HYDROGEOLOGICAL INVESTIGATION RESULTS REPORT

E.C. Buehrer Associates, Inc.
1061 Eastshore Highway
Berkeley, California 94710

Aegis Project No. 90-007

June 12, 1990

Prepared By:
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1.0 INTRODUCTION

This report presents the results of the subsurface investigation at the E.C. Buehrer Associates, Inc. site located at 1061 Eastshore Highway, Berkeley, Alameda County, California. The subsurface investigation was requested by E.C. Buehrer Associates, Inc. in response to the presence of petroleum hydrocarbons in water beneath the site during a tank closure.

1.1 Purpose

The purpose of the investigation was as follows:

- Characterize the site geologic and hydrogeologic conditions.
- Assess the presence of petroleum hydrocarbons in the soils beneath the site.
- Determine if petroleum hydrocarbons have impacted ground water beneath the site.
- Determine if the contaminant plume from the Alcon property has moved westward and offsite onto the E.C. Buehrer Associates, Inc. property.
- Evaluate the need for further assessment and/or mitigation of petroleum constituents beneath the site.
- Prepare a factual report presenting assessment results including recommendations regarding the need for additional site assessment work and/or remediation.

1.2 Scope Of Work

The work plan and methods of work are presented in the Hageman - Schank, Inc. Proposal for Subsurface Investigation dated November 16, 1989. On March 19, 1990 Aegis Environmental Consultants, Inc. submitted a modification to the Hageman - Schank, Inc. work plan. The modified work plan included one additional monitoring well and three near-surface soil samples taken along the easterly boundary of the site. The monitoring wells and sample locations are presented on Figure 2.

- On April 24 and 25, 1990, a total of four soil borings were drilled at the site. All four of the soil borings were converted to 4 inch diameter ground water monitoring

wells. The soil boring logs are presented in Appendix A, and monitoring well construction details are presented in Appendix B.

- Soil samples were collected from the soil borings at five-foot intervals to classify the soils and screen for the presence of petroleum constituents. The soils were screened for the presence of organic vapors with a photoionization detector according to methods described in Section 7.0 of this report.

- Based upon the results of soil classification and screening one or more soil samples from each soil boring was submitted to a State certified laboratory and analyzed for petroleum constituents. The following E.P.A. methods were utilized; (1) oil and grease (TPH) E.P.A. method 9071, (2) cadmium, zinc and chromium E.P.A. method 6010, (3) lead E.P.A. method 7421, (4) for halogenated volatile organics E.P.A. methods 8010, GC/FID/5030 gasoline, GC/FID/3550 diesel and motor oil, (5) for BTEX E.P.A. method 602, (6) for petroleum constituents (water) E.P.A. method 601, (7) for PCB's E.P.A. method 8080, and (8) for volatile organic priority pollutants (TCE, solvents, etc.) E.P.A. method 8260.

- After development of the monitoring wells the riser pipe elevations were surveyed and referenced to a datum by a licensed California surveyor.

- Water samples were recovered from each of the monitoring wells and submitted to a state certified laboratory to be analyzed for petroleum constituents.

- Three near-surface soil samples were collected along the eastern boundary of the E.C. Buehrer Associates, Inc. site. The three samples were collected in order to determine if the contaminant plume from the adjacent Alcon property has migrated onto the E.C. Buehrer Associates, Inc. property. Surface samples SB-1 and SB-2 were analyzed for volatile organic priority pollutants (TCE, solvents, etc.) by E.P.A. method 8260, and sample SB-3 was analyzed for PCB's utilizing E.P.A. method 8080. Sample locations are presented on Figure 2.

2.0 BACKGROUND INFORMATION

2.1 Site Location

The E.C. Buehrer Associates, Inc. site is located at 1061 Eastshore Highway, Berkeley, Alameda County, California. The site has been occupied by the current owners for several years. Topographic site map is presented on Figure 1.

2.2 Site Description

The site facilities consist of two buildings, one 1000 gallon single wall underground gasoline tank, and one 550 gallon double-wall, above ground, waste oil tank. In February 1988, one 300 gallon underground waste oil tank and one 1000 gallon underground gasoline tank were permitted and removed from the site. The large building along the western boundary of the site is utilized for offices (about 15%) and work bays (about 85%) for equipment repair. The small building along the eastern boundary of the site is utilized as a welding and machine shop. The site is constructed on Bay Fill. The site map is presented on Figure 2.

2.3 Adjacent Land Uses

The site is located in an industrial area of Berkeley, California. Adjacent to the site in an easterly direction is an open area that was formerly an Alcon Aluminum Metals Plant; to the north there exists a sprinkler and plumbing supply business; to the south a bus repair shop; and the Eastshore Highway (First Street) is located on the west boundary of the E.C. Buehrer property.

2.4 Previous Investigations and Leak History

On February 18, 1988, a 300 gallon steel, single wall, underground waste oil tank and a 1000 gallon steel, single wall, underground gasoline storage tank were excavated and removed from the site. Reportedly, in December 1987, the 300 gallon waste oil tank failed a precision tank test. The failed test, in part, prompted the decision to remove the waste oil tank. Reportedly, the 1000 gallon gasoline storage tank had not been in use for the previous 2 to 3 years. There are no records that a tank tightness test was ever performed on the 1000 gallon gasoline tank. The excavation and tank pull was conducted by Willis Brothers Excavating, Pacheco, California. On 3-14-88 the tank pull samples were analyzed by Trace Analysis Laboratory, Inc. (T.A.L.) of Hayward, California. It appears that high groundwater was encountered during the tank removal since pit water samples were taken in lieu of soil samples. The results of the analyses performed on the water samples are as follows:

Tank pull - 1000 gallon gasoline storage tank.

E.P.A. methods 8015 and 8020 modified.

Water sample at 1 foot beneath gasoline tank

Benzene	180 PPB
Toluene	23 PPB
Xylenes	270 PPB
Volatile Hydrocarbons	2000 PPB

E.P.A. method 8010

1,1 - Dichloroethane	18 PPB
Dichloromethane	10 PPB
1,1,2,2 - Tetrachlorethane	3.4 PPB
Trans. 1,2 - Dichloroethylene	6.5 PPB
1,1,1 - Trichloroethane	28 PPB

Tank Pull - 300 gallon waste oil tank

E.P.A. methods 503E and 8020 modified

Water sample 1 foot beneath tank

Method 503 E	Detection Limit	Concentration
Oil and grease	1000	17000 PPB
Method 8020		
Benzene	3	100 PPB
Toluene	5	9.9 PPB
Xylenes	9	240 PPB
Trans - 1,2 Dichloroethylene	0.5	6.5 PPB

Dichloromethane	0.5	10 PPB
1,1,2,2, Tetrachloroethane	0.5	3.4 PPB
1,1,1 - Trichlorethane	0.5	28 PPB
1,1 - Dichloroethane	0.5	18 PPB

2.5 Hydrogeology and Stratigraphy

Based on surface topography and various regional shallow groundwater maps the shallow groundwater beneath the site is expected to flow westerly from the Berkeley Hills and the San Pablo Ridge (area of groundwater recharge) toward Cordonices Creek and the San Francisco Bay (area of discharge). The soils beneath the site consist of Bay fill materials (10' ±), quaternary alluvium consisting of clays, silts, sands and gravels which overlay Franciscan clays, silts, and sandstone bedrock (Geologic map of California, San Francisco sheet, Division of Mines and Geology, 1980). Top of the first groundwater was encountered at about 3 and one-half feet below ground surface. Due to local topography, and location of the site, the tidal influence on the shallow groundwater is unknown at this time. The placement of the four monitoring wells was based upon the assumption of a westerly gradient, however, water level data from the four wells will determine a more precise flow direction of the shallow groundwater beneath the site. A ground water gradient map is presented on Figure 3 and the cross-section map is presented on Figure 4.

3.0 PROJECT RESULTS

On April 24 and 25, 1990, a total of four soil boring were advanced at the locations shown on Figure 2. Depths of the soil borings, sample descriptions and sample intervals are shown on boring logs presented in Appendix A. All four of the soil borings were completed as groundwater monitoring wells. Monitoring well construction details are presented in Appendix B.

A total of four soil samples, collected from the soil borings, were submitted to a State certified laboratory for analyses. The four soil borings were completed as monitoring wells, and a water sample was collected from each well and submitted to a State certified laboratory for analyses. In addition, three near-surface soil samples (SB-1, SB-2, SB-3) were collected along the eastern boundary of the E.C. Buehrer Associates, Inc. property. The three near-surface soil sample locations and monitoring well locations are shown on Figure 2.

3.1 Subsurface Conditions

Soil types recovered from the soil borings consist of fill materials, dark brown to black clays, black organic mud, and brown clays with gravels inclusions. A saturated zone was encountered at about 3 1/2 feet below grade. The location of a generalized cross-section A-A' is presented in Figure 2. Cross section A-A' is presented in Figure 4.

3.2 Soil Chemical Analyses Results

Soil samples from each boring were submitted for chemical analysis based on odor observations, color, and photoionization detector (PID) screening results.

The results of soil sample analyses indicates the presence of oil and grease at levels ranging from 450 P.P.M. (MW-1) to 6400 P.P.M. (MW-2), motor oil constituents ranging from non-detect (MW-2) to 1700 P.P.M. (MW-4), diesel constituents ranging from 1.9 P.P.M. (MW-2) to 900 P.P.M. (MW-4), and gasoline constituents ranging from 1 P.P.M. (MW-3) to 130 P.P.M. (MW-4). The zinc concentration level range from 70 P.P.M. (MW-2) to 520 P.P.M. (MW-1). The soil samples were collected from a point opposite the ground water interface at about 3 1/2' to 5' below ground surface.

In addition to the petroleum hydrocarbon constituents in the soil, the following halogenated organics were detected (in parts per billion range). 1.1 Dichloroethane = 5.6 P.P.B., tetrachloroethane = 4.6 P.P.B., trichloroethane = 4.0 P.P.B., and chlorobenzene = 0.90 P.P.B.

There are no records available that indicate an on-site source for the diesel constituents in the soil.

Analyses of surface soil samples (SB-1, SB-2, SB-3) along the east boundary of the E.C. Buehrer property indicate the following contaminant levels; soil sample SB-3 was analyzed for Polychlorinated Biphenyls (E.P.A. method 8080) and the analyses indicated Aroclor 1254 PCB constituent levels at 300 PPB (.30 PPM).

Soil samples SB-1 and SB-2 were analyzed for volatile organic priority pollutants (TCE's, solvents, etc.) by E.P.A. method 8260 and the analytical data indicates that, excepting toluene, all of the compounds analyzed indicate non-detectable concentrations. Toluene concentrations in SB-1 and SB-2 are 2 PPB and 4 PPB respectively.

The soil analytical results are summarized in Table 1. Copies of the certified analytical results are included in Appendix C.

3.3 Water Analyses Results

On April 25, 1990, ground water samples were collected from the four monitoring wells. Ground water samples analyzed for gasoline by E.P.A. method GC-FID/5030, for BTEX by E.P.A. method 602, and for diesel and motor oil by GC FID/3510. Benzene constituents in the water range from non-detect in MW-2 to 29 P.P.B. in MW-3, ethylbenzene non-detect in MW-2 to 1.0 P.P.B. in MW-1, toluene non-detect in MW-2 to 3.4 P.P.B. in MW-1, xylenes non-detect in MW-2 to 5.8 P.P.B. in MW-1. Table 2 summarizes the ground water analytical results. Copies of the certified analytical results are included in Appendix C.

4.0 DISCUSSION

4.1 Petroleum Hydrocarbon Constituents In Soil

As shown on the generalized cross section the soils beneath the site are heterogeneous with a diversity which includes fill soil, gravels, black mud, and clays. Petroleum hydrocarbon constituents indicated by odor and analytical results appear to be concentrated in the interval between the surface and the ground water interface at about 3 1/2 feet. Bore holes (MW-2, MW-3, MW-4) located north and west of the welding and machine shop reveal elevated petroleum constituents as follows; oil and grease 4300-6400 P.P.M., motor oil 200-1700 P.P.M., diesel 30-900 P.P.M. and gasoline 1-130 P.P.M. The primary source of the oil and grease, motor oil, and gasoline constituents in the soil appears to have an on-site source, however, the source of the diesel (30-900 P.P.M.) constituents are unknown. On February 18, 1988, a 300 gallon underground waste oil tank and a 1000 gallon underground gasoline tank were excavated and removed from the site. At the present time the site facilities consist of one 1000 gallon underground gasoline tank and one 550 gallon, above ground, waste oil tank. There are no records available that indicate an on-site source for the diesel constituents in the soil. The analytical data revealed the following diesel constituents in the soil; MW-1 - 33 P.P.M., MW-2 - 1.9 P.P.M., MW-3 - 30 P.P.M., and MW-4 - 900 P.P.M. An oil and grease ISO-concentration contour map is presented on Figure 5.

The oil and grease, motor oil, and diesel constituent concentrations appear to be above action levels in the southwest portion of the E.C. Buehrer Associates, Inc. site.

In order to check for the possible migration of contaminants from the adjacent Alcon site, three surface samples (SB-1, SB-2, SB-3) were taken along the eastern boundary of the E.C. Buehrer property. Surface samples SB-1 and SB-2 were analyzed for volatile organics (E.P.A. method 8260) however, all compounds revealed non-detectable concentrations with the exception of toluene which indicated concentrations of 2 P.P.M. and 4 P.P.M. respectively. These toluene concentrations are below action level. Surface sample SB-3 was analyzed for PCB's utilizing E.P.A. method 8080. The analytical data for SB-3 indicates a 300 P.P.B. (.30 P.P.M.) concentration for PCB's which is below action level. Sample locations are presented on Figure 2, and analytical data is presented in Tables 1 and 2.

4.2 Petroleum Hydrocarbon Constituents In Water

Low levels of petroleum constituents were present in the ground water. Benzene constituents range from non-detectable in MW-2 to 29 P.P.B. in MW-3, ethylbenzene constituents range from non-detectable in MW-2 to 1.0 P.P.B. in MW-1, toluene constituents range from non-detectable in MW-2 and MW-4 to 3.4 P.P.B. in MW-1, and xylenes range from non-detectable in MW-2 to 5.8 in MW-1.

The site is located about 1400 feet east of the San Francisco Bay, and additional ground water sampling events will be needed to determine the tidal influence, salinity, and beneficial use for ground water.

5.0 CONCLUSIONS

- A zero line of soil and ground water contamination beneath the site has not been defined.
- Petroleum hydrocarbon constituents in excess of action levels are present beneath the site. Additional site assessment work will be necessary for plume identification. Ground water quality, salinity, and beneficial use will be determined in the second phase of the site assessment work.
- The maximum vertical extent of petroleum hydrocarbon constituents in the soil appears to be from the surface down to the ground water interface at about 3 1/2' to 5 feet.

- The horizontal extent of petroleum constituents in the soil remains undefined. The highest oil and grease concentrations were identified in MW-2 (6400 P.P.M.) which is down-gradient (westerly) from the machine shop and underground tank area. The highest diesel concentrations were identified in MW-4 (900 P.P.M.) which is northeast of the machine shop. The oil and grease contaminants increase in a westerly direction and the ground water plume may extend off-site.

6.0 RECOMMENDATIONS

- Installation of four additional monitoring wells as shown on Figure 6. The additional monitoring wells will provide information for plume definition and evaluation of the possible off-site extent of petroleum constituents.

- Development and sampling of the four new monitoring wells (MW-5, MW-6, MW-7, MW-8) and the sampling of the four existing monitoring wells (MW-1, MW-2, MW-3, MW-4).

- Submit soil and ground water samples to a California-certified laboratory to be analyzed for BTEX, T.P.H., diesel, motor oil, and oil and grease.

- Results of these tasks will be submitted in a Phase II site assessment report. Remediation measures at the site for both soil and ground water (if needed) will be discussed in a Remedial Action Plan Report that will be submitted after or concurrently with the Phase II Site Assessment Report.

7.0 METHODS AND PROCEDURES

7.1 Drilling and Soil Sampling

A CME 55 drilling rig equipped with 10-inch-ID hollow-stem augers was used to drill the 4 soil borings at the site. Prior to commencement of work at the site, and after completion of each soil boring, all sampling and drilling equipment was cleaned with a portable steam cleaner. A modified California split-barrel sampler containing three internal brass liner tubes (each six inches long and two inches in diameter) was used to extract soil samples from the soil borings. The sampler was advanced 18 inches into the undisturbed soils ahead of the auger by driving it with a 140-pound rig-operated hammer. Upon retrieval, one brass tube was sealed with aluminum foil and a plastic cap, labeled with a unique sample

with aluminum foil and a plastic cap, labeled with a unique sample number and sample information, placed in a "zip-lock" plastic bag and packed in a cooler containing ice for later shipment to a California-certified laboratory. One sample from each sampler was extracted and placed in a sealed jar until completion of drilling activities. A total of 8 soil samples were collected from soil borings at the site.

Samples placed in jars were screened for total organic vapors by utilizing a portable photoionization detector to sample the head space in each jar. Based on this screening information, a total of 4 soil samples were selected for chemical analysis.

7.2 Soil Classification

All soil samples were classified by a geologist in accordance with the United Soil Classification System.

7.3 Monitoring Well Installations and Development

Monitoring wells were installed by placement of 4-inch-diameter blank PVC casing and 4-inch-diameter PVC well screen with 0.10 slot size inside the 10-inch-ID hollow-stem augers. The gravel pack was poured down the hollow-stem augers in two-foot-thick increments after which the hollow-stem augers were pulled approximately two feet from the borehole. This process continued until the gravel pack had been placed adjacent ot the well screen and extended about two feet above the top of the screen. A two-foot-thick bentonite seal, was then placed by the same process above the well screen using bentonite pellets. After placement of the bentonite seal the augers were pulled from the borehole and the annular space between the well casing and hole was sealed with a cement-bentonite gout to the ground surface. Each well was fitted with a PVC cap and a lockable protective plastic well cover. Monitoring well completion diagrams are presented in Appendix B.

All monitoring wells were developed by bailing a minimum of 12 gallons from each well. During development, specific conductance, pH, and temperature of the developed water was recorded. All developed water was placed in steel drums on site.

7.4 Ground Water Sampling

Following development of each well, and after a minimum of an additional three-wetted-casing volume had been removed from each well, ground water samples were collected with a laboratory cleaned teflon bailer. Measurements of pH, specific conductance, and

temperature were made after the removal of each wetted casing volume. Ground water samples were appropriately labeled, chain-of-custody forms completed, and stored on ice from the time of collection through the time of delivery to a California-certified laboratory.

7.5 Water-Level Measurements

Following well development and sampling, in order to allow ample time for water levels to stabilize, water levels were measured by means of an electrically operated water-level indicator and recorded to the nearest 0.01 foot.

TABLE 1

SOIL ANALYTICAL RESULTS

Soil Boring	Depth	Gas	Diesel	Motor Oil	Oil and Grease	1.1 Dichloroethane	Tetrachloroethene	Trichloroethene
MW-1	5	1.4 PPM	33 PPM	160 PPM	450 PPM	ND	ND	
MW-2	5	ND	1.9 PPM	ND	6,400 PPM	ND	ND	
MW-3	5	1.0 PPM	30 PPM	200 PPM	4700 PPM	ND	ND	
MW-4	3	130 PPM	900 PPM	1700 PPM	4300 PPM	5.6 PPM	4.6 PPM	4.0 PPM

METALS

Soil Boring	Depth	Cadmium	Chromium	Lead	Zinc
MW-3	5'	ND	36 PPM	9.3 PPM	87 PPM
MW-4	3'	ND	69 PPM	38 PPM	190 PPM

POLYCHLORINATED BIPHENYLS (PCB's)

Soil Sample	Depth	Aroclor 1254
SB-3	Near surface at about 2'	300 PPB

ND = Not Detected
PPM = Parts per million
PPB = Parts per billion

TABLE 2

WATER ANALYTICAL RESULTS

				BETX			
Soil Boring	Gasoline	Diesel	Motor Oil	Benzene	Ethylbenzene	Toluene	Xylenes
MW-1	0.26 PPM	0.24 PPM	ND	3.5 PPB	1.0 PPB	3.4 PPB	5.8 PPB
MW-2	0.21 PPM	0.22 PPM	ND	ND	ND	ND	ND
MW-3	0.33 PPM	0.23 PPM	ND	29 PPB	ND	0.6 PPB	1.3 PPB
MW-4	0.22 PPM	0.26 PPM	0.87 PPM	2.1 PPB	0.9 PPB	ND	3.9 PPB

ND = Not Detected
PPM = Parts per million
PPB = Parts per billion

8.0 REMARKS/SIGNATURES

The interpretations and conclusions contained in this report represent our professional opinions. These opinions are based on currently accepted geological and engineering practices in use at this time and for this specific site. Other than this, no warranty is implied or intended.

AEGIS ENVIRONMENTAL CONSULTANTS, INC.

This report was reviewed by:

_____
Brian Garber
Contract Manager

Date: _____

This report was prepared by:

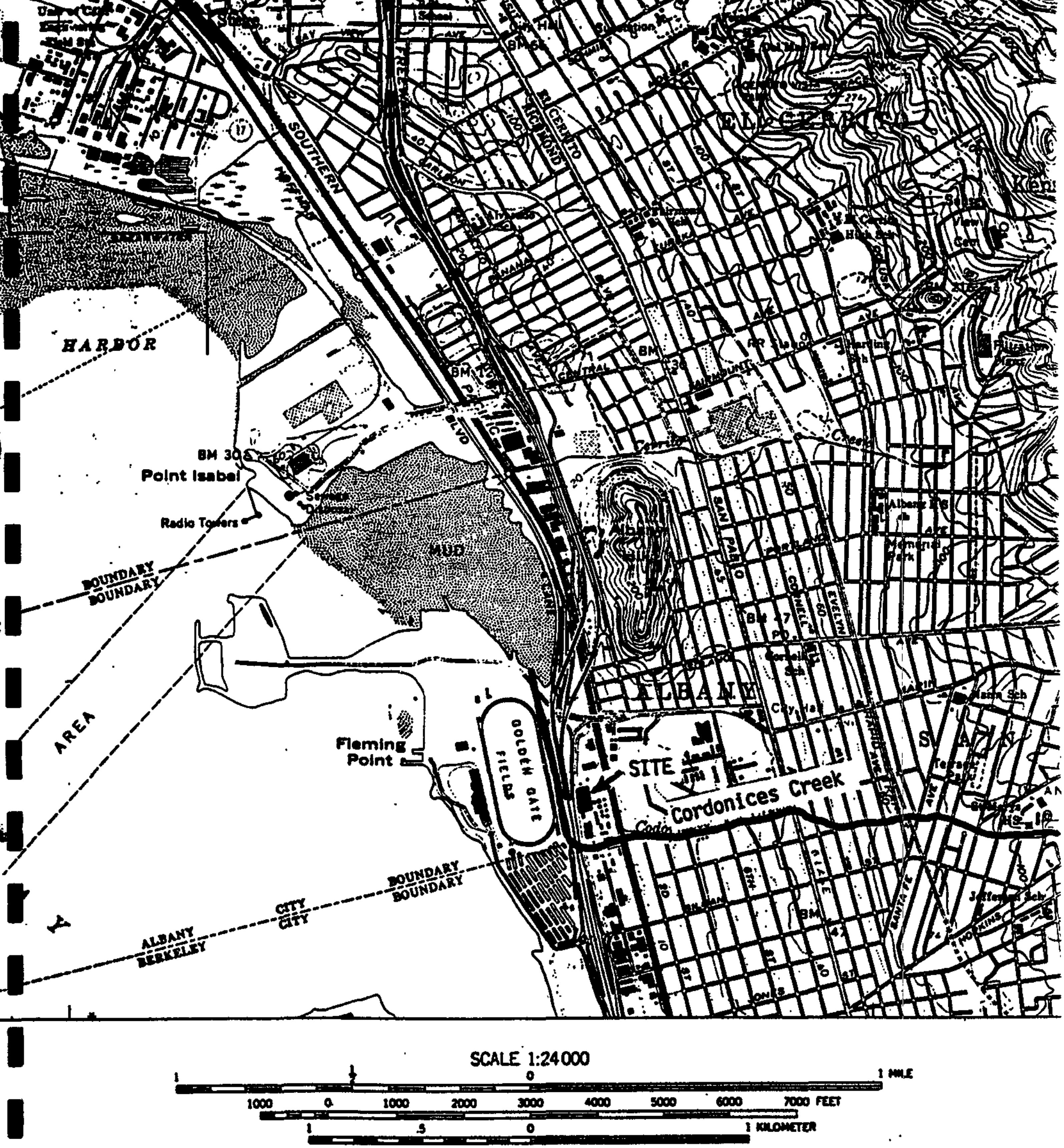
The work described herein will be performed under the direct Supervision of a State of California registered professional geologist:

Pat Wright
Pat Wright
Registered Geologist #529

Date: 7-9-90

APPENDIX A

Figures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BM 30
Point Isabel
Radio Towers
BOUNDARY
MUD
AREA
Fleming
Point
GOLDEN GATE FIELDS
SITE
Cordonices Creek
ALBANY
BERKELEY
CITY
BOUNDARY
SOUTHERN
PACIFIC
CENTRAL
FAIRMOUNT
SAN PABLO
CORNELL
EVELYN
SANTA FE
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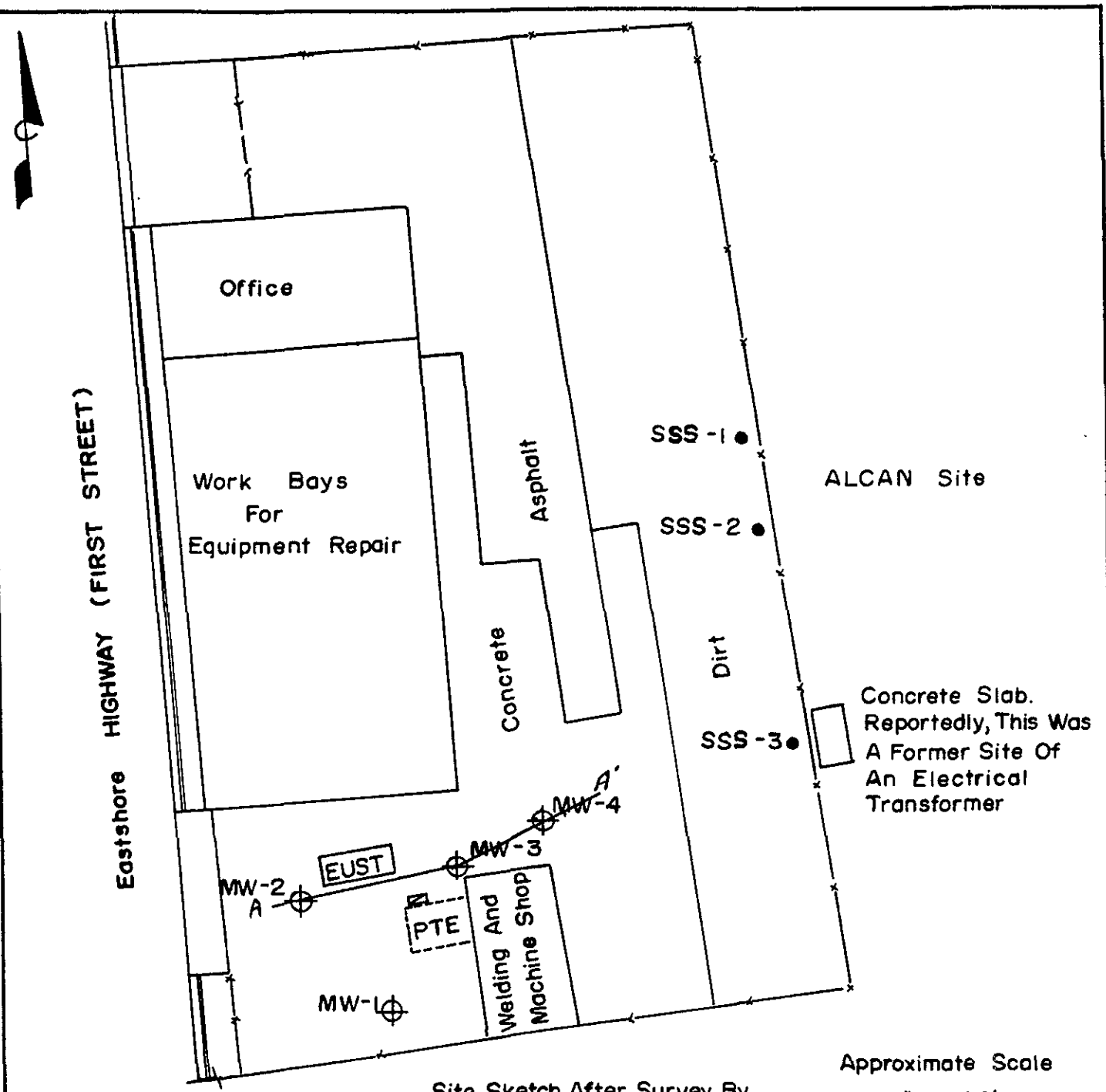
1 .5 0 1 KILOMETER

FIGURE 1.



Site Sketch After Survey By
Tom O. Morrow, Inc.
May, 1990

Approximate Scale
1" = 40'
0 40

LEGEND

- ⊕ Monitoring Well
- o Surface Soil Sample
- ▭ Dispenser

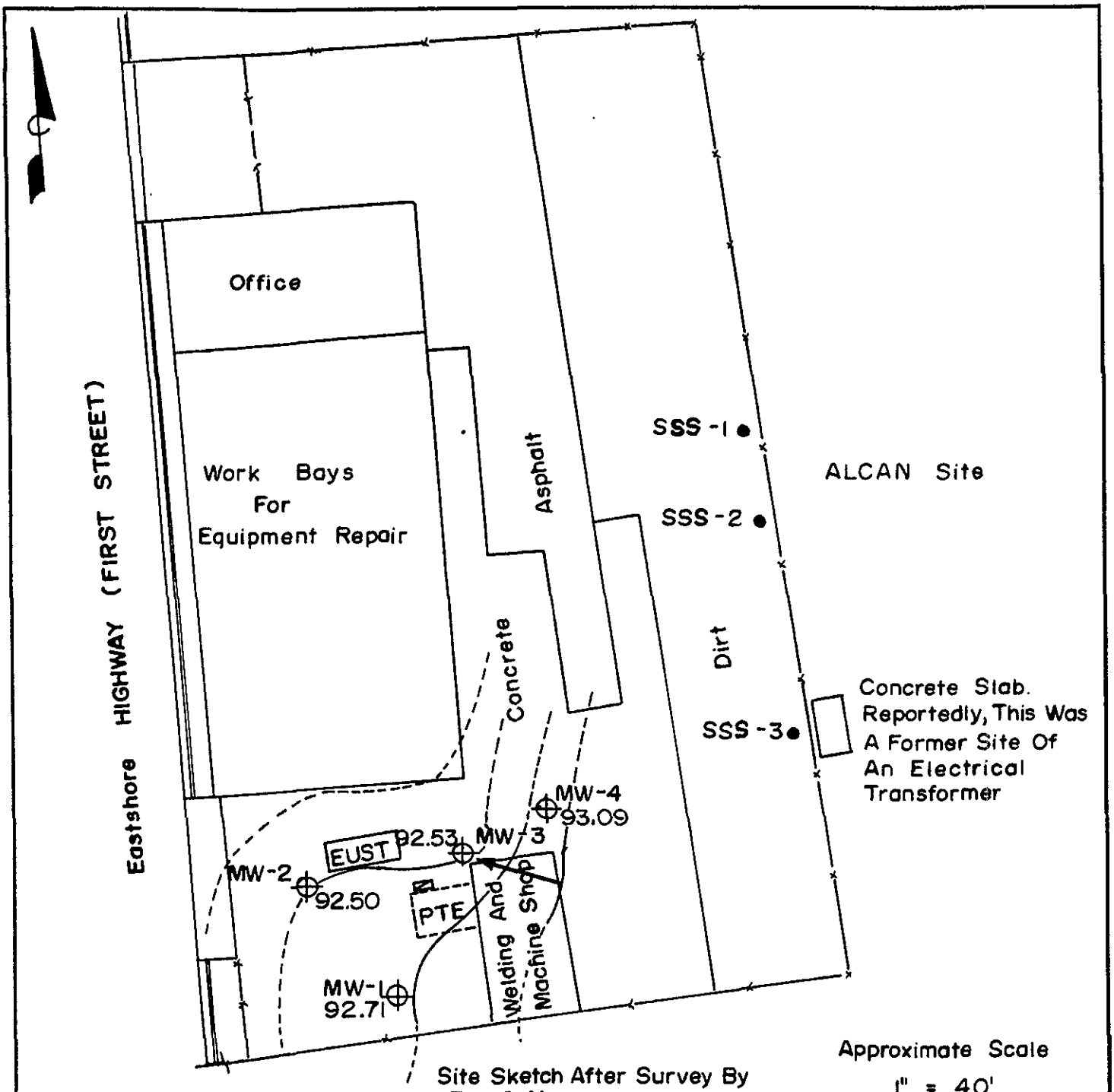
NOTE

PTE = Previous Tank Excavation
EUST = Existing Underground Storage Tank

FIGURE 2
SITE MAP
E C Buehrer Associates, Inc.
1061 Eastshore Highway
Berkeley, Ca.

AEGIS Job No. 90-007

DRAWN BY: Ed Bernard **DATE: May 11, 1990**
REVIEWED BY: **DATE:**



LEGEND

- Monitoring Well
- Surface Soil Sample
- Dispenser
- Direction Of Ground Water Flow

NOTE

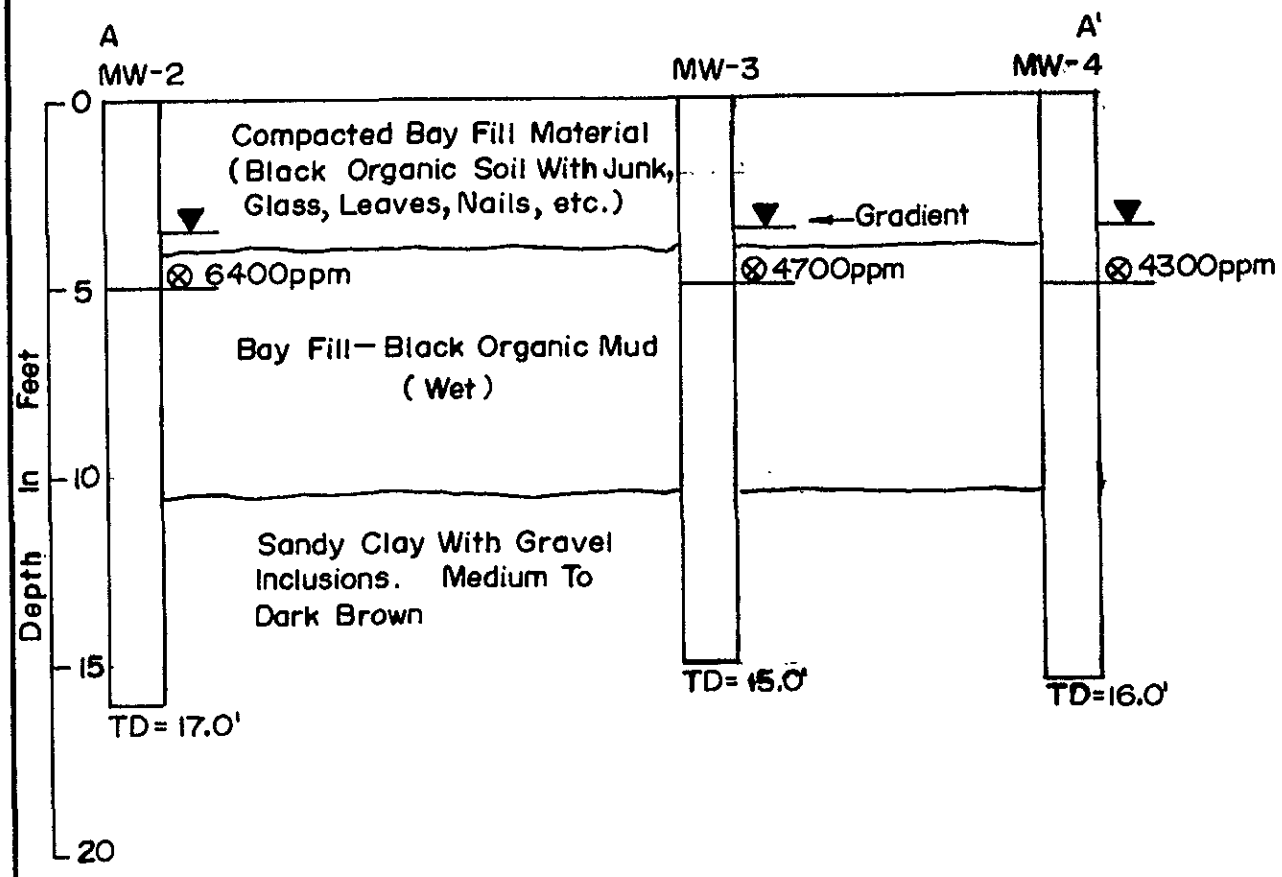
PTE = Previous Tank Excavation

EUST = Existing Underground Storage Tank

FIGURE 3
GROUND WATER GRADIENT MAP
E C Buehrer Associates, Inc.
1061 Eastshore Highway
Berkeley, Ca.

AEGIS Job No. 90-007

DRAWN BY: Ed Bernard DATE: May 11, 1990
REVIEWED BY: DATE:



LEGEND

⊗ Oil and Grease

▼ Static Water Level

← Gradient Direction Of Ground Water Flow

SCALE

Horizontal 1" = 15'

Vertical 1" = 5'

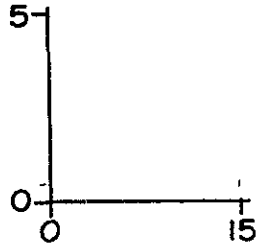
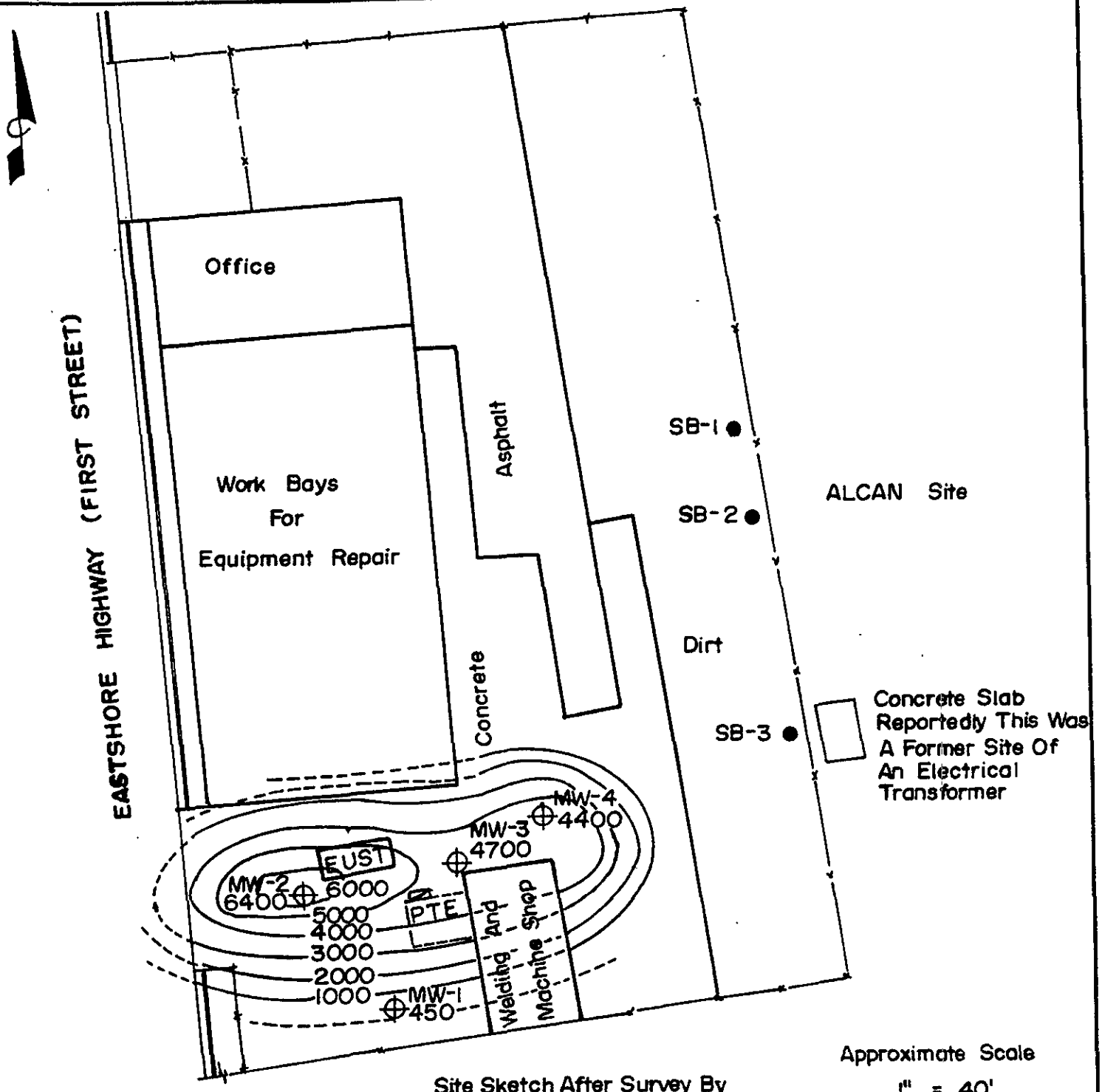


FIGURE 4
CROSS SECTION A-A'
E. C. Buehrer Associates, Inc.
1061 Eastshore Highway
Berkeley, Ca.

AEGIS Job No. 90-007

DRAWN BY: Ed Bernard DATE: May, 30, 1990
REVIEWED BY: DATE:



Site Sketch After Survey By
Tom O. Morrow, Inc.
May, 1990

Approximate Scale
1" = 40'
0 40

LEGEND

⊕ MW-1 450	Monitoring Well Concentration Of Oil And Grease Constituents In ppm
●	Soil Boring
▨	Dispenser

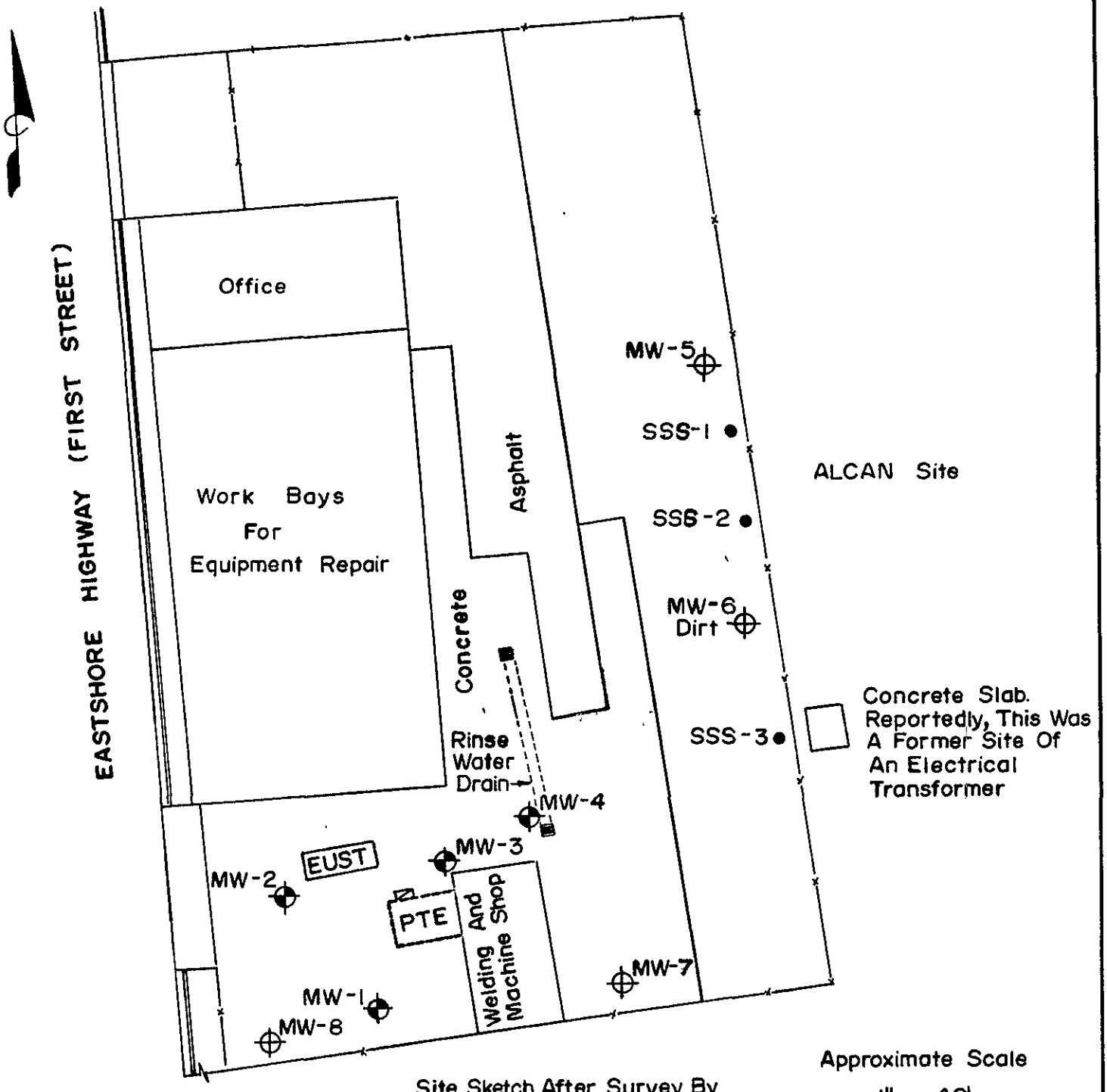
NOTE

ppm = Parts Per Million
PTE = Previous Tank Excavation
EUST = Existing Underground Storage Tanks

FIGURE 5
OIL & GREASE ISO-CONCENTRATION CONTOUR MAP APRIL 25, 1990
E.C.Buehrer Associates, Inc.
1061 Eastshore Highway
Berkeley, Ca.

AEGIS Job No. 90 - 007

DRAWN BY: Ed Bernard **DATE: May 31, 1990**
REVIEWED BY: **DATE:**



Site Sketch After Survey By
Tom O. Morrow, Inc.
May, 1990

LEGEND

- Monitoring Well
- Surface Soil Sample
- Dispenser
- Monitoring Well (Proposed)

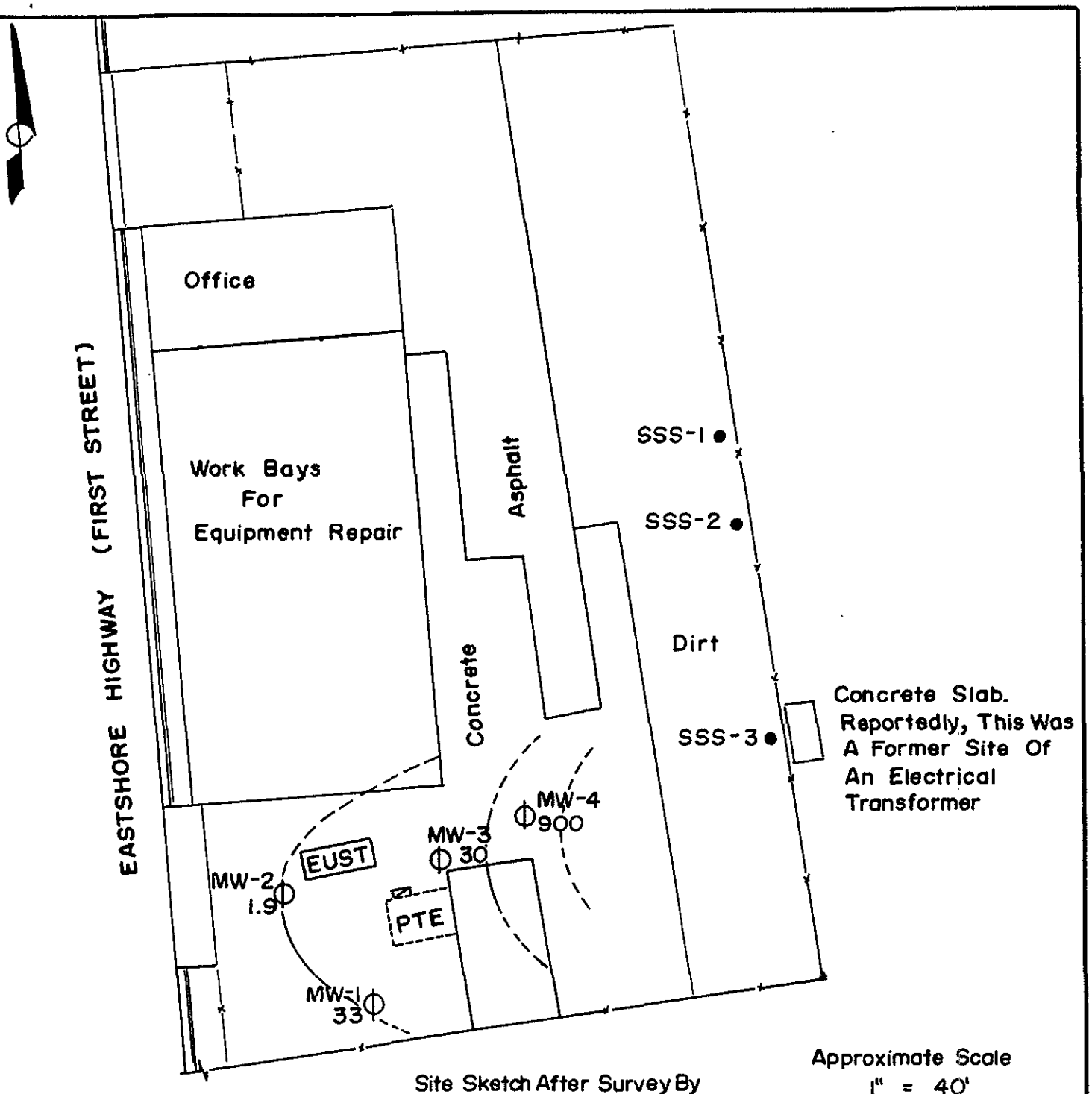
NOTE

PTE = Previous Tank Excavation
EUST = Existing Underground Storage Tanks

FIGURE 6
PROPOSED MONITORING WELL LOCATIONS
E.C. Buehrer Associates, Inc.
1061 Eastshore Highway
Berkeley, Ca.

AEGIS Job No. 90-007

DRAWN BY: Ed Bernard **DATE: June 8, 1990**
REVIEWED BY: **DATE:**



Site Sketch After Survey By
Tom O. Morrow, Inc.
May, 1990

Approximate Scale
1" = 40'

0 40

LEGEND

- Monitoring Well
- Surface Soil Sample
- Dispenser
- 900 ppm - Diesel

NOTE

ppm = Parts Per Million
PTE = Previous Tank Excavation
EUST = Existing Underground Storage Tanks

FIGURE 7
DIESEL ISO-CONCENTRATION CONTOUR MAP APRIL 25, 1990
E.C. Buehrer Associates, Inc.
1061 Eastshore Highway
Berkeley, Ca.

AEGIS Job No. 90-007

DRAWN BY: Ed Bernard **DATE:** June 8, 1990
REVIEWED BY **DATE:**

APPENDIX B

Soil Borings

PROJECT NAME/LOCATION:	PROJECT NUMBER: 90-007	BORING NUMBER: MW-1	SHEET 1 OF 1
E.C. Buehrer & Ass. Inc. 1061 Eastshore Hwy. Albany, CA.	CONTRACTOR: PC Exploration	DRILLING METHOD: 6.5" HSA	
	DRILLER: Carl Boling	DRILLING RIG: Mobile B 53	
LAND OWNER: E.C. Buehrer & Ass. Inc.	START DATE: 4/25/90 TIME: 13:30 HRS	COMPLETED: 4/25/90 TIME: 15:45 HRS	

STAMPLE	SAMPLER	BLOWS	SAMPLE	DEPTH (ft.)	DESCRIPTION OF MATERIALS AND CONDITIONS	Hnu PID (ppm)	GENERAL OBSERVATION NOTES
					Surface: concrete		
ctg				0			
* SS	MW1 /A	2 2 2	3.0 to 4.5		Clay: dark brown, firm, moist. CH	0.0	NO PETROLEUM ODOR
				5	Clay: black, organic, some fill material, wet. OH	3.0	"
		8					"
SS	MW1 /B	9 11	10.0 to 11.5	10	Clay: black, organic, smooth, moderately smooth, wet. OH	2.0	
SS	MW1 /C	NA	15.0 to 16.5	15	Gravelly Clay: brown, moist. CL	0.0	"
				20	TOTAL DEPTH 16.0 FT.		
				25			
				30			

Field Notes:
First water encountered at 3.5 ft.
SS = California Modified Split Spoon Sampler
* = Sample Analyzed by Laboratory
ctg = Cuttings sample
2.5 ID sample spoon
Soil Description after USCS

Aegis Environmental Consultants

Logged By: L.Braybrooks

PROJECT NAME/LOCATION:	PROJECT NUMBER: 90-007	BORING NUMBER: MW-2	SHEET 1 OF 1
E.C. Buehrer & Ass. Inc. 1061 Eastshore Hwy. Albany, CA.	CONTRACTOR: PC Exploration	DRILLING METHOD: 6.5" HSA	
	DRILLER: Carl Boling	DRILLING RIG: Mobile B 53	
LAND OWNER: E.C. Buehrer & Ass. Inc.	START DATE: 4/25/90 TIME: 10:30 HRS	COMPLETED: 4/25/90 TIME: 13:00 HRS	

STAMPLE	SNAMMPLER	BCLOWNTS	SIAMPVLE	DEPTH (ft.)	DESCRIPTION OF MATERIALS AND CONDITIONS	Hnu PID (ppm)	GENERAL OBSERVATION NOTES
				0	Surface: concrete		
ctg * SS	MW2 /A	4 4 6	3.0 to 4.5		Clay: dark brown, soft, moist. CH Clay: black, organic, smooth, wet. OH	0	NO PETROLEUM ODOR
				5		0	"
SS	MW2 /B	4 4 4	10.0 to 11.5	10	Clay: black, organic, wet, some gravel. OH	0	"
SS	MW2 /C	12 32 36	15.0 to 16.5	15	Gravelly Clay: brown, stiff, moist CL	0	"
				20	TOTAL DEPTH 17.0 FT.		
				25			
				30			

Field Notes:
First water encountered at 3.5 ft.
SS = California Modified Split Spoon Sampler
* = Sample Analyzed by Laboratory
ctg = Cuttings sample
2.5" ID sample spoon
Soil Description after USCS

Aegis Environmental Consultants

Logged By: L.Braybrooks

PROJECT NAME/LOCATION:	PROJECT NUMBER: 90-007	BORING NUMBER: MW-3	SHEET 1 OF 1
E.C. Buehrer & Ass. Inc. 1061 Eastshore Hwy. Albany, CA.	CONTRACTOR: PC Exploration	DRILLING METHOD: 6.5" HSA	
	DRILLER: Carl Boling	DRILLING RIG: Mobile B 53	
LAND OWNER: E.C. Buehrer & Ass. Inc.	START DATE: 4/26/90 TIME: 8:00 HRS	COMPLETED: 4/26/90 TIME: 10:30 HRS	

STAMPLE	SAMPLER	BLOWS	SAMPLE	DEPTH (ft.)	DESCRIPTION OF MATERIALS AND CONDITIONS	Hnu PID (ppm)	GENERAL OBSERVATION NOTES
				0	Surface: concrete		
* SS	MW3 /A	4 3 3	3.0 TO 4.5		Clay: brown/black, some gravel nails, leaves, glass, wet. OH/CL	2.0	NO PETROLEUM ODOR
				5			"
SS	MW3 /B	4 5 6	10.0 TO 11.5	10	Clay: black, organic, tight, wet. OH	2.0	
SS	MW3 /C	6 21	15.0 TO 16.5	15	Clay: dark brown, gravelly, sandy, moist. TOTAL DEPTH 15.0 FT.	0	"
				20			
				25			
				30			

Field Notes:
First water at 4 ft.
SS = California Modified Split Spoon Sampler
* = Sample Analyzed by Laboratory
ctg = Cuttings sample
2.5" ID sample spoon
Soil Description after USCS

Aegis
Environmental
Consultants

Logged By: L.Braybrooks

PROJECT NAME/LOCATION:	PROJECT NUMBER: 90-007	BORING NUMBER: MW-4	SHEET 1 OF 1
E.C. Buehrer & Ass. Inc. 1061 Eastshore Hwy. Albany, CA.	CONTRACTOR: PC Exploration	DRILLING METHOD: 6.5" HSA	
	DRILLER: Carl Boling	DRILLING RIG: Mobile B 53	
LAND OWNER: E.C. Buehrer & Ass. Inc.	START DATE: TIME: 11:30 HRS	COMPLETED: 4/26/90 TIME: 14:25 HRS	

STAMPLE	SNAMMPLER	BCLOWNTS	SIANMPLE	DEPTH (ft.)	DESCRIPTION OF MATERIALS AND CONDITIONS	Hnu PID (ppm)	GENERAL OBSERVATION NOTES
				0	Surface: concrete		
* SS	MW4 /T	4 4 3	0 to 1.5		Clay: black, moist, fill, gravel, junk. CL	50	MODERATE PETROLEUM ODOR
SS	MW4 /A	3 4 4	5.0 to 6.5	5	Clay: black, organic, smooth, soft, wet. OH	70	MODERATE PETROLEUM ODOR
SS	MW4 /B	NA	10.0 to 11.5	10	Clay: black, organic, smooth, firm, wet. OH	2	NO PETROLEUM ODOR
SS	MW4 /C	NA	15.0 to 16.5	15	Clay: brown, gravelly, some sand sections, moist. CL	0	"
				20	TOTAL DEPTH 16.0 FT.		
				25			
				30			

Field Notes:
First water encountered at 3.5 ft.
SS = California Modified Split Spoon Sampler
* = Sample Analyzed by Laboratory
ctg = Cuttings sample
2.5" ID sample spoon
Soil Description after USCS

Aegis Environmental Consultants

Logged By: L.Braybrooks

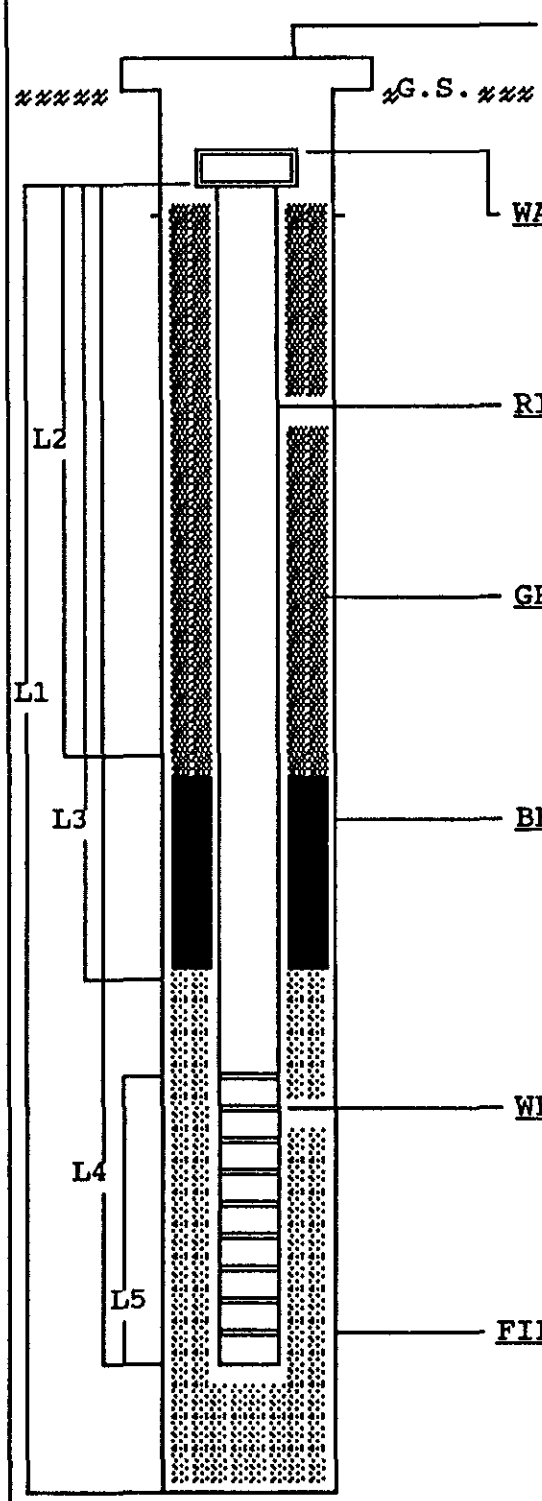
APPENDIX C

Monitoring Well Construction Details

MONITORING WELL CONSTRUCTION DETAILS

E.C. Buehrer
PROJECT: 1061 Eastshore Hwy. Albany, CA. DATE : 4/25/90

PROJECT NO.: 90-007 WELL NO.: 2



CHRISTY BOX
Diameter: 12 in.
Type (flush/above): flush
Entry Tool : 6.5 " HSA
Length Above Ground: .50 in.

WATER PROOF LOCKING CAP
Type: Geostore
Lock Cap: yes/expanding

RISER MATERIAL
Type Material: PVC
Diameter: 4 in.
Joint Type: flush threaded

GROUT SEAL
Material Mix: Portland cmnt.
Total Depth From Surface: 8.0 in.
Total Thickness: 8.0 in.

BENTONITE SEAL
Type: pellets
Size: 1/4 in.
Total Thickness: 1.13 ft.

WELL SCREEN
Type Material: PVC
Diameter: 4 in.
Joint Type: flush threaded
Slot Size: 0.02
Total Length: 12.8 ft.
Depth to Bottom: 15 ft.

FILTER PACK
Type Material: 16/40 sand
Total Thickness: 13.2 ft.
Depth to Bottom: 15.0 ft.
Distance Above Screen: 0.4 ft.

L1 17.0 ft.
L2 8 in.
L3 1.8 ft.
L4 15.0 ft.
L5 12.8 ft.

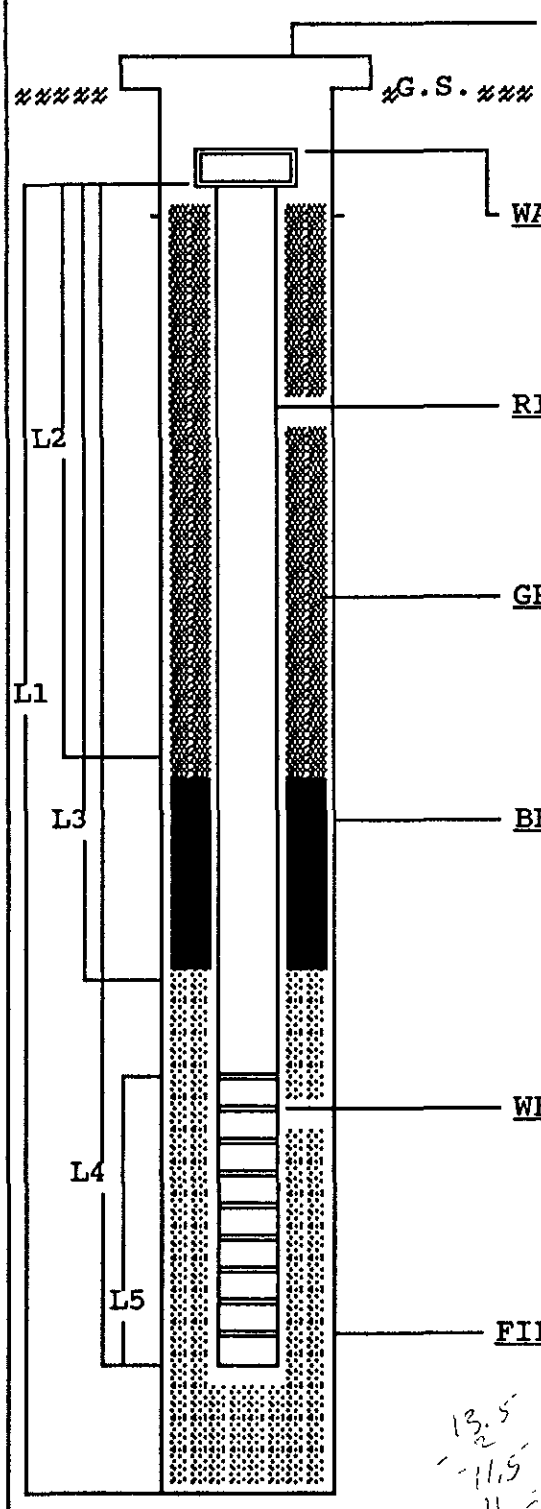
TOTAL DEPTH OF WELL: 15.0 ft.
TOTAL DEPTH OF BORING: 17.0 ft.
DIAMETER OF BORING: 6.5 in.
METHOD OF DRILLING: hollow stem aug
DATE STARTED: 4/25/90
DATE COMPLETED: 4/25/90

13/28/4

MONITORING WELL CONSTRUCTION DETAILS

E.C. Buehrer
PROJECT: 1061 Eastshore Hwy. Albany, CA. DATE : 4/25/90

PROJECT NO.: 90-007 WELL NO.: 4



CHRISTY BOX
Diameter: 12 in.
Type (flush/above): flush
Entry Tool : 6.5 " HSA
Length Above Ground: .05 in.

WATER PROOF LOCKING CAP
Type: Geostore
Lock Cap: yes/expanding

RISER MATERIAL
Type Material: PVC
Diameter: 4 in.
Joint Type: flush threaded

GROUT SEAL
Material Mix: Portland cmnt.
Total Depth From Surface: 1.0 ft.
Total Thickness: 1.0 ft.

BENTONITE SEAL
Type: pellets
Size: 1/4 in.
Total Thickness: 1.0 ft.

WELL SCREEN
Type Material: PVC
Diameter: 4 in.
Joint Type: flush threaded
Slot Size: 0.02
Total Length: 11.0 ft.
Depth to Bottom: 13.5 ft.

FILTER PACK
Type Material: 16/40 sand
Total Thickness: 11.5 ft.
Depth to Bottom: 13.5 ft.
Distance Above Screen: 0.5 ft.

13.5
-11.5
11.5

L1 15.0 ft.
L2 1.0 ft.
L3 2.0 ft.
L4 13.5 ft.
L5 11.0 ft.

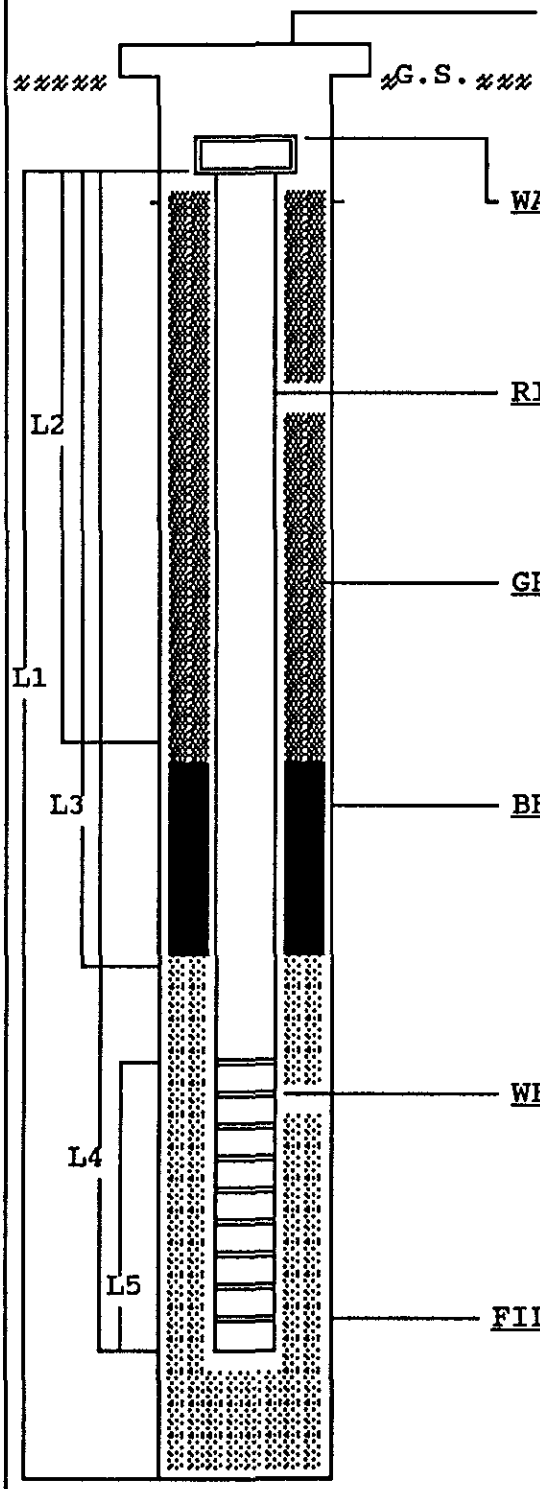
TOTAL DEPTH OF WELL: 13.5 ft.
TOTAL DEPTH OF BORING: 15.0 ft.
DIAMETER OF BORING: 6.5 in.
METHOD OF DRILLING: hollow stem aug
DATE STARTED: 4/26/90
DATE COMPLETED: 4/26/90

MONITORING WELL CONSTRUCTION DETAILS

E.C. Buehrer

PROJECT: 1061 Eastshore Hwy. Albany, CA. DATE : 4/25/90

PROJECT NO.: 90-007 WELL NO.: 1



CHRISTY BOX
Diameter: 12 in.
Type (flush/above): flush
Entry Tool : 6.5 " HSA
Length Above Ground: .05 in.

WATER PROOF LOCKING CAP
Type: Geostore
Lock Cap: yes/expanding

RISER MATERIAL
Type Material: PVC
Diameter: 4 in.
Joint Type: flush threaded

GROUT SEAL
Material Mix: Portland cmnt.
Total Depth From Surface: 1.0 ft.
Total Thickness: 1.0 ft.

BENTONITE SEAL
Type: pellets
Size: 1/4 in.
Total Thickness: 1.0 ft.

WELL SCREEN
Type Material: PVC
Diameter: 4 in.
Joint Type: flush threaded
Slot Size: 0.02
Total Length: 11.5 ft.
Depth to Bottom: 14 ft.

FILTER PACK
Type Material: 16/40 sand
Total Thickness: 12.0 ft.
Depth to Bottom: 14.0 ft.
Distance Above Screen: 0.5 ft.

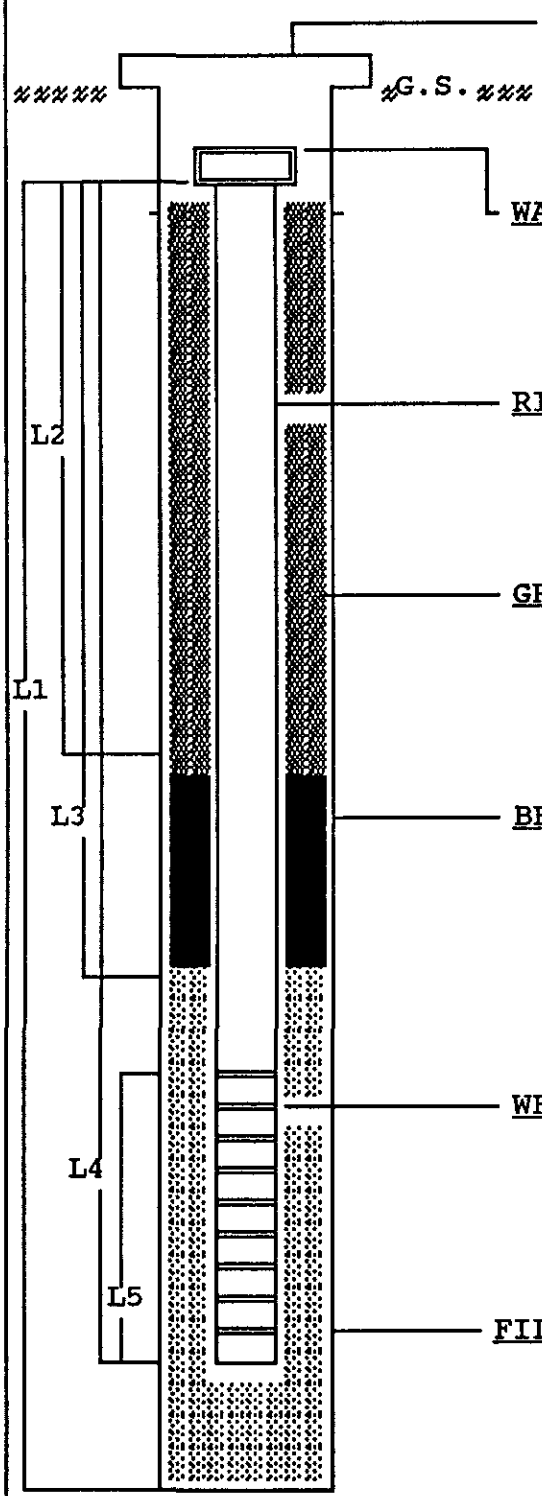
L1 15.0 ft.
L2 1.0 ft.
L3 2.0 ft.
L4 14.0 ft.
L5 11.5 ft.

TOTAL DEPTH OF WELL: 14.0 ft.
TOTAL DEPTH OF BORING: 15.0 ft.
DIAMETER OF BORING: 6.5 in.
METHOD OF DRILLING: hollow stem aug
DATE STARTED: 4/25/90
DATE COMPLETED: 4/25/90

MONITORING WELL CONSTRUCTION DETAILS

E.C. Buehrer
PROJECT: 1061 Eastshore Hwy. Albany, CA. DATE : 4/25/90

PROJECT NO.: 90-007 WELL NO.: 3



CHRISTY BOX
Diameter: 12 in.
Type (flush/above): flush
Entry Tool : 6.5 " HSA
Length Above Ground: .50 in.

WATER PROOF LOCKING CAP
Type: Geostore
Lock Cap: yes/expanding

RISER MATERIAL
Type Material: PVC
Diameter: 4 in.
Joint Type: flush threaded

GROUT SEAL
Material Mix: Portland cmnt.
Total Depth From Surface: 1.0 ft.
Total Thickness: 1.0 ft.

BENTONITE SEAL
Type: pellets
Size: 1/4 in.
Total Thickness: 1.0 ft.

WELL SCREEN
Type Material: PVC
Diameter: 4 in.
Joint Type: flush threaded
Slot Size: 0.02
Total Length: 11.0 ft.
Depth to Bottom: 13.5 ft.

FILTER PACK
Type Material: 16/40sand
Total Thickness: 11.5 ft.
Depth to Bottom: 13.5 ft.
Distance Above Screen: 0.5 ft.

L1 15.0 ft.
L2 1.0 ft.
L3 2.0 ft.
L4 13.5 ft.
L5 11.0 ft.

TOTAL DEPTH OF WELL: 13.5 ft.
TOTAL DEPTH OF BORING: 15.0 ft.
DIAMETER OF BORING: 6.5 in.
METHOD OF DRILLING: hollow stem aug
DATE STARTED: 4/26/90
DATE COMPLETED: 4/26/90

APPENDIX D

Certified Analytical Data

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

RECEIVED 5/21/90

Pat Wright
Aegis Environmental Cons.
801 Riverside Ave., Ste C
Roseville, CA

Date: 05-16-90
NET Client Acct No: 654
NET Pacific Log No: 1738
Received: 04-27-90 1600

Client Reference Information

EC Buehrer, 1061 Eastshore Highway; Project: 90-007

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack
Laboratory Manager

JS:rct
Enclosure(s)

Client No: 654 Date: 05-16-90
Client Name: Aegis Environmental Cons.
NET Log No: 1738 Page: 2

Ref: EC Buehrer, 1061 Eastshore Highway; Project: 90-007

			Descriptor, Lab No. and Results		
			MW1-A 5' 04-27-90	MW2-A 5' 04-27-90	
Parameter	Method	Reporting Limit	52014	52015	Units
Oil & Grease(Total)	9071	50	450	6,400	mg/Kg
Oil & Grease(Non-Polar)	SM503D/E	100	200	3,500	mg/Kg
Cadmium	6010	5	ND	ND	mg/Kg
Chromium	6010	5	16	38	mg/Kg
Lead (EPA 7421)	7421	0.2	40	9.8	mg/Kg
Zinc	6010	5	520	70	mg/Kg

Client No: 654 Date: 05-16-90
Client Name: Aegis Environmental Cons.
NET Log No: 1738 Page: 5

Ref: EC Buehrer, 1061 Eastshore Highway; Project: 90-007

			Descriptor, Lab No. and Results		
			MW3-A 5' 04-27-90	MW4-T 3' 04-27-90 Soil	
Parameter	Method	Reporting Limit	52016	52017	Units
Oil & Grease(Total)	9071	50	4,700	4,300	mg/Kg
Oil & Grease(Non-Polar)	SM503D/E	100	2,800	3,700	mg/Kg
Cadmium	6010	5	ND	ND	mg/Kg
Chromium	6010	5	36	69	mg/Kg
Lead (EPA 7421)	7421	0.2	9.3	38	mg/Kg
Zinc	6010	5	87	190	mg/Kg

Client No: 654 Date: 05-16-90
Client Name: Aegis Environmental Cons.
NET Log No: 1738 Page: 4

Ref: EC Buehrer, 1061 Eastshore Highway; Project: 90-007

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results MW1-A 5' 04-27-90 52014	 MW2-A 5' 04-27-90 52015	Units
PETROLEUM HYDROCARBONS			--	--	
VOLATILE (SOIL)			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			05-10-90	05-08-90	
METHOD GC FID/5030			--	--	
as Gasoline		1	1.4	ND	mg/Kg
PETROLEUM HYDROCARBONS			--	--	
EXTRACTABLE (SOIL)			--	--	
DILUTION FACTOR *			1	1	
DATE EXTRACTED			05-03-90	05-03-90	
DATE ANALYZED			05-03-90	05-03-90	
METHOD GC FID/3550			--	--	
as Diesel		1	33	1.9	mg/Kg
as Motor Oil		10	160	ND	mg/Kg

Client No: 654 Date: 05-16-90
Client Name: Aegis Environmental Cons.
NET Log No: 1738 Page: 7

Ref: EC Buehrer, 1061 Eastshore Highway; Project: 90-007

			Descriptor, Lab No. and Results		
			MW3-A 5' 04-27-90	MW4-T 3' 04-27-90 SOIL	
Parameter	Method	Reporting Limit	52016	52017	Units
PETROLEUM HYDROCARBONS			--	--	
VOLATILE (SOIL)			--	--	
DILUTION FACTOR *			1	10	
DATE ANALYZED			05-08-90	05-08-90	
METHOD GC FID/5030			--	--	
as Gasoline		1	1.0	130	mg/Kg
PETROLEUM HYDROCARBONS			--	--	
EXTRACTABLE (SOIL)			--	--	
DILUTION FACTOR *			2	100	
DATE EXTRACTED			05-03-90	05-03-90	
DATE ANALYZED			05-03-90	05-07-90	
METHOD GC FID/3550			--	--	
as Diesel		1	30	900	mg/Kg
as Motor Oil		10	200	1,700	mg/Kg

Client No: 654 Date: 05-16-90
Client Name: Aegis Environmental Cons.
NET Log No: 1738 Page: 3

Ref: EC Buehrer, 1061 Eastshore Highway; Project: 90-007

			Descriptor, Lab No. and Results		
			MW1-A 5' 04-27-90	MW2-A 5' 04-27-90	
Parameter	Method	Reporting Limit	52014	52015	Units
METHOD 8010					
DATE ANALYZED			05-14-90	05-14-90	
DILUTION FACTOR*			1	1	
Bromodichloromethane		2.0	ND	ND	ug/Kg
Bromoform		2.0	ND	ND	ug/Kg
Bromomethane		2.0	ND	ND	ug/Kg
Carbon tetrachloride		2.0	ND	ND	ug/Kg
Chlorobenzene		2.0	ND	ND	ug/Kg
Chloroethane		2.0	ND	ND	ug/Kg
2-Chloroethylvinyl ether		5.0	ND	ND	ug/Kg
Chloroform		2.0	ND	ND	ug/Kg
Chloromethane		2.0	ND	ND	ug/Kg
Dibromochloromethane		2.0	ND	ND	ug/Kg
1,2-Dichlorobenzene		2.0	ND	ND	ug/Kg
1,3-Dichlorobenzene		2.0	ND	ND	ug/Kg
1,4-Dichlorobenzene		2.0	ND	ND	ug/Kg
Dichlorodifluoromethane		2.0	ND	ND	ug/Kg
1,1-Dichloroethane		2.0	ND	ND	ug/Kg
1,2-Dichloroethane		2.0	ND	ND	ug/Kg
1,1-Dichloroethene		2.0	ND	ND	ug/Kg
trans-1,2-Dichloroethene		2.0	ND	ND	ug/Kg
1,2-Dichloropropane		2.0	ND	ND	ug/Kg
cis-1,3-Dichloropropene		2.0	ND	ND	ug/Kg
trans-1,3-Dichloropropene		2.0	ND	ND	ug/Kg
Methylene Chloride		50	ND	ND	ug/Kg
1,1,2,Tetrachloroethane		2.0	ND	ND	ug/Kg
Tetrachloroethene		2.0	ND	ND	ug/Kg
1,1,1-Trichloroethane		2.0	ND	ND	ug/Kg
1,1,2-Trichloroethane		2.0	ND	ND	ug/Kg
Trichloroethene		2.0	ND	ND	ug/Kg
Trichlorofluoromethane		2.0	ND	ND	ug/Kg
Vinyl chloride		2.0	ND	ND	ug/Kg

Client No: 654 Date: 05-16-90
Client Name: Aegis Environmental Cons.
NET Log No: 1738 Page: 6

Ref: EC Buehrer, 1061 Eastshore Highway; Project: 90-007

			Descriptor, Lab No. and Results		
			MW3-A 5' 04-27-90	MW4-T 3' 04-27-90 Soil	
Parameter	Method	Reporting Limit	52016	52017	Units
METHOD 8010					
DATE ANALYZED			05-14-90	05-14-90	
DILUTION FACTOR*			1	1	
Bromodichloromethane		2.0	ND	ND	ug/Kg
Bromoform		2.0	ND	ND	ug/Kg
Bromomethane		2.0	ND	ND	ug/Kg
Carbon tetrachloride		2.0	ND	ND	ug/Kg
Chlorobenzene		2.0	ND	ND	ug/Kg
Chloroethane		2.0	ND	ND	ug/Kg
2-Chloroethylvinyl ether		5.0	ND	ND	ug/Kg
Chloroform		2.0	ND	ND	ug/Kg
Chloromethane		2.0	ND	ND	ug/Kg
Dibromochloromethane		2.0	ND	ND	ug/Kg
1,2-Dichlorobenzene		2.0	ND	ND	ug/Kg
1,3-Dichlorobenzene		2.0	ND	ND	ug/Kg
1,4-Dichlorobenzene		2.0	ND	ND	ug/Kg
Dichlorodifluoromethane		2.0	ND	ND	ug/Kg
1,1-Dichloroethane		2.0	ND	5.6	ug/Kg
1,2-Dichloroethane		2.0	ND	ND	ug/Kg
1,1-Dichloroethene		2.0	ND	ND	ug/Kg
trans-1,2-Dichloroethene		2.0	ND	ND	ug/Kg
1,2-Dichloropropane		2.0	ND	ND	ug/Kg
cis-1,3-Dichloropropene		2.0	ND	ND	ug/Kg
trans-1,3-Dichloropropene		2.0	ND	ND	ug/Kg
Methylene Chloride		50	ND	ND	ug/Kg
1,1,2,Tetrachloroethane		2.0	ND	ND	ug/Kg
Tetrachloroethene		2.0	ND	4.6	ug/Kg
1,1,1-Trichloroethane		2.0	ND	ND	ug/Kg
1,1,2-Trichloroethane		2.0	ND	ND	ug/Kg
Trichloroethene		2.0	ND	4.0	ug/Kg
Trichlorofluoromethane		2.0	ND	ND	ug/Kg
Vinyl chloride		2.0	ND	ND	ug/Kg

Client No: 654 Date: 05-16-90
Client Name: Aegis Environmental Cons.
NET Log No: 1738 Page: 9

Ref: EC Buehrer, 1061 Eastshore Highway; Project: 90-007

			Descriptor, Lab No. and Results		
			MW-1 04-27-90	MW-2 04-27-90	water
Parameter	Method	Reporting Limit	52018	52019	Units
PETROLEUM HYDROCARBONS			--	--	
VOLATILE (WATER)			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			05-04-90	05-04-90	
METHOD GC FID/5030			--	--	
as Gasoline		0.05	0.26	0.21	mg/L
METHOD 602			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			05-04-90	05-04-90	
Benzene		0.5	3.5	ND	ug/L
Ethylbenzene		0.5	1.0	ND	ug/L
Toluene		0.5	3.4	ND	ug/L
Xylenes, total		0.5	5.8	ND	ug/L
PETROLEUM HYDROCARBONS			--	--	
EXTRACTABLE (WATER)			--	--	
DILUTION FACTOR *			1	1	
DATE EXTRACTED			05-03-90	05-03-90	
DATE ANALYZED			05-03-90	05-03-90	
METHOD GC FID/3510			--	--	
as Diesel		0.05	0.24	0.22	mg/L
as Motor Oil		0.5	ND	ND	mg/L

Client No: 654 Date: 05-16-90
Client Name: Aegis Environmental Cons.
NET Log No: 1738 Page: 11

Ref: EC Buehrer, 1061 Eastshore Highway; Project: 90-007

			Descriptor, Lab No. and Results		
			MW-3 04-27-90	MW-4 04-27-90	water
Parameter	Method	Reporting Limit	52020	52021	Units
PETROLEUM HYDROCARBONS			--	--	
VOLATILE (WATER)			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			05-04-90	05-04-90	
METHOD GC FID/5030			--	--	
as Gasoline		0.05	0.33	0.22	mg/L
METHOD 602			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			05-04-90	05-04-90	
Benzene		0.5	29	2.1	ug/L
Ethylbenzene		0.5	ND	0.9	ug/L
Toluene		0.5	0.6	ND	ug/L
Xylenes, total		0.5	1.3	3.9	ug/L
PETROLEUM HYDROCARBONS			--	--	
EXTRACTABLE (WATER)			--	--	
DILUTION FACTOR *			1	1	
DATE EXTRACTED			05-03-90	05-03-90	
DATE ANALYZED			05-03-90	05-03-90	
METHOD GC FID/3510			--	--	
as Diesel		0.05	0.23	0.26	mg/L
as Motor Oil		0.5	ND	0.87	mg/L

Client No: 654 Date: 05-16-90
Client Name: Aegis Environmental Cons.
NET Log No: 1738 Page: 8

Ref: EC Buehrer, 1061 Eastshore Highway; Project: 90-007

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results MW-1 04-27-90 52018	MW-2 04-27-90 52019	Units
METHOD 601					
DATE ANALYZED			05-07-90	05-07-90	
DILUTION FACTOR*			1	1	
Bromodichloromethane		0.4	ND	ND	ug/L
Bromoform		0.4	ND	ND	ug/L
Bromomethane		0.4	ND	ND	ug/L
Carbon tetrachloride		0.4	ND	ND	ug/L
Chlorobenzene		0.4	ND	ND	ug/L
Chloroethane		0.4	ND	ND	ug/L
2-Chloroethylvinyl ether		1.0	ND	ND	ug/L
Chloroform		0.4	ND	ND	ug/L
Chloromethane		0.4	ND	ND	ug/L
Dibromochloromethane		0.4	ND	ND	ug/L
1,2-Dichlorobenzene		0.4	ND	ND	ug/L
1,3-Dichlorobenzene		0.4	ND	ND	ug/L
1,4-Dichlorobenzene		0.4	ND	ND	ug/L
Dichlorodifluoromethane		0.4	ND	ND	ug/L
1,1-Dichloroethane		0.4	ND	ND	ug/L
1,2-Dichloroethane		0.4	ND	ND	ug/L
1,1-Dichloroethene		0.4	ND	ND	ug/L
trans-1,2-Dichloroethene		0.4	ND	ND	ug/L
1,2-Dichloropropane		0.4	ND	ND	ug/L
cis-1,3-Dichloropropene		0.4	ND	ND	ug/L
trans-1,3-Dichloropropene		0.4	ND	ND	ug/L
Methylene Chloride		10	ND	ND	ug/L
1,1,2,2-Tetrachloroethane		0.4	ND	ND	ug/L
Tetrachloroethene		0.4	ND	ND	ug/L
1,1,1-Trichloroethane		0.4	ND	ND	ug/L
1,1,2-Trichloroethane		0.4	ND	ND	ug/L
Trichloroethene		0.4	ND	ND	ug/L
Trichlorofluoromethane		0.4	ND	ND	ug/L
Vinyl chloride		2.0	ND	ND	ug/L

Client No: 654 Date: 05-16-90
Client Name: Aegis Environmental Cons.
NET Log No: 1738 Page: 10

Ref: EC Buehrer, 1061 Eastshore Highway; Project: 90-007

			Descriptor, Lab No. and Results		
			MW-3 04-27-90	MW-4 04-27-90	Water
Parameter	Method	Reporting Limit	52020	52021	Units
METHOD 601					
DATE ANALYZED			05-07-90	05-07-90	
DILUTION FACTOR*			1	1	
Bromodichloromethane		0.4	ND	ND	ug/L
Bromoform		0.4	ND	ND	ug/L
Bromomethane		0.4	ND	ND	ug/L
Carbon tetrachloride		0.4	ND	ND	ug/L
Chlorobenzene		0.4	ND	ND	ug/L
Chloroethane		0.4	ND	0.90	ug/L
2-Chloroethylvinyl ether		1.0	ND	ND	ug/L
Chloroform		0.4	ND	ND	ug/L
Chloromethane		0.4	ND	ND	ug/L
Dibromochloromethane		0.4	ND	ND	ug/L
1,2-Dichlorobenzene		0.4	ND	ND	ug/L
1,3-Dichlorobenzene		0.4	ND	ND	ug/L
1,4-Dichlorobenzene		0.4	ND	ND	ug/L
Dichlorodifluoromethane		0.4	ND	ND	ug/L
1,1-Dichloroethane		0.4	ND	0.49	ug/L
1,2-Dichloroethane		0.4	ND	ND	ug/L
1,1-Dichloroethene		0.4	ND	ND	ug/L
trans-1,2-Dichloroethene		0.4	ND	ND	ug/L
1,2-Dichloropropane		0.4	ND	ND	ug/L
cis-1,3-Dichloropropene		0.4	ND	ND	ug/L
trans-1,3-Dichloropropene		0.4	ND	ND	ug/L
Methylene Chloride		10	ND	ND	ug/L
1,1,2,2-Tetrachloroethane		0.4	ND	ND	ug/L
Tetrachloroethene		0.4	ND	ND	ug/L
1,1,1-Trichloroethane		0.4	ND	ND	ug/L
1,1,2-Trichloroethane		0.4	ND	ND	ug/L
Trichloroethene		0.4	ND	ND	ug/L
Trichlorofluoromethane		0.4	ND	ND	ug/L
Vinyl chloride		2.0	ND	ND	ug/L

Client No: 654 Date: 05-16-90
Client Name: Aegis Environmental Cons.
NET Log No: 1738 Page: 12

Ref: EC Buehrer, 1061 Eastshore Highway; Project: 90-007

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results S-3 04-27-90 52022	Units
METHOD 8080				
DATE EXTRACTED			05-03-90	
DATE ANALYZED			05-02-90	
DILUTION FACTOR *			1	
POLYCHLORINATED BIPHENYLS			--	
Aroclor 1016		100	ND	ug/Kg
Arolcor 1221		500	ND	ug/Kg
Aroclor 1232		200	ND	ug/Kg
Aroclor 1242		100	ND	ug/Kg
Aroclor 1248		100	ND	ug/Kg
Aroclor 1254		50	300	ug/Kg
Aroclor 1260		50	ND	ug/Kg

PCB's

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 16th Edition, APHA, 1985.

Coast-to-Coast Analytical Services

Coast-to-Coast
Analytical Services, Inc.
141 Suburban Road , Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: NB-634
Collected: 4/27/90
Received: 5/02/90
Tested: 5/10/90
Collected by: L. Braybrooks

Volatile Organic Analysis - EPA Method 8260
Extracted by EPA Method 5030 (purge-and-trap)

Aegis Environmental Consultants
801 Riverside Ave., Suite C
Roseville, CA 95678

SAMPLE DESCRIPTION:
Project #90-007 E.C. Buehrer
S-1, Soil

Compound Analyzed	PQL* (ug/kg)	Concentration (ug/kg)	Compound Analyzed	PQL* (ug/kg)	Concentration (ug/kg)
Benzene	1.	ND	c-1,3-Dichloropropene	1.	ND
romobenzene	2.	ND	t-1,3-Dichloropropene	1.	ND
romodichloromethane	1.	ND	Ethylbenzene	1.	ND
Bromoform	2.	ND	Ethyl Chloride	1.	ND
-Butylbenzene	1.	ND	Hexachlorobutadiene	1.	ND
ec-Butylbenzene	1.	ND	Isopropylbenzene	1.	ND
tert-Butylbenzene	5.	ND	p-Isopropyltoluene	5.	ND
Carbon Disulfide	5.	ND	Methyl Bromide	5.	ND
arbon Tetrachloride	1.	ND	Methyl Chloride	20.	ND
hlorobenzene	1.	ND	Methylene Chloride	10.	ND
Chloroform	1.	ND	Naphthalene	5.	ND
-Chlorotoluene	2.	ND	n-Propylbenzene	1.	ND
-Chlorotoluene	2.	ND	Styrene	1.	ND
Dibromochloromethane	1.	ND	1,1,1,2-Tetrachloroethane	2.	ND
,2-Dibromo-3-Chloropropane	5.	ND	1,1,2,2-Tetrachloroethane	2.	ND
ibromomethane	1.	ND	Tetrachloroethylene	1.	ND
1,2-Dibromoethane	2.	ND	Toluene	1.	2.
1,2-Dichlorobenzene	1.	ND	1,2,3-Trichlorobenzene	2.	ND
,3-Dichlorobenzene	1.	ND	1,2,4-Trichlorobenzene	5.	ND
,4-Dichlorobenzene	1.	ND	1,1,1-Trichloroethane	1.	ND
Dichlorodifluoromethane	5.	ND	1,1,2-Trichloroethane	1.	ND
,1-Dichloroethane	1.	ND	Trichloroethene	1.	ND
,2-Dichloroethane	1.	ND	1,2,3-Trichloropropane	1.	ND
1,1-Dichloroethene	1.	ND	Trichlorotrifluoroethane	5.	ND
c-1,2-Dichloroethene	1.	ND	Trichlorofluoromethane	5.	ND
-1,2-Dichloroethene	1.	ND	1,3,5-Trimethylbenzene	1.	ND
1,2-Dichloropropane	1.	ND	1,2,4-Trimethylbenzene	1.	ND
1,3-Dichloropropane	1.	ND	Vinyl Chloride	1.	ND
,2-Dichloropropane	1.	ND	Xylenes (Total)	2.	ND
,1-Dichloropropene	1.	ND	TPPH(Gas/Diesel#2)**	100.	ND

ercent Recoveries of Sample-Specific Quality Assurance Spikes are: 75/97/103
ompounds reported as ND would have been reported if present at or above the listed detection limit. **CAL DHS TPPH Method
*PQL = Practical Quantitation Limit

Respectfully submitted,
COAST-to-COAST ANALYTICAL SERVICES

Mary Havlicek

Mary D. Havlicek, Ph.D., President

MSD #2-5/22
3634V2.wr1/VOA33
H/hc/nh

AIR, WATER and HAZARDOUS WASTE LABORATORY CERTIFIED by CALIFORNIA DEPT of HEALTH SERVICES

Coast-to-Coast Analytical Services

Coast-to-Coast
Analytical Services, Inc.
141 Suburban Road , Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: NB-635
Collected: 4/27/90
Received: 5/02/90
Tested: 5/10/90
Collected by: L. Braybrooks

Volatile Organic Analysis - EPA Method 8260
Extracted by EPA Method 5030 (purge-and-trap)

Aegis Environmental Consultants
801 Riverside Ave., Suite C
Roseville, CA 95678

SAMPLE DESCRIPTION:
Project #90-007 E.C. Buehrer
S-2, Soil

Compound Analyzed	PQL* (ug/kg)	Concentration (ug/kg)	Compound Analyzed	PQL* (ug/kg)	Concentration (ug/kg)
Benzene	1.	ND	c-1,3-Dichloropropene	1.	ND
Bromobenzene	2.	ND	t-1,3-Dichloropropene	1.	ND
Bromodichloromethane	1.	ND	Ethylbenzene	1.	ND
Bromoform	2.	ND	Ethyl Chloride	1.	ND
n-Butylbenzene	1.	ND	Hexachlorobutadiene	1.	ND
sec-Butylbenzene	1.	ND	Isopropylbenzene	1.	ND
tert-Butylbenzene	5.	ND	p-Isopropyltoluene	5.	ND
Carbon Disulfide	5.	ND	Methyl Bromide	5.	ND
Carbon Tetrachloride	1.	ND	Methyl Chloride	20.	ND
Chlorobenzene	1.	ND	Methylene Chloride	10.	ND
Chloroform	1.	ND	Naphthalene	5.	ND
2-Chlorotoluene	2.	ND	n-Propylbenzene	1.	ND
4-Chlorotoluene	2.	ND	Styrene	1.	ND
Dibromochloromethane	1.	ND	1,1,1,2-Tetrachloroethane	2.	ND
1,2-Dibromo-3-Chloropropane	5.	ND	1,1,2,2-Tetrachloroethane	2.	ND
Dibromomethane	1.	ND	Tetrachloroethylene	1.	ND
1,2-Dibromoethane	2.	ND	Toluene	1.	4.
1,2-Dichlorobenzene	1.	ND	1,2,3-Trichlorobenzene	2.	ND
1,3-Dichlorobenzene	1.	ND	1,2,4-Trichlorobenzene	5.	ND
1,4-Dichlorobenzene	1.	ND	1,1,1-Trichloroethane	1.	ND
Dichlorodifluoromethane	5.	ND	1,1,2-Trichloroethane	1.	ND
1,1-Dichloroethane	1.	ND	Trichloroethene	1.	ND
1,2-Dichloroethane	1.	ND	1,2,3-Trichloropropane	1.	ND
1,1-Dichloroethene	1.	ND	Trichlorotrifluoroethane	5.	ND
c-1,2-Dichloroethene	1.	ND	Trichlorofluoromethane	5.	ND
t-1,2-Dichloroethene	1.	ND	1,3,5-Trimethylbenzene	1.	ND
1,2-Dichloropropane	1.	ND	1,2,4-Trimethylbenzene	1.	ND
1,3-Dichloropropane	1.	ND	Vinyl Chloride	1.	ND
2,2-Dichloropropane	1.	ND	Xylenes (Total)	2.	ND
1,1-Dichloropropene	1.	ND	TPPH(Gas/Diesel#2)**	100.	ND

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 85/96/108
Compounds reported as ND would have been reported if present at or above the listed detection limit. **CAL DHS TPPH Method
*PQL = Practical Quantitation Limit

Respectfully submitted,
COAST-to-COAST ANALYTICAL SERVICES

Mary D. Havlicek, Ph.D., President

MSD #2-5/22
B635V1.wr1/VOA33
H/hc/nh

AIR, WATER and HAZARDOUS WASTE LABORATORY CERTIFIED by CALIFORNIA DEPT of HEALTH SERVICES

Coast-to-Coast Analytical Services

Coast-to-Coast
Analytical Services, Inc.
141 Suburban Road , Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: B05100
Collected:
Received:
Tested: 5/10/90
Collected by:

Volatile Organic Analysis - EPA Method 524.2
Extracted by EPA Method 5030 (purge-and-trap)

CCAS-NAPA

SAMPLE DESCRIPTION:
Instrument Blank for 5/10/90
MSD #2

Compound Analyzed	PQL* (ug/kg)	Concentration (ug/kg)	Compound Analyzed	PQL* (ug/kg)	Concentration (ug/kg)
Benzene	1.	ND	c-1,3-Dichloropropene	1.	ND
Bromobenzene	2.	ND	t-1,3-Dichloropropene	1.	ND
Bromodichloromethane	1.	ND	Ethylbenzene	1.	ND
Bromoform	2.	ND	Ethyl Chloride	1.	ND
n-Butylbenzene	1.	ND	Hexachlorobutadiene	1.	ND
sec-Butylbenzene	1.	ND	Isopropylbenzene	1.	ND
tert-Butylbenzene	5.	ND	p-Isopropyltoluene	5.	ND
Carbon Disulfide	5.	ND	Methyl Bromide	5.	ND
Carbon Tetrachloride	1.	ND	Methyl Chloride	20.	ND
Chlorobenzene	1.	ND	Methylene Chloride	10.	ND
Chloroform	1.	ND	Naphthalene	5.	ND
2-Chlorotoluene	2.	ND	n-Propylbenzene	1.	ND
4-Chlorotoluene	2.	ND	Styrene	1.	ND
Dibromochloromethane	1.	ND	1,1,1,2-Tetrachloroethane	2.	ND
1,2-Dibromo-3-Chloropropane	5.	ND	1,1,2,2-Tetrachloroethane	2.	ND
Dibromomethane	1.	ND	Tetrachloroethylene	1.	ND
1,2-Dibromoethane	2.	ND	Toluene	1.	ND
1,2-Dichlorobenzene	1.	ND	1,2,3-Trichlorobenzene	2.	ND
1,3-Dichlorobenzene	1.	ND	1,2,4-Trichlorobenzene	5.	ND
1,4-Dichlorobenzene	1.	ND	1,1,1-Trichloroethane	1.	ND
Dichlorodifluoromethane	5.	ND	1,1,2-Trichloroethane	1.	ND
1,1-Dichloroethane	1.	ND	Trichloroethene	1.	ND
1,2-Dichloroethane	1.	ND	1,2,3-Trichloropropane	1.	ND
1,1-Dichloroethene	1.	ND	Trichlorotrifluoroethane	5.	ND
c-1,2-Dichloroethene	1.	ND	Trichlorofluoromethane	5.	ND
t-1,2-Dichloroethene	1.	ND	1,3,5-Trimethylbenzene	1.	ND
1,2-Dichloropropane	1.	ND	1,2,4-Trimethylbenzene	1.	ND
1,3-Dichloropropane	1.	ND	Vinyl Chloride	1.	ND
2,2-Dichloropropane	1.	ND	Xylenes (Total)	2.	ND
1,1-Dichloropropene	1.	ND	TPPH (Gas/Diesel #2)**	100.	

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 77/97/100
Compounds reported as ND would have been reported if present at or above the listed detection limit. **CAL DHS TPPH Method
*PQL = Practical Quantitation Limit

Respectfully submitted,
COAST-to-COAST ANALYTICAL SERVICES
Mary Havlicek
Mary D. Havlicek, Ph.D., President

MSD #2-5/24
B05100V1.wr1/V0A33
MH/hc/nh

Coast-to-Coast Analytical Services

Coast-to-Coast
Analytical Services, Inc.
141 Suburban Road , Suite C-4
San Luis Obispo, California 934Ø1
(8Ø5) 543-2553

Lab Number: QSØ51ØØ
Collected:
Received:
Tested: 5/1Ø/9Ø
Collected by:

Volatile Organic Analysis - EPA Method 826Ø
Extracted by EPA Method 5Ø3Ø (purge-and-trap)

CCAS-NAPA

SAMPLE DESCRIPTION:
Roasted Soil Spiked to 4Ø.ppb

Compound Analyzed	PQL* ug/kg	Conc ug/kg	%Rec	Compound Analyzed	PQL* ug/kg	Conc ug/kg	%Rec
Benzene	1.	38.	95%	c-1,3-Dichloropropene	1.	n/s	----
Bromobenzene	2.	n/s	----	t-1,3-Dichloropropene	1.	n/s	----
Bromodichloromethane	1.	n/s	----	Ethylbenzene	1.	n/s	----
Bromoform	2.	n/s	----	Ethyl Chloride	1.	n/s	----
n-Butylbenzene	1.	n/s	----	Hexachlorobutadiene	1.	n/s	----
sec-Butylbenzene	1.	n/s	----	Isopropylbenzene	1.	n/s	----
tert-Butylbenzene	5.	n/s	----	p-Isopropyltoluene	5.	n/s	----
Carbon Disulfide	5.	n/s	----	Methyl Bromide	5.	n/s	----
Carbon Tetrachloride	1.	n/s	----	Methyl Chloride	5.	n/s	----
Chlorobenzene	1.	4Ø.	1ØØ%	Methylene Chloride	1Ø.	n/s	----
Chloroform	1.	n/s	----	Naphthalene	1.	n/s	----
2-Chlorotoluene	2.	n/s	----	n-Propylbenzene	1.	n/s	----
4-Chlorotoluene	2.	n/s	----	Styrene	1.	n/s	----
Dibromochloromethane	1.	n/s	----	1112-Tetrachloroethane	2.	n/s	----
Dibromochloropropane	1.	n/s	----	1122-Tetrachloroethane	2.	n/s	----
Dibromomethane	1.	n/s	----	Tetrachloroethylene	1.	n/s	----
1,2-Dibromoethane	2.	n/s	----	Toluene	1.	39.	98%
1,2-Dichlorobenzene	1.	n/s	----	1,2,3-Trichlorobenzene	2.	n/s	----
1,3-Dichlorobenzene	1.	n/s	----	1,2,4-Trichlorobenzene	2.	n/s	----
1,4-Dichlorobenzene	1.	n/s	----	1,1,1-Trichloroethane	1.	n/s	----
Dichlorodifluoromethane	5.	n/s	----	1,1,2-Trichloroethane	1.	n/s	----
1,1-Dichloroethane	1.	n/s	----	Trichloroethene	1.	4Ø.	1ØØ%
1,2-Dichloroethane	1.	n/s	----	1,2,3-Trichloropropane	1.	n/s	----
1,1-Dichloroethene	1.	36.	9Ø%	Trichlorotrifluoroethane	5.	n/s	----
c-1,2-Dichloroethene	1.	n/s	----	Trichlorofluoromethane	5.	n/s	----
t-1,2-Dichloroethene	1.	n/s	----	1,3,5-Trimethylbenzene	1.	n/s	----
1,2-Dichloropropane	1.	n/s	----	1,2,4-Trimethylbenzene	1.	n/s	----
1,3-Dichloropropane	1.	n/s	----	Vinyl Chloride	1.	n/s	----
2,2-Dichloropropane	1.	n/s	----	Xylenes (Total)	2.	n/s	----
1,1-Dichloropropene	1.	n/s	----				

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 89/99/1Ø1
Compounds reported as ND would have been reported if present at or above the listed detection limit.
*PQL = Practical Quantitation Limit

Respectfully submitted,
COAST-to-COAST ANALYTICAL SERVICES
Mary Havlicek
Mary D. Havlicek, Ph.D., President

MSD #2-5/23
QSØ51ØØV1.wr1/VOA33
MH/hc/nh

Coast-to-Coast Analytical Services

Coast-to-Coast
Analytical Services, Inc.
141 Suburban Road , Suite C-4
San Luis Obispo, California 934Ø1
(8Ø5) 543-2553

Lab Number: NB-635dup
Collected: 4/27/9Ø
Received: 5/Ø2/9Ø
Tested: 5/1Ø/9Ø
Collected by: L. Braybrooks

Volatile Organic Analysis - EPA Method 826Ø
Extracted by EPA Method 5Ø3Ø (purge-and-trap)

Aegis Environmental Consultants
8Ø1 Riverside Ave., Suite C
Roseville, CA 95678

SAMPLE DESCRIPTION:
Project #9Ø-ØØ7 E.C. Buehrer
S-2, Soil DUPLICATE

Compound Analyzed	PQL* (ug/kg)	Concentration (ug/kg)	Compound Analyzed	PQL* (ug/kg)	Concentration (ug/kg)
Benzene	1.	ND	c-1,3-Dichloropropene	1.	ND
Bromobenzene	2.	ND	t-1,3-Dichloropropene	1.	ND
Bromodichloromethane	1.	ND	Ethylbenzene	1.	ND
Bromoform	2.	ND	Ethyl Chloride	1.	ND
n-Butylbenzene	1.	ND	Hexachlorobutadiene	1.	ND
sec-Butylbenzene	1.	ND	Isopropylbenzene	1.	ND
tert-Butylbenzene	5.	ND	p-Isopropyltoluene	5.	ND
Carbon Disulfide	5.	ND	Methyl Bromide	5.	ND
Carbon Tetrachloride	1.	ND	Methyl Chloride	2Ø.	ND
Chlorobenzene	1.	ND	Methylene Chloride	1Ø.	ND
Chloroform	1.	ND	Naphthalene	5.	ND
2-Chlorotoluene	2.	ND	n-Propylbenzene	1.	ND
4-Chlorotoluene	2.	ND	Styrene	1.	ND
Dibromochloromethane	1.	ND	1,1,1,2-Tetrachloroethane	2.	ND
1,2-Dibromo-3-Chloropropane	5.	ND	1,1,2,2-Tetrachloroethane	2.	ND
Dibromomethane	1.	ND	Tetrachloroethylene	1.	ND
1,2-Dibromoethane	2.	ND	Toluene	1.	1.
1,2-Dichlorobenzene	1.	ND	1,2,3-Trichlorobenzene	2.	ND
1,3-Dichlorobenzene	1.	ND	1,2,4-Trichlorobenzene	5.	ND
1,4-Dichlorobenzene	1.	ND	1,1,1-Trichloroethane	1.	ND
Dichlorodifluoromethane	5.	ND	1,1,2-Trichloroethane	1.	ND
1,1-Dichloroethane	1.	ND	Trichloroethene	1.	ND
1,2-Dichloroethane	1.	ND	1,2,3-Trichloropropane	1.	ND
1,1-Dichloroethene	1.	ND	Trichlorotrifluoroethane	5.	ND
c-1,2-Dichloroethene	1.	ND	Trichlorofluoromethane	5.	ND
t-1,2-Dichloroethene	1.	ND	1,3,5-Trimethylbenzene	1.	ND
1,2-Dichloropropane	1.	ND	1,2,4-Trimethylbenzene	1.	ND
1,3-Dichloropropane	1.	ND	Vinyl Chloride	1.	ND
2,2-Dichloropropane	1.	ND	Xylenes (Total)	2.	ND
1,1-Dichloropropene	1.	ND	TPPH(Gas/Diesel#2)**	1ØØ.	ND

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 7Ø/96/1Ø8
Compounds reported as ND would have been reported if present at or above the listed detection limit. **CAL DHS TPPH Method
*PQL = Practical Quantitation Limit

Respectfully submitted,
COAST-to-COAST ANALYTICAL SERVICES
Mary Havlicek
Mary D. Havlicek, Ph.D., President

MSD #2-5/22
B635V2.wr1/VOA33
MH/hc/nh

Phone (916) 782 2110
FAX (916) 786-7830

AEGIS Environmental Consultants, Inc.

Sample Identification/Field Chain of Custody Record

FT38

Send results to:
Aegis Environmental
801 Riverside, Suite C
Roseville, CA 95678

Site Address: E.C. Buehrer 1061 Eastshore Hwy
AEGIS Project #: 90-007
Shipped By: 2.B - Aegis Environmental Consultants
Shipped To: NET
Project Manager Pat Wright

For Shell Projects Only
WIC:
AFE:
CT/DL:
Shell Engineer:
Hazardous Materials Suspected? (yes/no)

Sampling Point	Location	Field ID#	Date	Sample Type	No. of Containers	Analysis Required
MW1	MW1-A	MW1-A	4/27/90	soil/Brass	2	wait for instructions
MW1	MW-1	MW1-B			1	
MW2	MW-2	MW2-A			2	
MW2	MW-2	MW2-B			1	
MW3	MW-3	MW3-A			2	
MW3	MW-3	MW3-B			1	
MW2	MW-2	MW2-C			1	
MW4	MW-4	MW4-T			2	

Sampler(s) (signature)

Field ID	Relinquished By (signature)	Received By (signature)	Date/Time		Comments
all of above					

Sealed for shipment by: (signature) Date/Time: 4/27/90 14:15 Shipment Method:
Received for Lab by: (signature) Date/Time: 4/27/90 1600 Comments:
Hold for instructions

Receiving Laboratory: Please return original form after signing for receipt of samples.

White/Original Yellow/Lab Copy Pink/File Copy

NET NET Pacific Inc

435 TESCONI CIRCLE
SANTA ROSA, CA 95401
TEL: 707-526-7200
FAX: 707-526-9623

CHAIN OF CUSTODY RECORD

1738

PROJ. NO. | PROJECT NAME

SAMPLERS: *(Signature)*

STA. NO	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	905 BTXE	Ext HC	O+G 503A+E	601	8080 PCBS	REMARKS
~~MW-4~~	4/27/90				~~MW4-A~~							
MW-4					MW4-A	1						soil / BRASS
MW-4					MW4-B	1						
MW-4					MW4-C	1						
S-1					S-1	1						sent to Coast to Coast
S-2					S-2	1						
S-3					S-3	1				X		
MW-1					MW-1	3	X	X	X	X		aqueous
MW-2					MW-2	3	↓	↓	↓	↓		
MW-3					MW-3	3						
MW-4					MW-4	3						wait for instructions

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
			Larry Burgess	4/27/90 4:00	—
Relinquished by *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)* H Semple	Date / Time 4/27/90 1600	Remarks: wait for analysis ~~instructions~~ instructions	