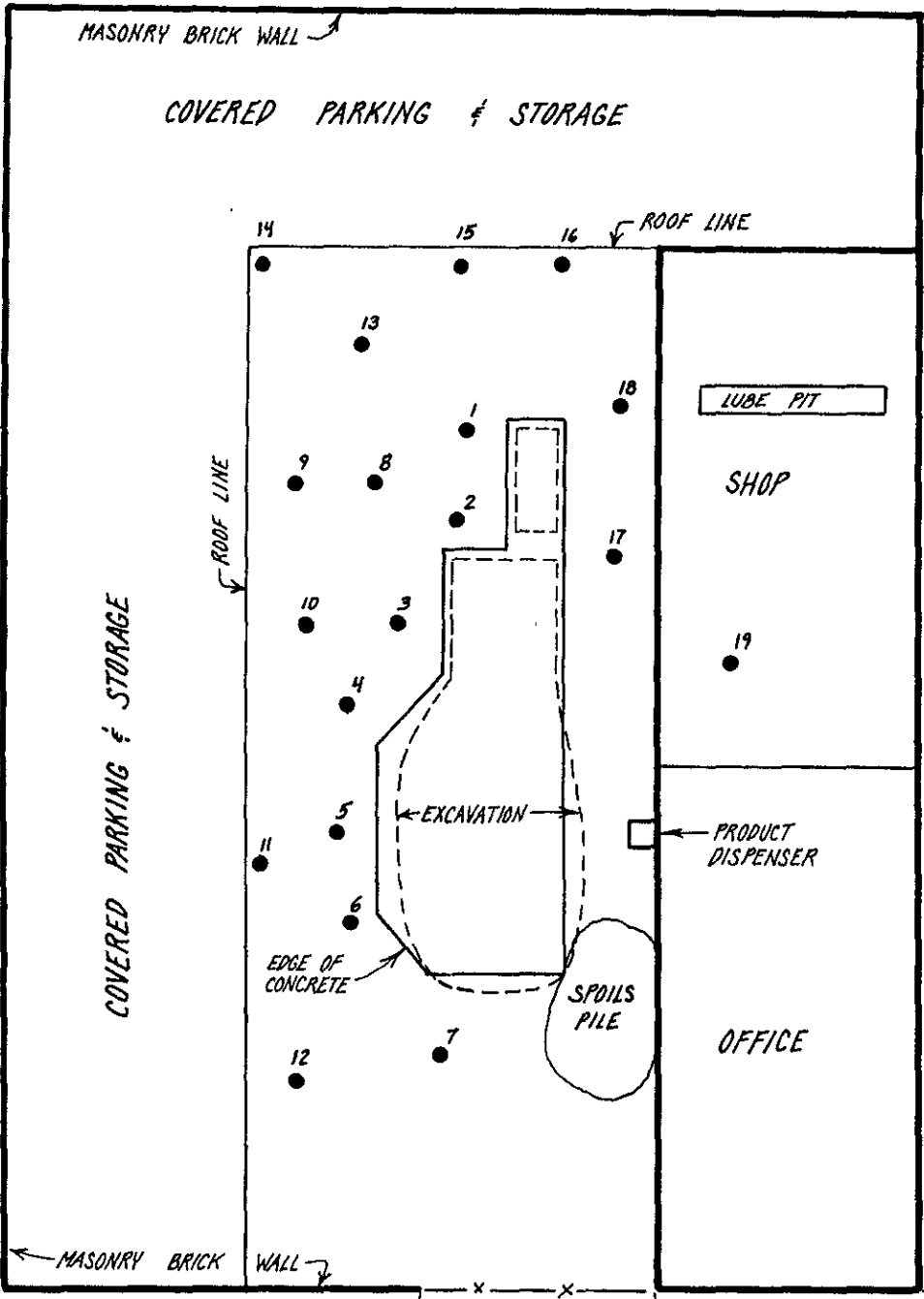
Sieve	Total Wt	Sieve Tare	Soil Wt	Sum	Delta	% Finer
1/2"	461.1	443.0	18.1	18.1	410.0	95.8
4	593.6	513.8	79.8	97.9	330.2	77.1
10	459.9	370.3	89.6	187.5	240.6	56.2
16	456.4	420.9	35.5	223.0	205.1	47.9
20	339.6	320.1	19.5	242.5	185.6	43.4
40	428.6	380.9	47.7	290.2	137.9	32.2
60	327.6	269.9	57.7	347.9	80.2	18.7
100	389.1	349.9	39.2	387.1	41.0	9.6
200	355.2	335.6	19.6	406.7	21.4	5.0
PAN	379.9	379.6	21.4	428.1	***	***

=====
Total Wt: 601.3
Container: 173.4
=====
Sample Wt: 427.9

SIEVE ANALYSIS

RODDING - CLEANING, Aquifer Material at 6 feet





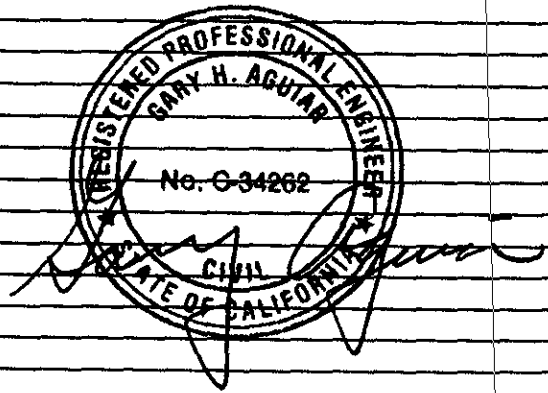
NICHOLSON STREET

NORTH
1" = 20'

LOCATION OF BORING SEE SITE MAP	PROJECT NAME & LOCATION			ST. SAN LEANDRO	
	RODDING - CLEANING, 2585 NICHOLSON			BORING	
	DRILLING METHOD:			B - 1	
	6" SOLID STEM AUGER			SHT	
	CME - 45 DRILL RIG			1 of 1	
	SAMPLING METHOD:			DRILLING	
	2" SPLIT BARREL SAMPLER			START	FINISH
	WITH BRASS LINERS			TIME	TIME
	WATER LEVEL			0745	0800
	TIME			DATE	DATE
DATE			5/15/92	5/15/92	
CASING DEPTH			SCREEN		

SCALE: 1" =

SAMPLER	inches DRIVEN	inches RECOVER	BLOW COUNT per 6 inches	TIME	DEPTH in feet	USCS	SURFACE CONDITIONS:
					0		CONCRETE
					1		DK GREY SAND (FILL/BASE)
					2		DK BRN CLAY (CL), NEARLY DRY, STIFF, OCCASIONAL COARSE SAND
					3		
2" SPLIT	18	16	2 1/8	0750	4		SAME (PETROLEUM ODOR)
					5		BRN CLAYEY SAND (SM), MOIST, VERY FINE GRAIN, MODERATELY CLAYEY
2" SPLIT	18	18	4 1/8 / 12	0800	6		GREY BRN SAND & GRAVEL (GW), SATURATED, LOOSE, SAND FINE TO MEDIUM, GRAVEL MEDIUM GRAIN
					7		
					8		(PETROLEUM ODOR)
					9		
					0		TOTAL DEPTH = 6 1/2' BLS
					1		
					2		
					3		
					4		
					5		
					6		
					7		
					8		
					9		
					0		



LOCATION OF BORING

SEE SITE MAP

PROJECT NAME & LOCATION

RODDING CLEANING, 2585 NICHOLSON ST. SAN LEANDRO

DRILLING METHOD:

6" SOLID STEM AUGER

CME - 45 DRILL RIG

SAMPLING METHOD:

2" SPLIT BARREL SAMPLER

WITH BRASS LINERS

WATER LEVEL

TIME

DATE

CASING DEPTH

SCREEN

BORING

B - 2

SHT

1 of 1

DRILLING

START

TIME

0800

DATE

5/15/92

FINISH

TIME

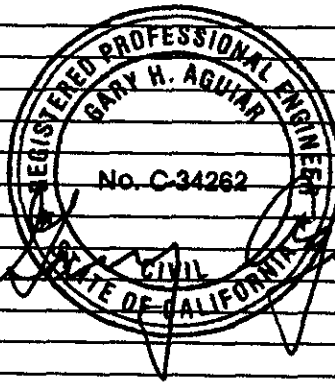
0815

DATE

5/15/92

SCALE: 1" =

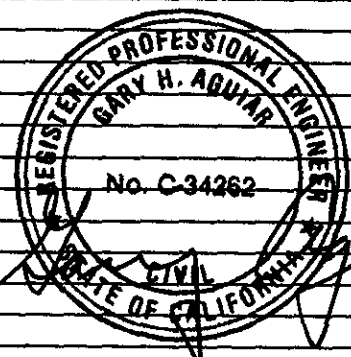
SAMPLER	inches DRIVEN	inches RECOVER	BLOW COUNT per 6 inches	TIME	DEPTH in feet	USCS	SURFACE CONDITIONS:
					0		CONCRETE
					1		DK BRN CLAY (CL), SLIGHTLY MOIST, STIFF, OCCASIONAL SUB-ANGULAR GRAVEL TO 1/2"
					2		
					3		
2" SPLIT	18	18	5/10/8	0807	4		SAME (SLIGHT PETROLEUM ODOR)
					5		
2" SPLIT	18	18	5/8/6	0812	6		GREY BRN CLAYEY SILT (ML), MOIST GREY SAND & GRAVEL (GW), SATURATED, (STRONG GASOLINE ODOR)
					7		
					8		
					9		TOTAL DEPTH = 6 1/2' BLS
					0		
					1		
					2		
					3		
					4		
					5		
					6		
					7		
					8		
					9		
					0		



LOCATION OF BORING SEE SITE MAP		PROJECT NAME & LOCATION RODDING-CLEANING, 2585 NICHOLSON ST. SAN LEANDRO	
DRILLING METHOD: 6" SOLID STEM AUGER CME - 45 DRILL RIG		BORING B-3	
SAMPLING METHOD: 2" SPLIT BARREL SAMPLER WITH BRASS LINERS		SHT 1 of 1	
WATER LEVEL		START	FINISH
TIME		TIME	TIME
DATE		DATE	DATE
CASING DEPTH		SCREEN	
		5/15/92	5/15/92

SCALE: 1" =

SAMPLER	inches DRIVEN	inches RECOVER	BLOW COUNT per 6 inches	TIME	DEPTH in feet	USCS	SURFACE CONDITIONS:
					0		CONCRETE
					1		BRN SAND & GRAVEL (BASEROCK)
					2		
					3		DK BRN CLAY (CL), SLIGHTLY MOIST, SLIGHTLY CRUMBLY
2" SPLIT	18	18	5/8/10	0820	4		
					5		GREY BRN CLAYEY SAND (SM), MOIST, VERY FINE GRAIN, OCCASIONAL GRAVEL TO 1/2"
2" SPLIT	18	18	4/8/12	0825	6		
					7		DK GREY SAND & GRAVEL, SATURATED (STRONG GASOLINE ODOR)
					8		
					9		
					0		TOTAL DEPTH = 6 1/2' BLS
					1		
					2		
					3		
					4		
					5		
					6		
					7		
					8		
					9		
					0		



LOCATION OF BORING
SEE SITE MAP

PROJECT NAME & LOCATION

RODDING - CLEANING, 2585 NICHOLSON ST. SAN LEANDRO

DRILLING METHOD:

6" SOLID STEM AUGER

CME - 45 DRILL RIG

SAMPLING METHOD:

2" SPLIT BARREL SAMPLER

WITH BRASS LINERS

WATER LEVEL

TIME

DATE

CASING DEPTH

SCREEN

BORING

B-4

SHT

1 of 1

DRILLING

START

TIME

08:30

DATE

5/15/92

FINISH

TIME

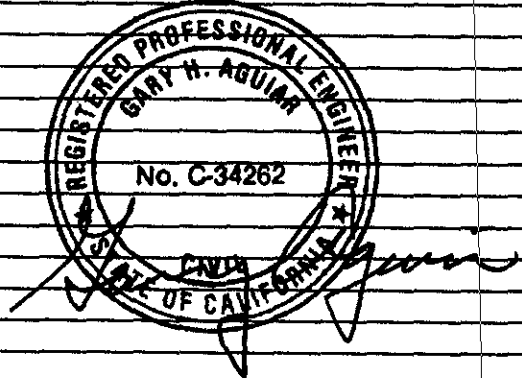
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DATE

5/15/92

SCALE: 1" =

SAMPLER	inches DRIVEN	inches RECOVER	BLOW COUNT per 6 inches	TIME	DEPTH in feet	USCS	SURFACE CONDITIONS:
					0		CONCRETE
					1		BRN SAND & GRAVEL (BASEROCK)
					2		
					3		DK BRN CLAY (CL), NEARLY DRY, STIFF, OCCASIONAL COARSE SAND
2" SPLIT	18	18	4/6/11	0840	4		GREY BRN CLAYEY SAND (SM), MOIST, VERY FINE GRAIN
2" SPLIT	18	18	3/4/7	0845	6		GREY SAND (SP), SATURATED, FINE GRAIN, SLIGHTLY CLAYEY, OCCASIONAL ROUNDED GRAVEL TO 1" (STRONG GASOLINE ODOR)
					7		
					8		
					9		
					10		TOTAL DEPTH = 6 1/2' BLS
					11		
					12		
					13		
					14		
					15		
					16		
					17		
					18		
					19		
					20		



LOCATION OF BORING

SEE SITE MAP

PROJECT NAME & LOCATION

RODDING - CLEANING, 2585 NICHOLSON ST. SAN LEANDRO

DRILLING METHOD:

6" SOLID STEM AUGER

CME - 45 DRILL RIG

SAMPLING METHOD:

2" SPLIT BARREL SAMPLER

WITH BRASS LINERS

WATER LEVEL

TIME

DATE

CASING DEPTH

SCREEN

BORING

B - 5

SHT

1 of 1

DRILLING

START

TIME

0850

DATE

5/15/92

FINISH

TIME

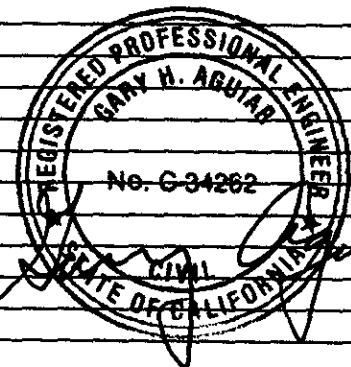
0900

DATE

5/15/92

SCALE: 1" =

SAMPLER	inches DRIVEN	inches RECOVER	BLOW COUNT per 6 inches	TIME	DEPTH in feet	USCS	SURFACE CONDITIONS:
					0		CONCRETE
					1		
					2		DK BRN CLAY (CL), NEARLY DRY, STIFF
					3		
2" SPLIT	18	18	4/5/12	0855	4		SAME (SLIGHT PETROLEUM ODOR)
					5		GREY BRN CLAYEY SAND (SM), MOIST, VERY FINE GRAIN
2" SPLIT	18	18	4/4/3	0900	6		GREY SAND (SP), SATURATED, FINE GRAIN SLIGHTLY CLAYEY
					7		(GASOLINE ODOR)
					8		
					9		TOTAL DEPTH = 6 1/2' BLS
					0		
					1		
					2		
					3		
					4		
					5		
					6		
					7		
					8		
					9		
					0		



LOCATION OF BORING

SEE SITE MAP

PROJECT NAME & LOCATION

RODDING - CLEANING, 2585 NICHOLSON ST. SAN LEANDRO

DRILLING METHOD:

6" SOLID STEM AUGER

CME - 45 DRILL RIG

SAMPLING METHOD:

2" SPLIT BARREL SAMPLER

WITH BRASS LINERS

WATER LEVEL

TIME

DATE

CASING DEPTH

SCREEN

BORING

B - 6

SHT

1 of 1

DRILLING

START

FINISH

TIME

TIME

0900

0915

DATE

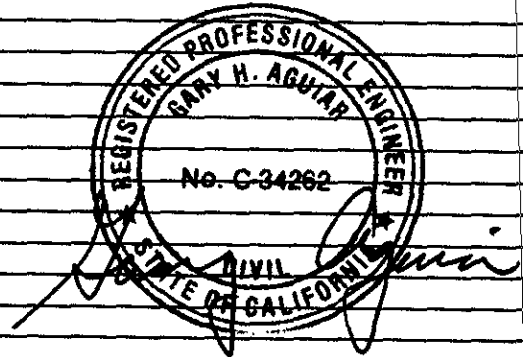
DATE

5/15/92

5/15/92

SCALE: 1" =

SAMPLER	inches DRIVEN	inches RECOVER	BLOW COUNT per 6 inches	TIME	DEPTH in feet	USCS	SURFACE CONDITIONS:
					0		CONCRETE
					1		
					2		DK BRN CLAY (CL), VERY STIFF
					3		
2" SAT	18	18	4/6/10	0907	4		SAME, SLIGHTLY MOIST, VERY STIFF (SLIGHT PETROLEUM ODDOR)
					5		
2" SPLIT	18	0	LOST SAMPLE		6		GREY BRN CLAYEY SAND (SM), MOIST, VERY FINE GRAIN
					7		GREY SAND (SP), SATURATED, FINE GRAIN, SLIGHTLY CLAYEY
			COLLECT GRAB SAMPLE	0915			
					8		
					9		TOTAL DEPTH = 6 1/2' BLS
					0		
					1		
					2		
					3		
					4		
					5		
					6		
					7		
					8		
					9		
					0		



LOCATION OF BORING

SEE SITE MAP

PROJECT NAME & LOCATION

RODDING- CLEANING, 2585 NICHOLSON ST. SAN LEANDRO

DRILLING METHOD:

6" SOLID STEM AUGER

CME - 45 DRILL RIG

SAMPLING METHOD:

2" SPLIT BARREL SAMPLER

WITH BRASS LINERS

WATER LEVEL

TIME

DATE

CASING DEPTH

BORING

B- 7

SHT

1 of 1

DRILLING

START

TIME

0925

DATE

5/15/92

FINISH

TIME

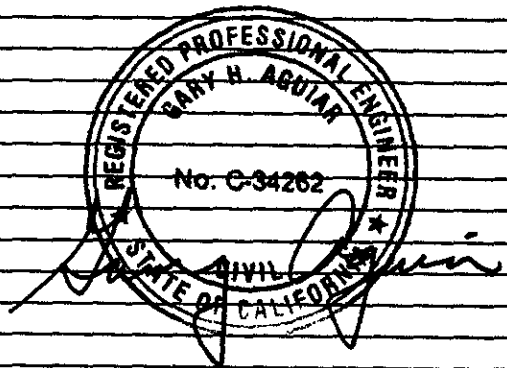
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DATE

5/15/92

SCALE: 1" =

SAMPLER	inches DRIVEN	inches RECOVER	BLOW COUNT per 6 inches	TIME	DEPTH in feet	USCS	SURFACE CONDITIONS:
					0		CONCRETE
					1		
					2		DK BRN CLAY (CL), SLIGHTLY MOIST, STIFF
					3		
2" SPLIT	18	18	4/6/8	0930	4		(NO ODOR)
					5		GREY BRN CLAYEY SAND (SM), MOIST, VERY FINE GRAIN
2" SPLIT	18	18	4/5/6	0935	6		DK GREY SAND (SP), SATURATED, COARSE GRAIN (STRONG GASOLINE ODOR)
					7		
					8		
					9		
					10		TOTAL DEPTH = 6 1/2' BLS
					11		
					12		
					13		
					14		
					15		
					16		
					17		
					18		
					19		
					20		



LOCATION OF BORING

SEE SITE MAP

PROJECT NAME & LOCATION

RODDING - CLEANING. 2585 NICHOLSON ST. SAN LEANDRO

DRILLING METHOD:

6" SOLID STEM AUGER

CME- 45 DRILL RIG

SAMPLING METHOD:

2" SPLIT BARREL SAMPLER

WITH BRASS LINERS

WATER LEVEL

TIME

DATE

CASING DEPTH

BORING

B - 8

SHT

1 of 1

DRILLING

START

TIME

0945

DATE

5/15/92

FINISH

TIME

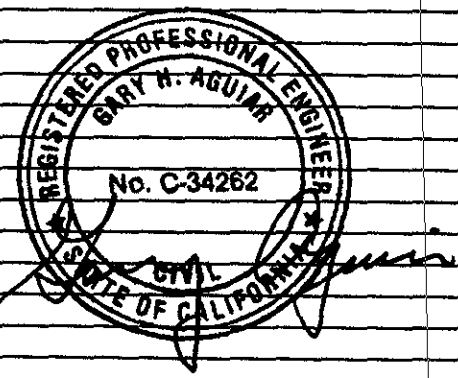
0955

DATE

5/15/92

SCALE: 1" =

SAMPLER	inches DRIVEN	inches RECOVER	BLOW COUNT per 6 inches	TIME	DEPTH in feet	USCS	SURFACE CONDITIONS:
					0		CONCRETE
					1		GREY SAND (BASE)
					2		DK BRN CLAY (CL), STIFF
					3		
					4		SAME, SLIGHTLY MOIST (SLIGHT PETROLEUM ODOR)
2" SPLIT	18	18	4/6/8	0950	5		GREY BRN CLAYEY SAND (SM), MOIST VERY FINE GRAIN
2" SPLIT	18	18	3/3/5	0955	6		DK GREY CLAYEY SAND & GRAVEL (GW), SATURATED, SLIGHTLY CLAYEY (PETROLEUM ODOR)
					7		
					8		
					9		
					0		TOTAL DEPTH = 6 1/2' BLS
					1		
					2		
					3		
					4		
					5		
					6		
					7		
					8		
					9		
					0		



LOCATION OF BORING

SEE SITE MAP

PROJECT NAME & LOCATION

RODDING - CLEANING, 2585 NICHOLSON ST. SAN LEANDRO

DRILLING METHOD:

6" SOLID STEM AUGER

BORING

B - 9

CME - 45 DRILL RIG

SHT

1 of 1

SAMPLING METHOD:

2" SPLIT BARREL SAMPLER

DRILLING

WITH BRASS LINERS

START

FINISH

WATER LEVEL

TIME

DATE

TIME

1000

DATE

TIME

1015

DATE

CASING DEPTH

SCREEN

5/15/92 5/15/92

SCALE: 1" =

SAMPLER	inches DRIVEN	inches RECOVER	BLOW COUNT per 6 inches	TIME	DEPTH in feet	USCS	SURFACE CONDITIONS:
					0		CONCRETE
					1		DK BRN CLAY (CL), NEARLY DRY, STIFF
					2		
					3		
					4		SAME, SLIGHTLY MOIST
2" SPLIT	18	18	5/6/10	1005	4		THIN SANDY LAYER
					5		
2" SPLIT	18	18	3/3/3	1012	6		GREY BRN CLAYEY SAND (SM), MOIST, VERY FINE GRAIN
					7		GREY CLAYEY SAND & GRAVEL (GC), SATURATED, (GASOLINE ODOR)
					8		
					9		
					10		TOTAL DEPTH = 6 1/2' BLS
					11		
					12		
					13		
					14		
					15		
					16		
					17		
					18		
					19		
					20		

