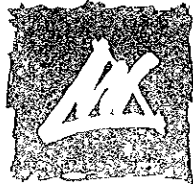


Subsidiary

Work done 6-5-91

91 AUG 16 7:10:49

76



ROBERT GILS  
ASSOCIATES, INC.

ENVIRONMENTAL  
CONSULTANTS  
HAZARD  
ASSESSMENTS

CERTIFIED  
INDUSTRIAL  
HYGIENISTS

Subsurface Investigation  
Clement Avenue Associates  
2235 Clement Avenue  
Alameda, California

Written By:

*Chris Nwabuzoh*

Chris Nwabuzoh  
Project Geologist  
REA #02842

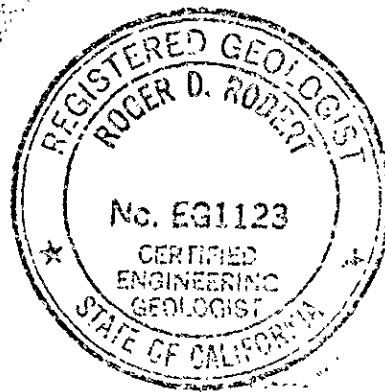
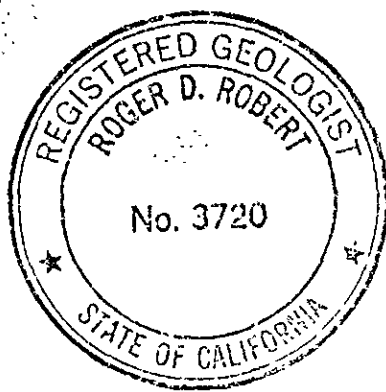
Reviewed By:

*Robert E. Gils*

Robert E. Gils  
CIH #1151

*Roger D. Robert*

Roger D. Robert  
Registered Geologist  
Certified Engineering Geologist



## TABLE OF CONTENTS

INTRODUCTION	1
SITE BACKGROUND	1
GEOLOGY/HYDROGEOLOGY	1
POTENTIAL HEALTH AND SAFETY IMPACTS	1
FIELD INVESTIGATIONS	
Soil Borings	1
Monitoring Wells	2
Site Geology	2
Laboratory Analyses	3
CONCLUSION	3
RECOMMENDATION	4

### LIST OF TABLES

TABLE 1 GROUNDWATER MONITORING DATA

### LIST OF FIGURES

FIGURE 1 SITE LOCATION MAP

FIGURE 2 BORING AND WELL LOCATIONS

FIGURE 3 GROUNDWATER GRADIENT MAP

FIGURE 4 EXTENT OF MIGRATION IN THE WAREHOUSE (SOIL)

FIGURE 5 LEVELS OF BENZIDINE ( GROUND WATER)

### LIST OF APPENDICES

APPENDIX A LITHOLOGIC LOGS AND WELL CONSTRUCTION

APPENDIX B ANALYTICAL RESULTS AND CHAIN OF CUSTODY

## **INTRODUCTION**

Clement Avenue Project retained RGA, Inc. to perform a further site assessment of a Warehouse formerly occupied by Reliance Steel, located at 2235 Clement Avenue, Alameda, California (see Fig 1). The scope of the assessment was to drill soil borings, install monitoring wells, collect samples to determine the presence or absence of semi-volatile organic compounds in the samples, and determine the quality of groundwater and the groundwater flow direction.

## **SITE BACKGROUND**

The Warehouse is situated in the light industrial/commercial area in the city of Alameda. It is approximately 100 feet from the Oakland Estuary. The former tenant was engaged in corrugated metal fabrication.

Previous work performed at the site included a subsurface investigation on April 11, 1991. Soil samples were analyzed by B.C. Analytical of Emeryville, California. Samples taken from soil boring B-11 indicated elevated levels of some priority pollutants above background levels. Samples from B-13 were within background levels. Samples from B-12 were not analyzed.

## **GEOLOGY/HYDROGEOLOGY**

The Warehouse site is located in the Alameda Island in the San Francisco Bay. The Bay resulted from a Pliocene structural depression that was flooded during the Pleistocene glacial cycle. The site is underlain by Salian- Franciscan blocks which consist of mostly metamorphic rocks, granite plutons and greenish gray-wackes. The site is flanked to the east by the Hayward-Calaveras fault and to the west by the San Andreas fault.

The site is approximately 20 feet above sea level. Depth to ground water is about 4 to 6 feet below ground surface. Groundwater usage in Alameda is mostly for farm irrigation.

## **POTENTIAL HEALTH AND SAFETY IMPACTS**

The Warehouse is surrounded by industrial and commercial/residential buildings. About 1,000 feet west of the site is a ball park. To the north is the Estuary.

The elevated levels of some of the priority compounds contained in the soils, which are silty sand to silty clay, appear to have impacted the shallow water table. Some of these compounds are known to the state of California to cause cancer.

Since the groundwater is not used for domestic consumption, there is no immediate danger to the local population.

## FIELD INVESTIGATIONS

### Soil Borings

On June 5 and 6, 1991, RGA personnel supervised the drilling of nine soil borings by HEW Drilling of Redwood City, California. Borings B-21 and B-22 were located outside the warehouse, B-14, B-15, B-16, B-17, B-18, and B-20 were located approximately in the middle of the warehouse, and B-19 was located west of the elevated floor of the warehouse, (see Fig 2). Due to the low ceiling in parts of the warehouse, blow count was taken during sampling episode. Borings B-15, B-16, and B-18 were drilled to 10 feet below grade. Borings B-14, B-19, B-20, B-21, B-22 were drilled to 20 feet below grade, and boring B-17 was drilled to 15 feet below grade.

During the drilling, soil samples were collected using a downhole California Modified Split Spoon Sampler containing brass sleeves at 5-foot intervals. The middle brass ring was sealed with aluminium foil, plastic caps and duct tape, and placed on ice, pending laboratory analyses. Samples from the remaining sleeves were put in a plastic zip-lock bag. After 60 seconds the head space was monitored using Organic Vapor Analyzer (OVA). The samples were later examined for lithologic description using unified soil classification system (USCS), detailed lithologic description are contained in Appendix A. Before each sampling run, the sampler and brass sleeves were steam cleansed with trisodium phosphate and double rinsed in water and distilled water.

Selected samples, based on field evaluation, were recorded on a chain-of-custody and sent to state-certified BC Analytical in Emeryville, California. The samples were analyzed for priority pollutants using EPA 8270. Sample B15-10' was also analyzed for total petroleum hydrocarbons.

### Monitoring Wells

Borings B-14, B-19, B-20, and B-22 were converted to monitoring wells. The wells were constructed of 15 feet 0.020 slotted screens and 5 feet casing. The annular spaces were filled with #3 Monterey sand from the bottom of the well to 3 feet below grade, a foot of bentonite was added and the remaining annular space was filled with concrete slurry. The wells are protected with traffic rated christy boxes (see Appendix A for detailed well construction).

On June 13, 1991, the monitoring wells were gauged, surveyed, purged, and sampled (see Table 1 for monitoring data). During purging, about 10 well volumes were bailed out of each well until temperature, pH, conductivity, and turbidity stabilized. Water samples were collected after the wells recharged to about 80-90% of their former volumes. Water samples were collected in one liter glass bottles, and placed on ice while enroute to BC Analytical. The water samples were analyzed for priority pollutants using EPA method 8270. Detailed laboratory results are contained in Appendix B. Based on filed data, groundwater flow direction was determined to be northeast, towards the Tidal Canal under 0.6% gradient (see Figure 3).

## Site Geology

During drilling the lithology encountered consisted of sandy clay to clay from grade to between 10 feet to 15 feet below grade in borings B-14, B-16, B-20, B-20, and B-21. From this depth the lithology gradually changed to silty sand in B-14, and B-20, clayey sandy silt in B-21 and sandy silty clay in B-22. In boring B-15 the lithology was sandy silt to sandy silty clay from grade to 10 feet below grade. In B-18 it was silty sand to clayey silty sand from grade to 5 feet below grade. From here it changed to clay. In boring B-17 the lithology was clayey silty sand from grade to 5 feet below grade. From this depth to 15 feet below grade the lithology gradually changed to sandy silty clay. In boring B-19 the lithology was clay from grade to 5 feet below grade, and from this depth to 15 feet below grade it gradually changed to silty clay. From 15 feet to 20 feet below grade it changed to clayey silty sand. A visual inspection of the soil collected during drilling revealed two soil types, described below.

**SANDY CLAY:** Dark brown to brown. About 20-30% fine to very fine, hard, and rounded sand. Between 80-70% clay with low to high strength. Low to medium plasticity.

**SILTY SAND:** Greenish gray to brown. About 60-70% very fine to fine, hard, and rounded sand. Between 40-30% silt, with none to low dry strength.

## Laboratory Analyses

Laboratory results for the soil samples indicated that samples B14-20', B15-10', B16-10', B20-20', B21-20', and B22-20' were below detection limits for the parameters analyzed and also below background sample results of May 14, 1991 Report. With the exception of 2,4-Dimethylphenol in sample B19-20', all other parameters were below detection limits and also below background results. Samples B17-15 and B18-10 had parameters which were elevated more than the background results, (see Fig 4). Detailed soil laboratory results are contained in Appendix B.

The laboratory results of the water samples indicated that there were more elevated levels of the parameters in monitoring well B-19, than in monitoring wells B-14, B-20, and B-22, (see Fig 5). Detailed groundwater laboratory results are contained in Appendix B). There is no available background data for groundwater comparison. However, it is reported that water resources from Alameda are used for farm irrigation, not domestic consumption.

## CONCLUSION

Clement Avenue Project retained RGA to perform a further site assessment of the property at 2235 Clement Avenue in Alameda. The objective was to determine the extent of the aromatic hydrocarbon migration. Nine soil borings were drilled to determine the presence or absence of Aromatic Hydrocarbons in the subsurface. Four of the nine borings were converted into monitoring wells. Water samples were collected and analyzed to determine the quality of groundwater.

Laboratory results of the soil samples showed that the lateral migration of the pollutants occurred in the northwest of the warehouse. Laboratory results of the

water samples indicated that groundwater has been impacted. Flow direction is northeast towards the Tidal Canal.

Some of the compounds detected by the laboratory analyses are hydrocarbons found in Coal Tars. These compounds are reported by the Public Health Service survey as carcinogenic, and the routes of exposure include the skin.

#### **RECOMMENDATION**

RGA recommends that the source of the pollutants be investigated. If the source of pollution is not eliminated, the saturated and unsaturated zones of the subsurface may further be impacted.



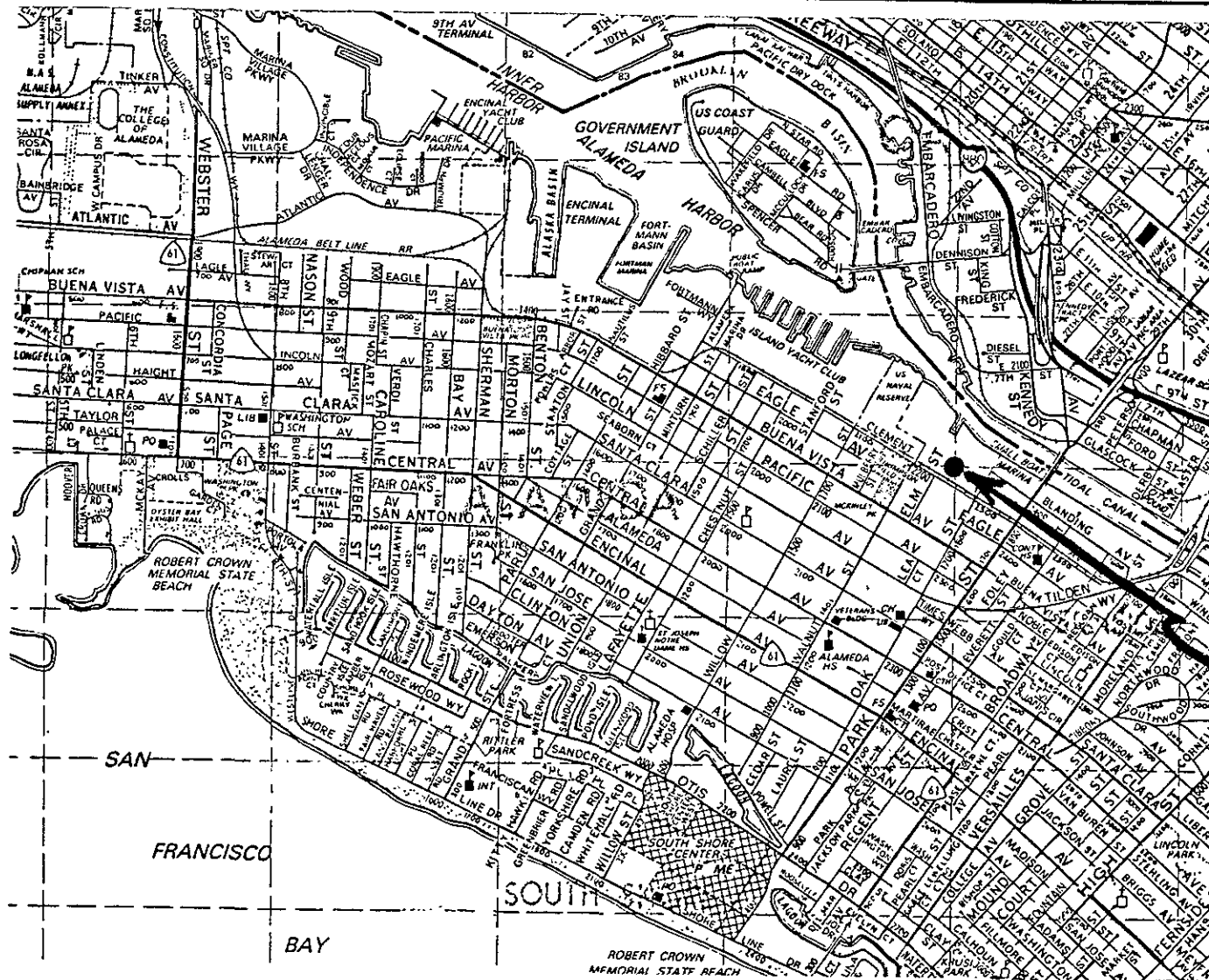
Table 1  
 Groundwater Monitoring Data  
 2235 Clement Avenue  
 (All measurements in feet)

Well I.D	Depth to Water(DTW)	Stadia Reading(SR)	Relative Water Table Elevation(100-DTW-SR)
B-14	4.44	5.27	90.29
B-19	6.17	4.25	89.1
B-20	5.88	5.21	89
B-22	6.23	5.17	88.6

Groundwater Gradient:

$$\frac{(\text{highest well B-14}) - (\text{lowest well B-22})}{\text{horizontal distance between B-14 and B-22}} \times 100$$

$$\frac{1.69 \text{ ft.}}{286 \text{ ft.}} \times 100\% = 0.6\%$$



SITE LOCATION



DRAWING IS SCHEMATIC  
SCALE IS APPROXIMATE  
LOCATIONS ARE APPROXIMATE

SITE LOCATION

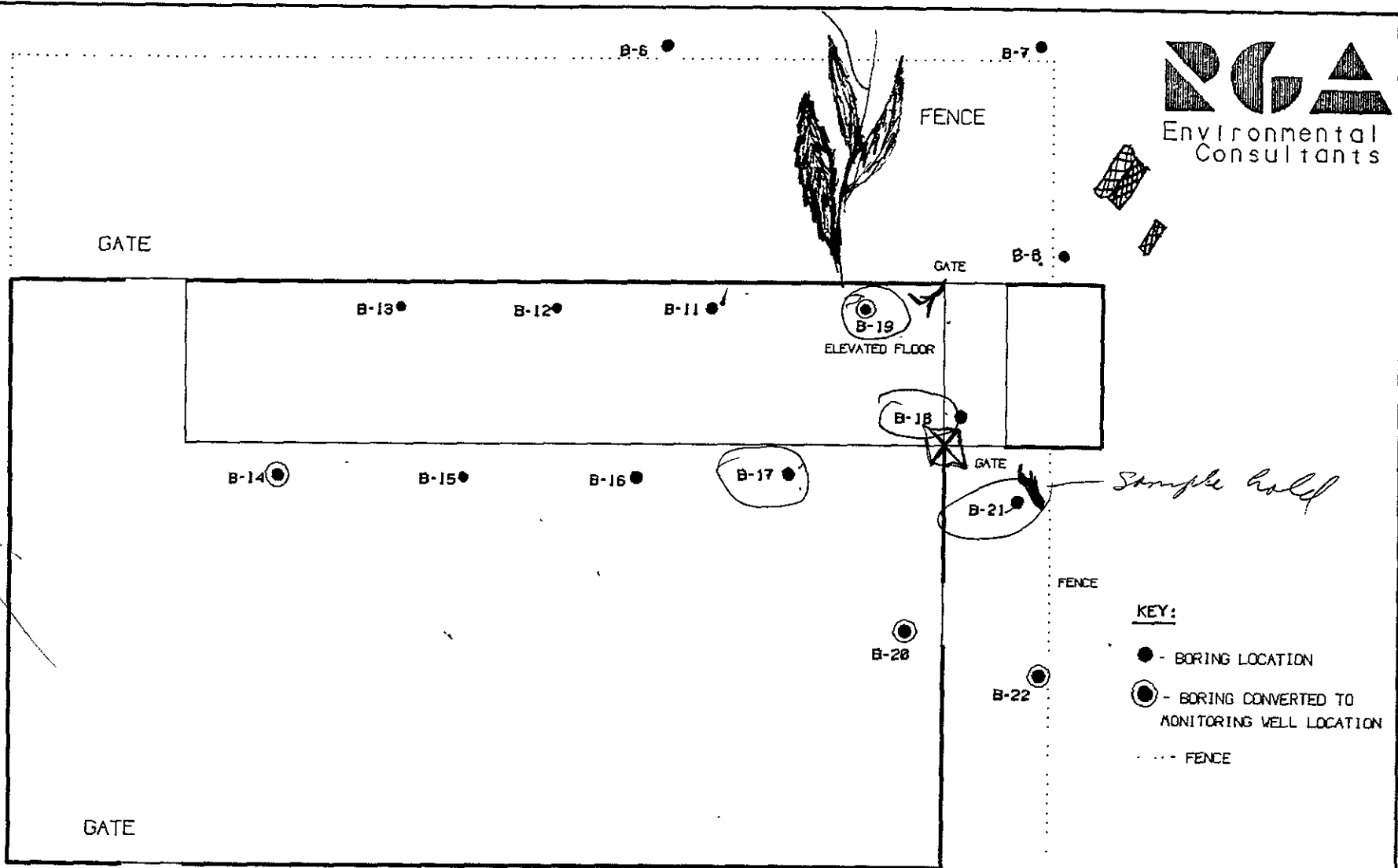
2235 CLEMENT AVENUE

ALAMEDA, CALIFORNIA

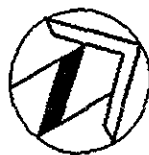
JOB NUMBER: 100610

FIGURE 1

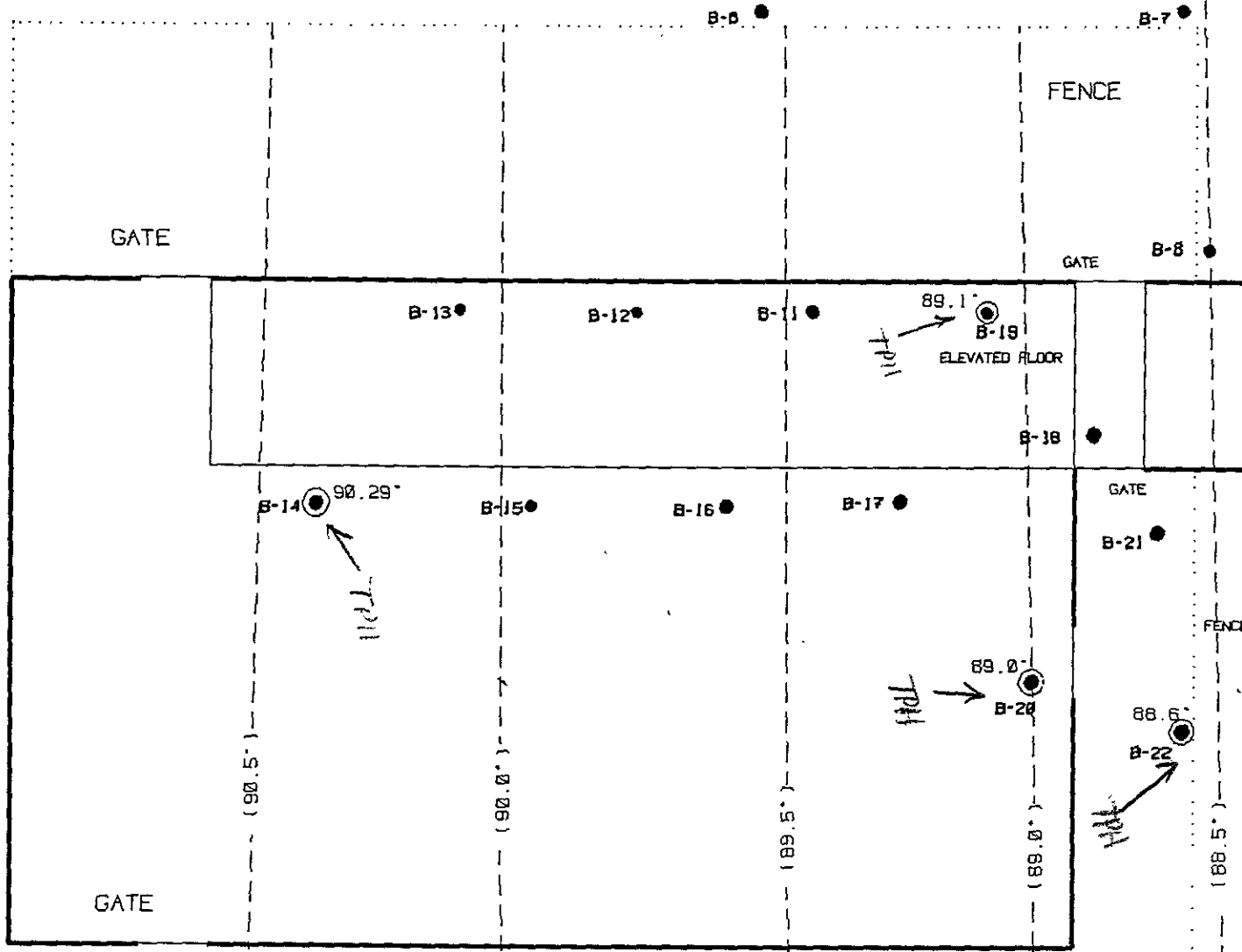
APPROXIMATE SCALE: 1" = 2200'



DRAWING IS SCHEMATIC  
 SCALE IS APPROXIMATE  
 LOCATIONS ARE APPROXIMATE



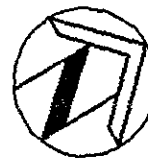
BORING AND WELL LOCATIONS
2235 CLEMENT AVE. PROJECT
RELIANCE STEEL
ALAMEDA, CALIFORNIA
FIGURE 2
APPROXIMATE SCALE: 1" = 55'



→  
DIRECTION OF GROUNDWATER FLOW  
NORTHEAST  
UNDER 0.6% GRADIENT

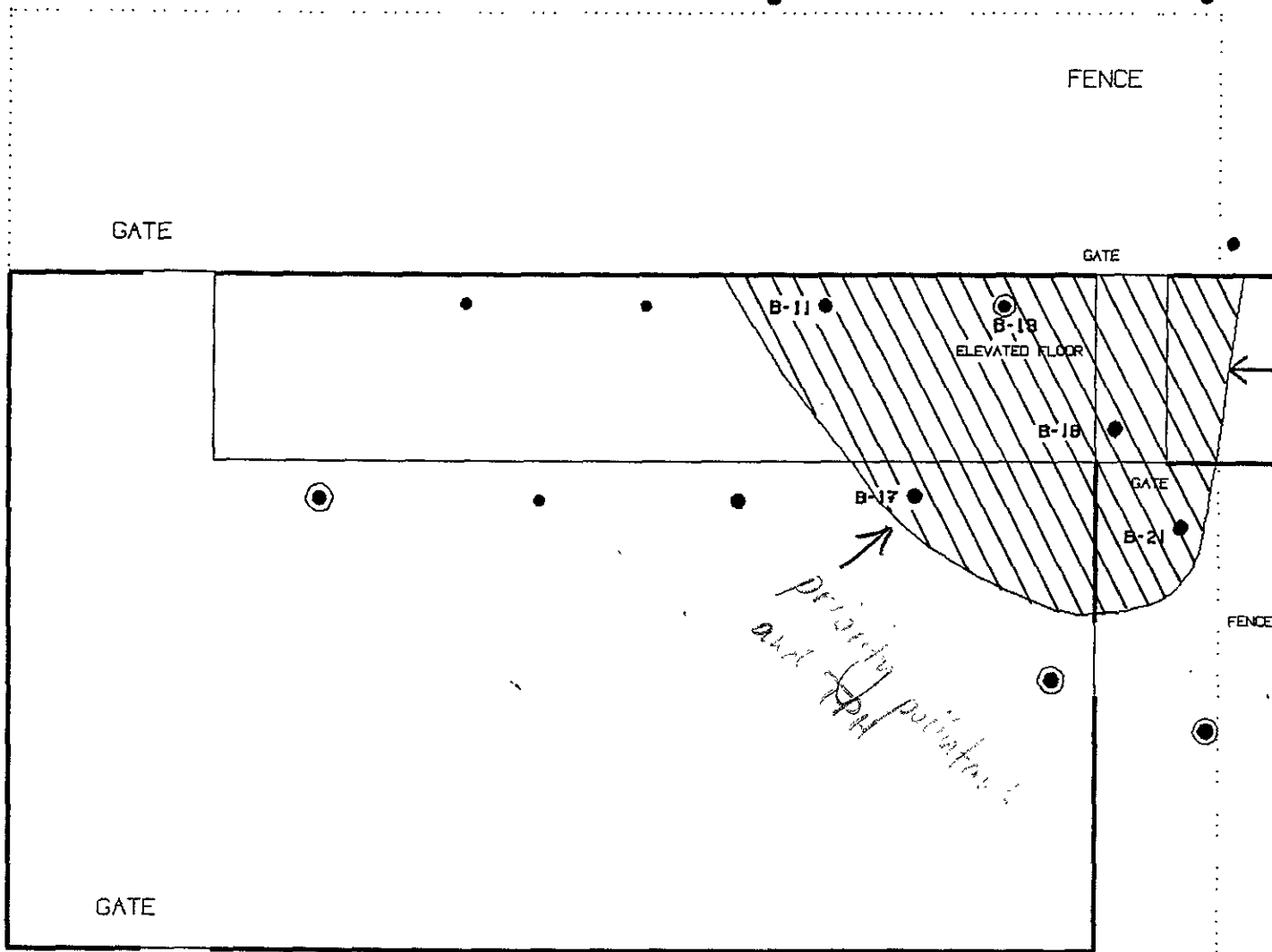
KEY:

- - BORING LOCATION
- ⊙ - BORING CONVERTED TO MONITORING WELL LOCATION
- FENCE
- (89.0') - RELATIVE ELEVATION OF WATER TABLE
- - - - WATER GRADIENT LINE



DRAWING IS SCHEMATIC  
SCALE IS APPROXIMATE  
LOCATIONS ARE APPROXIMATE

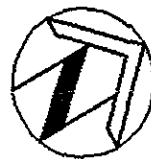
GROUNDWATER GRADIENT MAP
2235 CLEMENT AVE. PROJECT
RELIANCE STEEL
ALAMEDA, CALIFORNIA
FIGURE 3
APPROXIMATE SCALE: 1" = 55'



LEVELS OF PRIORITY:  
POLLUTANTS HIGHER THAN  
BACKGROUND LEVELS (PPA)

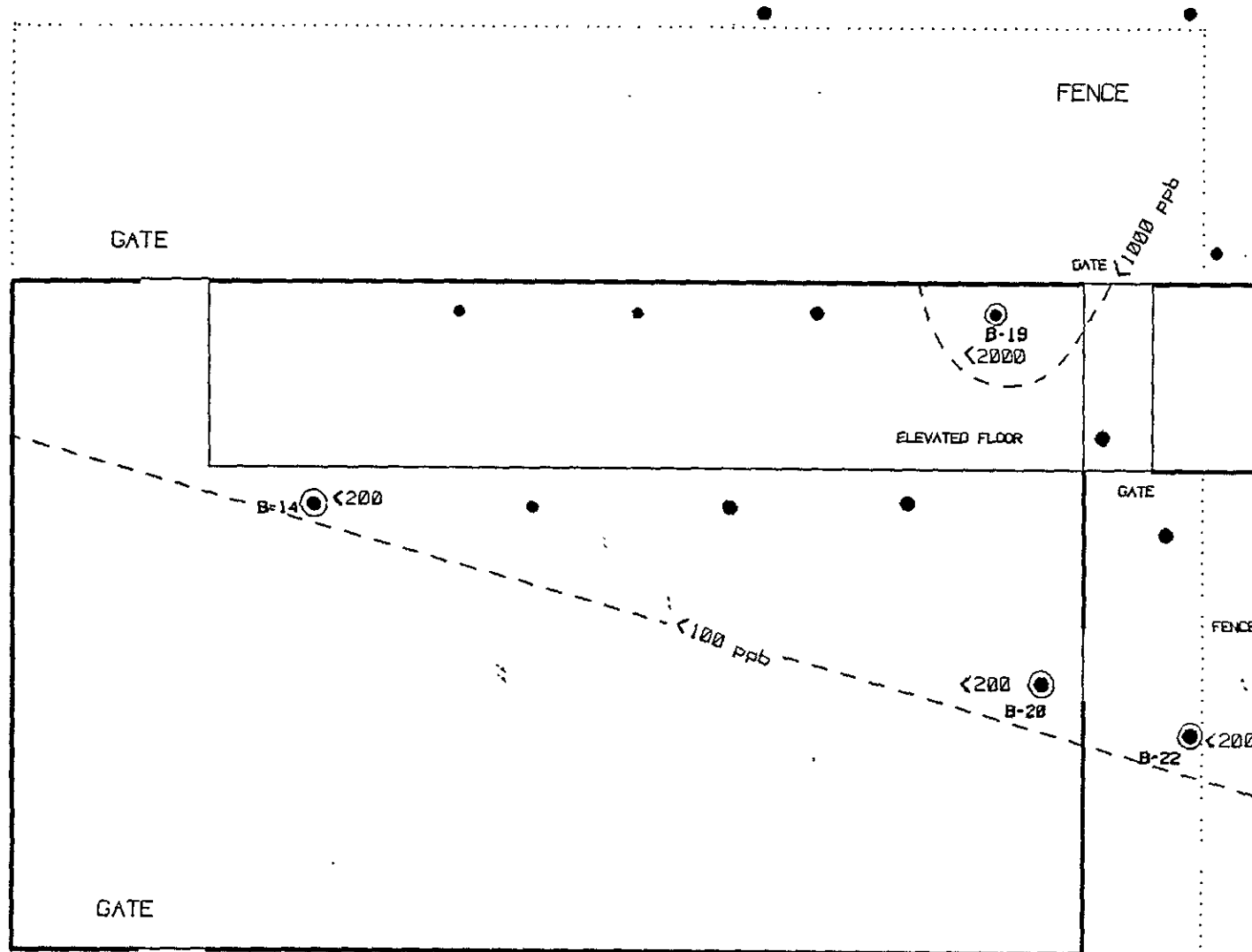
KEY:

- - BORING LOCATION
- ⊙ - BORING CONVERTED TO MONITORING WELL LOCATION
- ..... FENCE



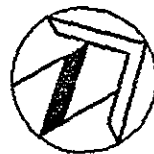
DRAWING IS SCHEMATIC  
SCALE IS APPROXIMATE  
LOCATIONS ARE APPROXIMATE

EXTENT OF MIGRATION IN THE WAREHOUSE (SOIL)
2235 CLEMENT AVE. PROJECT
RELIANCE STEEL
ALAMEDA, CALIFORNIA
FIGURE 4
APPROXIMATE SCALE: 1" = 55'



**KEY:**

- - BORING LOCATION
- ⊙ - BORING CONVERTED TO MONITORING WELL LOCATION
- ..... - FENCE



DRAWING IS SCHEMATIC  
SCALE IS APPROXIMATE  
LOCATIONS ARE APPROXIMATE

LEVELS OF BENZIDINE (ppb-GROUNDWATER)
2235 CLEMENT AVE. PROJECT
RELIANCE STEEL
ALAMEDA, CALIFORNIA
FIGURE 5
APPROXIMATE SCALE: 1" = 55'

# DRILLING AND LITHOGRAPHIC LOG

BORING # B-14

PROJECT : Clement Avenue Project CLIENT: Clement Avenue Project  
 PROJECT #: DB 100610 TOTAL DEPTH OF HOLE: 20 Feet DIAM.: 6.5/8 Inches  
 LOCATION: 2235 Clement Avenue, Alameda, California INITIAL DEPTH - TO GRNDWATR: 5 to 6 Feet  
 DATE DRILLED: June 6, 1991 STATIC WATER LEVEL: \_\_\_\_\_  
 SCREEN DIAMETER: 2 Inches LENGTH: 15 Feet SLOT SIZE: .020 Inches  
 CASING DIAMETER: 2 Inches LENGTH: 5 Feet SAMPLER TYPE: California Modified Split Spoon Sampler  
 DRILLING CO.: HEW Drilling Company, East Palo Alto DRILLING METHOD: Hollow Stem Auger  
 LOGGED BY: Chris Nwabuzoh REVIEWED BY: Roger Robert, RG #3720

CORE SAMPLE CONDITION LEGEND :  UNDISTURBED  DISTURBED  NO RECOVERY

DESCRIPTION	DEPTH	USCS SYMBOL	SAMPLES			WELL CONSTR.	
			NUMBER	CONDI-TION	BLOWS	PIPE	FILL
SANDY CLAY: Dark brown to brown; about 30% very fine to fine, hard, rounded sand; about 70% clay; low to medium toughness; none to slow dilatancy; moist to wet; low plasticity; no reaction with HCL; OVA 30 ppm.	0 - 5	CL	B14-5	UNDISTURBED		CASING	BENTONITE
SANDY CLAY: Same As Above; OVA 4 ppm.	5 - 10	CL	B14-10	DISTURBED			
SILTY SAND: Dark brown to brown; about 40% silt ; about 60% very fine to fine hard, rounded sand; some clay; low strength; slow to rapid dilatancy; none to low plasticity; moist to wet; no solvent odor; no reaction with HCL; OVA 4 ppm	10 - 15	SM	B14-15	DISTURBED			
SILTY SAND: Same As Above; OVA 1ppm	15 - 20	SM	B14-20	DISTURBED			
	20 - 25						

 SCREEN
  CONCRETE
  BENTONITE
  SAND

ROBERT GILS ASSOCIATES, INC.

6400 HOLLIS STREET - SUITE #4, EMERYVILLE, CALIFORNIA 94608-1028 - 415/547-7771

# DRILLING AND LITHOGRAPHIC LOG

BORING # B-15

PROJECT: Clement Avenue Project CLIENT: Clement Avenue Project  
 PROJECT #: DB 100610 TOTAL DEPTH OF HOLE: 10 Feet DIAM.: 6.5/8 Inches  
 LOCATION: 2235 Clement Avenue, Alameda, California INITIAL DEPTH - TO GRNDWATR: 5 to 6 Feet  
 DATE DRILLED: June 6, 1991 STATIC WATER LEVEL: N/A  
 SCREEN DIAMETER: N/A LENGTH: \_\_\_\_\_ SLOT SIZE: \_\_\_\_\_  
 CASING DIAMETER: N/A LENGTH: \_\_\_\_\_ SAMPLERTYPE: California Modified Split Spoon Sampler  
 DRILLING CO.: HEW Drilling Company DRILLING METHOD: Hollow Stem Auger  
 LOGGED BY: Chris Nwaabuzoh REVIEWED BY: Roger Robert, RG # 3720

CORE SAMPLE CONDITION LEGEND :  UNDISTURBED     DISTURBED     NO RECOVERY

DESCRIPTION	DEPTH	USCS SYMBOL	SAMPLES			WELL CONSTR.	
			NUMBER	CONDI-TION	BLOWS	PIPE	FILL
<p>SANDY SILT: Dark brown to brown; about 30% very fine to fine sand; none to low strength; slow to rapid dilatancy; about 70% silt; wet no solvent odor; no reaction with HCL, OVA 2ppm.</p>	0						
	5	ML	B15-5	<input checked="" type="checkbox"/>			
<p>SANDY SILTY CLAY: Greenish brown; about 15% very fine sand; about 30% silt; about 55% clay; low to medium toughness; none to slow dilatancy; medium plasticity; very moist; no odor; no reaction with HCL OVA 2ppm</p>	10	CL	B15-10	<input checked="" type="checkbox"/>			
	15						
	20						
	25						

**ROBERT GILS ASSOCIATES, INC.**

6400 HOLLIS STREET - SUITE #4, EMERYVILLE, CALIFORNIA 94608-1028 - 415/547-7771



# DRILLING AND LITHOGRAPHIC LOG

**BORING # B-16**

PROJECT : Clement Avenue Project CLIENT: Clement Avenue Project  
 PROJECT #: DB 100610 TOTAL DEPTH OF HOLE: 10 Feet DIAM.: 6 5/8 Inches  
 LOCATION: 2235 Clement Avenue, Alameda, California INITIAL DEPTH - TO GRNDWATR: 5 to 6 Feet  
 DATE DRILLED: June 6, 1991 STATIC WATER LEVEL: N/A  
 SCREEN DIAMETER: N/A LENGTH: \_\_\_\_\_ SLOT SIZE: \_\_\_\_\_  
 CASING DIAMETER: N/A LENGTH: \_\_\_\_\_ SAMPLERTYPE: California Modified Split Spoon Sampler  
 DRILLING CO.: HEW Drilling Company, East Palo Alto DRILLING METHOD: Hollow Stem Auger  
 LOGGED BY: Chris Nwabuzoh REVIEWED BY: Roger Robert, RG # 3720

**CORE SAMPLE CONDITION LEGEND :**  UNDISTURBED  DISTURBED  NO RECOVERY

DESCRIPTION	DEPTH	USCS SYMBOL	SAMPLES			WELL CONSTR.	
			NUMBER	CONDI-TION	BLOWS	PIPE	FILL
CLAY: Dark brown; about 100% clay; medium toughness; medium dilatancy; medium plasticity; no solvent odor; moist to wet; no reaction with HCL, OVA 30 ppm.	0						
	5	CL	B16-5	<input checked="" type="checkbox"/>			
SANDY SILTY CLAY: greenish brown; about 15% very fine, hard, rounded sand; about 30% silt; about 55% clay; low to medium toughness; none to slow dilatancy; medium plasticity; no solvent odor; slight machine oil; very moist; no reaction with HCL, OVA 20 ppm.	10	CL	B16-10	<input checked="" type="checkbox"/>			
	15						
	20						
	25						

**ROBERT GILS ASSOCIATES, INC.**

6400 HOLLIS STREET - SUITE #4, EMERYVILLE, CALIFORNIA 94608-1028 - 415/547-7771

# DRILLING AND LITHOGRAPHIC LOG

BORING # B-17

PROJECT : Clement Avenue Project CLIENT: Clement Avenue Project  
 PROJECT #: DB 100610 TOTAL DEPTH OF HOLE: 15 Feet DIAM.: 6 5/8 Inches  
 LOCATION: 2235 Clement Avenue, Alameda, California INITIAL DEPTH - TO GRNDWATR: 5 to 6 Feet  
 DATE DRILLED: June 5, 1991 STATIC WATER LEVEL: N/A  
 SCREEN DIAMETER: N/A LENGTH: \_\_\_\_\_ SLOT SIZE: \_\_\_\_\_  
 CASING DIAMETER: N/A LENGTH: \_\_\_\_\_ SAMPLER TYPE: California Modified Split Spoon Sampler  
 DRILLING CO.: HEW Drilling Company, East Palo Alto DRILLING METHOD: Hollow Stem Auger  
 LOGGED BY: Chris Nwabuzoh REVIEWED BY: Roger Robert, RG #3720

CORE SAMPLE CONDITION LEGEND :  UNDISTURBED     DISTURBED     NO RECOVERY

DESCRIPTION	DEPTH	USCS SYMBOL	SAMPLES			WELL CONSTR.	
			NUMBER	CONDI-TION	BLOWS	PIPE	FILL
CLAYEY SILTY SAND: Dark brown; about 15% clay; about 30% silt; low toughness; slow to rapid dilatancy; about 55% fine hard rounded sand; very moist; has solvent odor; no reaction with HCL. OVA 550ppm	0 - 5	SC	B17-5	<input checked="" type="checkbox"/>			
SANDY SILTY CLAY: Greenish gray; about 15% very, fine, hard sand; about 35% silt; about 50% clay; low to medium toughness; none to slow dilatancy; low to medium plasticity; moist to wet; has solvent odor; no reaction with HCL. OVA 200 ppm	5 - 15	CL	B17-10	<input checked="" type="checkbox"/>			
SANDY SILTY CLAY: Same As Above. OVA 200ppm	15 - 25	CL	B17-15	<input checked="" type="checkbox"/>			

## ROBERT GILS ASSOCIATES, INC.

6400 HOLLIS STREET - SUITE #4, EMERYVILLE, CALIFORNIA 94608-1028 - 415/547-7771

# DRILLING AND LITHOGRAPHIC LOG

BORING # B-18

PROJECT : Clement Avenue Project CLIENT: Clement Avenue Project  
 PROJECT #: DB 100610 TOTAL DEPTH OF HOLE: 10 Feet DIAM.: 6.5/8 Inches  
 LOCATION: 2235 Clement Avenue, Alameda, California INITIAL DEPTH - TO GRNDWATR: 4 to 6 Feet  
 DATE DRILLED: June 5, 1991 STATIC WATER LEVEL: \_\_\_\_\_  
 SCREEN DIAMETER: N/A LENGTH: \_\_\_\_\_ SLOT SIZE: \_\_\_\_\_  
 CASING DIAMETER: N/A LENGTH: \_\_\_\_\_ SAMPLERTYPE: California Modified Split Sampler  
 DRILLING CO.: HEW Drilling Company, East Palo Alto DRILLING METHOD: Hollow Stem Auger  
 LOGGED BY: Chris Nwabuzoh REVIEWED BY: Roger Robert, RG #3720

CORE SAMPLE CONDITION LEGEND :  UNDISTURBED  DISTURBED  NO RECOVERY

DESCRIPTION	DEPTH	USCS SYMBOL	SAMPLES			WELL CONSTR.	
			NUMBER	CONDI-TION	BLOWS	PIPE	FILL
0 to 3 Feet: SILTY SAND: ABOUT 40% silt; about 60% fine to coarse, hared, rounded to sub-rounded sand; moist to wet; low to no toughness; rapid dilatancy; has solvent odor; no reaction with HCL	0	SM			4		
SANDY CLAY: Dark brown; about 70% clay; low to medium toughness; slow dilatancy; low plasticity; has solvent odor; Same As Above. OVA 250 ppm	5	CL	B18-5	<input checked="" type="checkbox"/>	4		
CLAY: Dark brown; about 100% clay; medium toughness; no dilatancy; medium plasticity; moist to wet; has solvent odor; no reaction with HCL; OVA 200 ppm	10	CL	B18-10	<input checked="" type="checkbox"/>	3		
					4		
					6		

ROBERT GILS ASSOCIATES, INC.

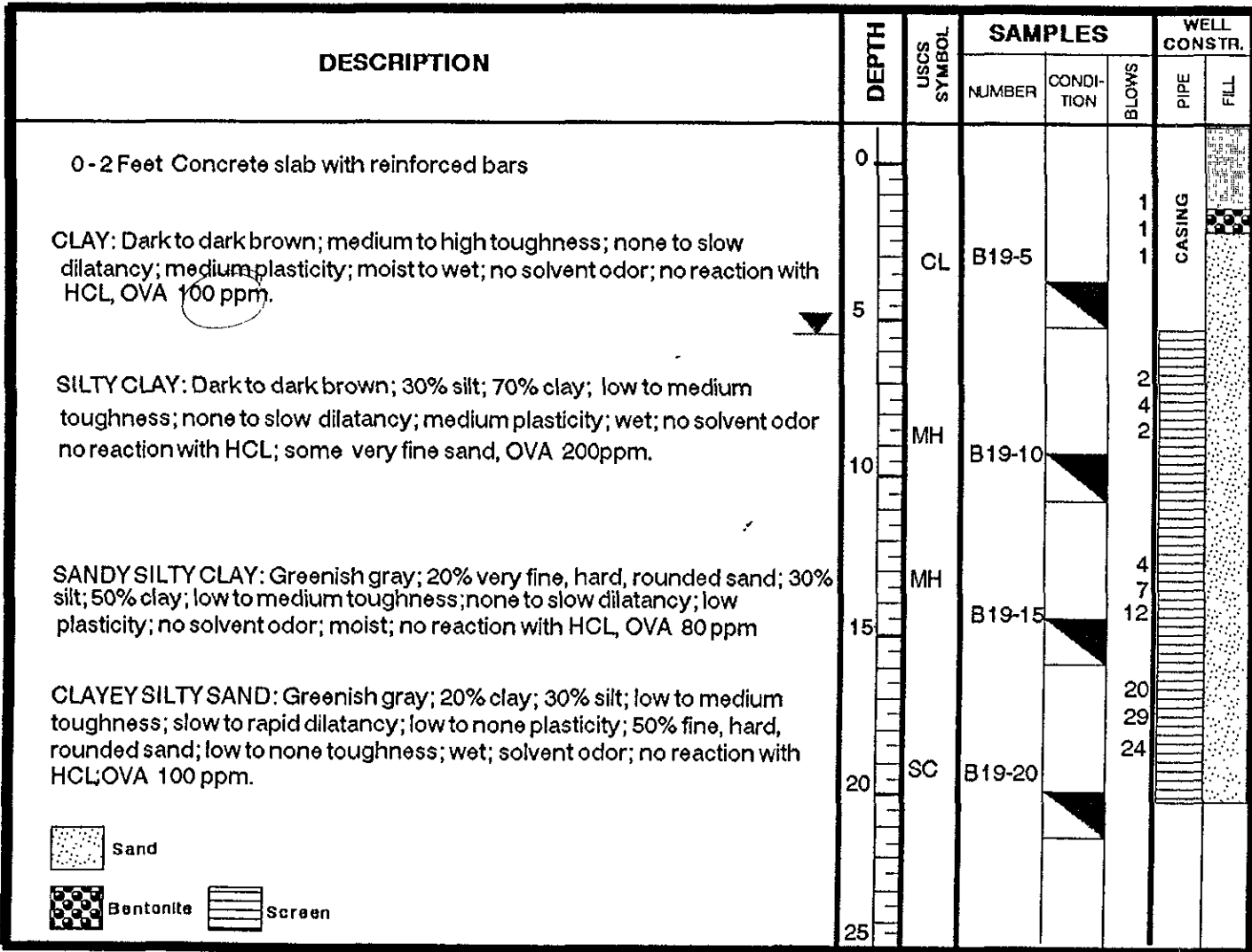
6400 HOLLIS STREET - SUITE #4, EMERYVILLE, CALIFORNIA 94608-1028 - 415/547-7771

# DRILLING AND LITHOGRAPHIC LOG

BORING # B-19

PROJECT: Clement Avenue Project CLIENT: Clement Avenue Project  
 PROJECT #: DB 100610 TOTAL DEPTH OF HOLE: 20 Feet DIAM.: 6.3/8 Inches  
 LOCATION: 2235 Clement Avenue, Alameda, CA INITIAL DEPTH - TO GRNDWATR: 5 Feet  
 DATE DRILLED: June 6, 1991 STATIC WATER LEVEL: 6.17 Feet  
 SCREEN DIAMETER: 2 inches LENGTH: 15 feet SLOT SIZE: .020 inches  
 CASING DIAMETER: 2 inches LENGTH: 5 feet SAMPLER TYPE: California Modified Split Spoon Sampler  
 DRILLING CO.: HEW Drilling Company, East Palo Alto DRILLING METHOD: Hollow Stem Auger  
 LOGGED BY: Chris Nwabuzoh REVIEWED BY: Roger Robert, RG #3720

CORE SAMPLE CONDITION LEGEND :  UNDISTURBED  DISTURBED  NO RECOVERY



## ROBERT GILS ASSOCIATES, INC.


6400 HOLLIS STREET - SUITE #4, EMERYVILLE, CALIFORNIA 94608-1028 - 415/547-7771

# DRILLING AND LITHOGRAPHIC LOG

**BORING # B-20**

PROJECT : Clement Avenue Project CLIENT: Clement Avenue Project  
 PROJECT #: DB 100610 TOTAL DEPTH OF HOLE: 20 Feet DIAM.: 6 5/8 Inches  
 LOCATION: 2235 Clement Avenue, Alameda, California INITIAL DEPTH - TO GRNDWATR: 5 to 6 Feet  
 DATE DRILLED: June 5, 1991 STATIC WATER LEVEL: \_\_\_\_\_  
 SCREEN DIAMETER: 2 Inches LENGTH: 15 Feet SLOT SIZE: .020 Inches  
 CASING DIAMETER: 2 Inches LENGTH: 5 Feet SAMPLER TYPE: California Modified Split Spoon Sampler  
 DRILLING CO.: HEW Drilling Company, East Palo Alto DRILLING METHOD: Hollow Stem Auger  
 LOGGED BY: Chris Nwabuzoh REVIEWED BY: Roger Robert RG #3720

**CORE SAMPLE CONDITION LEGEND :**  UNDISTURBED     DISTURBED     NO RECOVERY

DESCRIPTION	DEPTH	USCS SYMBOL	SAMPLES			WELL CONSTR.	
			NUMBER	CONDI-TION	BLOWS	PIPE	FILL
CLAY: Dark brown; about 100% clay; medium to high toughness; none dilatancy; medium to high plasticity; moist to wet; no solvent odor, no reaction with HCL; OVA 100 ppm	0 5	CL	B20-5	<input checked="" type="checkbox"/>	3 4 7	CASING	
CLAY: Dark brown to grayish green; Same As Above; OVA 4 ppm	5 10	CL	B20-10	<input checked="" type="checkbox"/>	4 7 12		
SANDY SILTY CLAY: Dark brown to brown; about 15% very fine to fine, hard, rounded sand; about 30% silt; about 55% clay; low to medium toughness; none to slow dilatancy; low to medium toughness; wet; no solvent odor; no reaction with HCL; OVA 4 ppm	10 15	CL	B20-15	<input checked="" type="checkbox"/>	7 9 11		
SILTY SAND: Dark brown to brown; about 40% silt; about 60% very fine to fine, hard, rounded sand; low toughness; rapid dilatancy; wet; no solvent odor; some clay; no reaction with HCL; OVA 2 ppm	15 20	SM	B20-20	<input checked="" type="checkbox"/>	12 20		
	20 25						

 SCREEN   
  CONCRETE   
  BENTONITE   
  SAND

**ROBERT GILS ASSOCIATES, INC.**

6400 HOLLIS STREET - SUITE #4, EMERYVILLE, CALIFORNIA 94608-1028 - 415/547-7771

# DRILLING AND LITHOGRAPHIC LOG

BORING # B-21

PROJECT : Clement Avenue Project CLIENT: Clement Avenue Project  
 PROJECT #: DB 100610 TOTAL DEPTH OF HOLE: 20 Feet DIAM.: 6 5/8 Inches  
 LOCATION: 2235 Clement Avenue, Alameda, California INITIAL DEPTH - TO GRNDWATR: 5 to 6 Feet  
 DATE DRILLED: June 21, 1991 STATIC WATER LEVEL: N/A  
 SCREEN DIAMETER: N/A LENGTH: \_\_\_\_\_ SLOT SIZE: \_\_\_\_\_  
 CASING DIAMETER: N/A LENGTH: \_\_\_\_\_ SAMPLER TYPE: California Modified Split Spoon Sampler  
 DRILLING CO.: HEW Drilling Company, East Palo Alto DRILLING METHOD: Hollow Stem Auger  
 LOGGED BY: Chris Nwabuzoh REVIEWED BY: Roger Robert, RG #3720

CORE SAMPLE CONDITION LEGEND :  UNDISTURBED  DISTURBED  NO RECOVERY

DESCRIPTION	DEPTH	USCS SYMBOL	SAMPLES			WELL CONSTR.	
			NUMBER	CONDI-TION	BLOWS	PIPE	FILL
CLAY WITH SAND: Dark to dark gray; about 95% clay; medium toughness; medium dilatancy; moist to wet; medium plasticity; no solvent odor; has organic odor; some very fine sand; no reaction with HCL, OVA 200 ppm.	0						
	5	CL	B21-5	<input checked="" type="checkbox"/>	3 3 3		
	10	CL	B21-10	<input checked="" type="checkbox"/>	1 2 3		
SANDY SILTY CLAY: Greenish; about 20% very fine, hard, rounded sand; about 30% silt; about 50% clay; low to medium toughness; slow dilatancy; low plasticity; moist to wet; no odor; no reaction with HCL, OVA 500 ppm	15	CL	B21-15	<input checked="" type="checkbox"/>	4 6 4		
	20	ML	B21-20	<input checked="" type="checkbox"/>	16 26 31		
CLAYEY SANDY SILT: Greenish brown; about 20% clay; about 50% silt; low toughness; slow to rapid dilatancy; no plasticity; about 30% very fine to fine, hard, rounded sand; has solvent odor; wet; no reaction with HCL, OVA 80ppm.	25						

ROBERT GILS ASSOCIATES, INC.

6400 HOLLIS STREET - SUITE #4, EMERYVILLE, CALIFORNIA 94608-1028 - 415/547-7771

# DRILLING AND LITHOGRAPHIC LOG

BORING # B-22

PROJECT : Clement Avenue Project CLIENT: Clement Avenue Project  
 PROJECT #: DB 100610 TOTAL DEPTH OF HOLE: 20 Feet DIAM.: 2 Inches  
 LOCATION: 2235 Clement Avenue, Alameda, California INITIAL DEPTH - TO GRNDWATR: 5 to 6 Feet  
 DATE DRILLED: June 6, 1991 STATIC WATER LEVEL: 6.23 Feet  
 SCREEN DIAMETER: 2 Inches LENGTH: 15 Feet SLOT SIZE: .020 Inches  
 CASING DIAMETER: 2 Inches LENGTH: 5 Feet SAMPLER TYPE: California Modified Split Spoon Sampler  
 DRILLING CO.: HEW Drilling Company, East Palo Alto DRILLING METHOD: Hollow Stem Auger  
 LOGGED BY: Chris Nwabuzoh REVIEWED BY: Roger Rober, RG #3720

CORE SAMPLE CONDITION LEGEND :  UNDISTURBED  DISTURBED  NO RECOVERY

DESCRIPTION	DEPTH	USCS SYMBOL	SAMPLES			WELL CONSTR.	
			NUMBER	CONDI-TION	BLOWS	PIPE	FILL
SANDY CLAY: Dark gray; about 20% fine, hard, rounded sand; about 80% clay; medium toughness; none dilatancy; medium plasticity; moist to wet; no solvent odor; has some organic odor; no reaction with HCL; OVA 80 ppm	0 - 5	CL	B22-5	UNDISTURBED	2 3 3	CASING	
SANDY CLAY: Dark; about 10% very fine, hard, rounded sand; about 90% clay; medium toughness; none dilatancy; medium plasticity; moist to wet; no solvent odor; has organic odor; some roots; no reaction with HCL; OVA 100 ppm	5 - 10	CL	B22-10	DISTURBED	2 2 1		
SANDY CLAY: Greenish gray; about 30% very fine to fine, hard, rounded sand; about 70% clay; low toughness; slow dilatancy; low plasticity; moist to wet; no solvent odor; no reaction with HCL; OVA 4 ppm;	10 - 15	CL	B22-15	DISTURBED	4 5 6		
SANDY SILT: Greenish gray; about 40% very fine fine to fine, hard, rounded sand; about 60% silt; low to no toughness; rapid dilatancy; no plasticity; wet, no solvent odor; no reaction with HCL; OVA 2 ppm	15 - 20	ML	B22-20	DISTURBED	16 24 34		
	20 - 25						

 SCREEN
  CONCRETE
  BENTONITE
  SAND

## ROBERT GILS ASSOCIATES, INC.

6400 HOLLIS STREET - SUITE #4, EMERYVILLE, CALIFORNIA 94608-1028 - 415/547-7771

# Analytical Report

LOG NO: E91-06-177

Received: 10 JUN 91

Mailed: JUL 03 1991

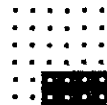
Mr. Chris Nwabuzoh  
 Robert E. Gils Associates, Inc.  
 6400 Hollis Street Suite 3  
 Emeryville, California 94608

Project: DB-100554

## REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED				
06-177-1	B14-20'					06 JUN 91
06-177-2	B15-10'					06 JUN 91
06-177-3	B17-15'					05 JUN 91
06-177-4	B18-10'					05 JUN 91
06-177-5	B19-20'					05 JUN 91
		<i>B-14</i>	<i>B-15</i>	<i>B-17</i>	<i>B-18</i>	
PARAMETER		06-177-1	06-177-2	06-177-3	06-177-4	06-177-5
B/N,A Ext. Priority Pollutants						
Date Analyzed		06.25.91	06.25.91	06.25.91	06.25.91	06.25.91
Date Extracted		06.19.91	06.19.91	06.19.91	06.19.91	06.19.91
Dilution Factor, Times		1	1	10	10	1
1,2,4-Trichlorobenzene, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03 ✓
1,2-Dichlorobenzene, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03 ✓
1,2-Diphenylhydrazine, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03 ✓
1,3-Dichlorobenzene, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03 ✓
1,4-Dichlorobenzene, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03 ✓
2,4,5-Trichlorophenol, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03 ✓
2,4,6-Trichlorophenol, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03 ✓
2,4-Dichlorophenol, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03 ✓
2,4-Dimethylphenol, mg/kg		<0.03	<0.03	<0.3	<0.3	0.17 ✓
2,4-Dinitrophenol, mg/kg		<0.3	<0.3	<3	<3	<0.3
2,4-Dinitrotoluene, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03
2,6-Dinitrotoluene, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03
2-Chloronaphthalene, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03
2-Chlorophenol, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03
2-Methyl-4,6-dinitrophenol, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03
2-Methylnaphthalene, mg/kg		<0.03	<0.03	10	0.7	<0.03
2-Methylphenol (o-Cresol), mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03
2-Nitroaniline, mg/kg		<0.2	<0.2	<2	<2	<0.2
2-Nitrophenol, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03
3,3'-Dichlorobenzidine, mg/kg		<0.03	<0.03	<0.3	<0.3	<0.03





# Analytical Report

LOG NO: E91-06-177

Received: 10 JUN 91

Mr. Chris Nwabuzoh  
 Robert E. Gils Associates, Inc.  
 6400 Hollis Street Suite 3  
 Emeryville, California 94608

Project: DB-100554

## REPORT OF ANALYTICAL RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED				
06-177-1	B14-20'	06 JUN 91				
06-177-2	B15-10'	06 JUN 91				
06-177-3	B17-15'	05 JUN 91				
06-177-4	B18-10'	05 JUN 91				
06-177-5	B19-20'	05 JUN 91				
PARAMETER	06-177-1	06-177-2	06-177-3	06-177-4	06-177-5	
3-Nitroaniline, mg/kg	<0.2	<0.2	<2	<2	<0.2	
4-Bromophenylphenylether, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03	
4-Chloro-3-methylphenol, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03	
4-Chloroaniline, mg/kg	<0.2	<0.2	<2	<2	<0.2	
4-Chlorophenylphenylether, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03	
4-Methylphenol (p-Cresol), mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03	
4-Nitroaniline, mg/kg	<0.2	<0.2	<2	<2	<0.2	
4-Nitrophenol, mg/kg	<0.7	<0.7	<7	<7	<0.7	
Acenaphthene, mg/kg	<0.03	<0.03	8.8	1.3	<0.03	
Acenaphthylene, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03	
Aniline, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03	
Anthracene, mg/kg	<0.03	<0.03	4.0	1.0	<0.03	
Benzidine, mg/kg	<1	<1	<10	<10	<1	
Benzo(a)anthracene, mg/kg	<0.03	<0.03	1.3	<0.3	<0.03	
Benzo(a)pyrene, mg/kg	<0.03	<0.03	0.6	<0.3	<0.03	
Benzo(b)fluoranthene, mg/kg	<0.03	<0.03	1.5	<0.3	<0.03	
Benzo(g,h,i)perylene, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03	
Benzo(k)fluoranthene, mg/kg	<0.03	<0.03	1.5	<0.3	<0.03	
Benzyl alcohol, mg/kg	<0.2	<0.2	<2	<2	<0.2	
Benzoic acid, mg/kg	<0.2	<0.2	<2	<2	<0.2	
Butylbenzylphthalate, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03	
Chrysene, mg/kg	<0.03	<0.03	1.9	0.4	<0.03	
Di-n-octylphthalate, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03	
Dibenzo(a,h)anthracene, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03	

# Analytical Report

LOG NO: E91-06-177

Received: 10 JUN 91

Mr. Chris Nwabuzoh  
 Robert E. Gils Associates, Inc.  
 6400 Hollis Street Suite 3  
 Emeryville, California 94608

Project: DB-100554

## REPORT OF ANALYTICAL RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED				
06-177-1	B14-20'	06 JUN 91				
06-177-2	B15-10'	06 JUN 91				
06-177-3	B17-15'	05 JUN 91				
06-177-4	B18-10'	05 JUN 91				
06-177-5	B19-20'	05 JUN 91				

PARAMETER	06-177-1	06-177-2	06-177-3	06-177-4	06-177-5
Dibenzofuran, mg/kg	<0.03	<0.03	5.9	0.7	<0.03
Dibutylphthalate, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Diethylphthalate, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Dimethylphthalate, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Fluoranthene, mg/kg	<0.03	<0.03	6.3	1.3	<0.03
Fluorene, mg/kg	<0.03	<0.03	6.5	1.0	<0.03
Hexachlorobenzene, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Hexachlorobutadiene, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Hexachlorocyclopentadiene, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Hexachloroethane, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Indeno(1,2,3-c,d)pyrene, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Isophorone, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
N-Nitrosodimethylamine, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
N-Nitrosodiphenylamine, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
N-Nitrosodi-n-propylamine, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Nitrobenzene, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Naphthalene, mg/kg	<0.03	<0.03	34	1.6	0.06
Phenanthrene, mg/kg	<0.03	<0.03	14	3.1	<0.03
Phenol, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Pentachlorophenol, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Pyrene, mg/kg	<0.03	<0.03	4.9	1.2	<0.03
Bis(2-chloroethoxy)methane, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Bis(2-chloroethyl)ether, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03
Bis(2-chloroisopropyl)ether, mg/kg	<0.03	<0.03	<0.3	<0.3	<0.03

# Analytical Report

LOG NO: E91-06-177

Received: 10 JUN 91

Mr. Chris Nwabuzoh  
 Robert E. Gils Associates, Inc.  
 6400 Hollis Street Suite 3  
 Emeryville, California 94608

Project: DB-100554

## REPORT OF ANALYTICAL RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
06-177-1	B14-20'	06 JUN 91
06-177-2	B15-10'	06 JUN 91
06-177-3	B17-15'	05 JUN 91
06-177-4	B18-10'	05 JUN 91
06-177-5	B19-20'	05 JUN 91

PARAMETER	06-177-1	06-177-2	06-177-3	06-177-4	06-177-5
Bis(2-ethylhexyl)phthalate, mg/kg	<3	<3	<30	<30	<3
Other B/N,A Ext. Priority Pollutants---	---	---	---	---	---
<b>Semi-Quantified Results **</b>					
C11H10, mg/kg	---	---	8	---	---
C12H100, mg/kg	---	---	2	---	---
C15H10, mg/kg	---	---	2	---	---
C8H6S, mg/kg	---	---	2	---	---
C9H10, mg/kg	---	---	4	---	---

\*\* Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.



# Analytical Report

LOG NO: E91-06-177

Received: 10 JUN 91

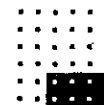
Mr. Chris Nwabuzoh  
Robert E. Gils Associates, Inc.  
6400 Hollis Street Suite 3  
Emeryville, California 94608

Project: DB-100554

## REPORT OF ANALYTICAL RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED			
06-177-6	B20-20'	06 JUN 91			
06-177-7	B21-20'	05 JUN 91			
06-177-8	B22-20'	06 JUN 91			
06-177-10	B16-10'	06 JUN 91			
PARAMETER		06-177-6	06-177-7	06-177-8	06-177-10
Petroleum Hydrocarbons (418.1), mg/kg		---	---	---	<50



# Analytical Report

LOG NO: E91-06-177

Received: 10 JUN 91

Mr. Chris Nwabuzoh  
 Robert E. Gils Associates, Inc.  
 6400 Hollis Street Suite 3  
 Emeryville, California 94608

Project: DB-100554

REPORT OF ANALYTICAL RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED			
06-177-6	B20-20'	06 JUN 91			
06-177-7	B21-20'	05 JUN 91			
06-177-8	B22-20'	06 JUN 91			
06-177-10	B16-10'	06 JUN 91			
PARAMETER	06-177-6	06-177-7	06-177-8	06-177-10	
<b>B/N,A Ext. Priority Pollutants</b>					
Date Analyzed	06.25.91	06.26.91	06.26.91	06.25.91	
Date Extracted	06.19.91	06.19.91	06.19.91	06.19.91	
Dilution Factor, Times	1	1	1	1	
1,2,4-Trichlorobenzene, mg/kg	<0.03	<0.03	<0.03	<0.03	
1,2-Dichlorobenzene, mg/kg	<0.03	<0.03	<0.03	<0.03	
1,2-Diphenylhydrazine, mg/kg	<0.03	<0.03	<0.03	<0.03	
1,3-Dichlorobenzene, mg/kg	<0.03	<0.03	<0.03	<0.03	
1,4-Dichlorobenzene, mg/kg	<0.03	<0.03	<0.03	<0.03	
2,4,5-Trichlorophenol, mg/kg	<0.03	<0.03	<0.03	<0.03	
2,4,6-Trichlorophenol, mg/kg	<0.03	<0.03	<0.03	<0.03	
2,4-Dichlorophenol, mg/kg	<0.03	<0.03	<0.03	<0.03	
2,4-Dimethylphenol, mg/kg	<0.03	<0.03	<0.03	<0.03	
2,4-Dinitrophenol, mg/kg	<0.3	<0.3	<0.3	<0.3	
2,4-Dinitrotoluene, mg/kg	<0.03	<0.03	<0.03	<0.03	
2,6-Dinitrotoluene, mg/kg	<0.03	<0.03	<0.03	<0.03	
2-Chloronaphthalene, mg/kg	<0.03	<0.03	<0.03	<0.03	
2-Chlorophenol, mg/kg	<0.03	<0.03	<0.03	<0.03	
2-Methyl-4,6-dinitrophenol, mg/kg	<0.03	<0.03	<0.03	<0.03	
2-Methylnaphthalene, mg/kg	<0.03	<0.03	<0.03	0.06	
2-Methylphenol (o-Cresol), mg/kg	<0.03	<0.03	<0.03	<0.03	
2-Nitroaniline, mg/kg	<0.2	<0.2	<0.2	<0.2	
2-Nitrophenol, mg/kg	<0.03	<0.03	<0.03	<0.03	
3,3'-Dichlorobenzidine, mg/kg	<0.03	<0.03	<0.03	<0.03	
3-Nitroaniline, mg/kg	<0.2	<0.2	<0.2	<0.2	

# Analytical Report

LOG NO: E91-06-177

Received: 10 JUN 91

Mr. Chris Nwabuzoh  
 Robert E. Gils Associates, Inc.  
 6400 Hollis Street Suite 3  
 Emeryville, California 94608

Project: DB-100554

## REPORT OF ANALYTICAL RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED			
06-177-6	B20-20'	06 JUN 91			
06-177-7	B21-20'	05 JUN 91			
06-177-8	B22-20'	06 JUN 91			
06-177-10	B16-10'	06 JUN 91			
PARAMETER	06-177-6	06-177-7	06-177-8	06-177-10	
4-Bromophenylphenylether, mg/kg	<0.03	<0.03	<0.03	<0.03	
4-Chloro-3-methylphenol, mg/kg	<0.03	<0.03	<0.03	<0.03	
4-Chloroaniline, mg/kg	<0.2	<0.2	<0.2	<0.2	
4-Chlorophenylphenylether, mg/kg	<0.03	<0.03	<0.03	<0.03	
4-Methylphenol (p-Cresol), mg/kg	<0.03	<0.03	<0.03	<0.03	
4-Nitroaniline, mg/kg	<0.2	<0.2	<0.2	<0.2	
4-Nitrophenol, mg/kg	<0.7	<0.7	<0.7	<0.7	
Acenaphthene, mg/kg	<0.03	<0.03	<0.03	0.12	
Acenaphthylene, mg/kg	<0.03	<0.03	<0.03	<0.03	
Aniline, mg/kg	<0.03	<0.03	<0.03	<0.03	
Anthracene, mg/kg	<0.03	<0.03	<0.03	<0.03	
Benzidine, mg/kg	<1	<1	<1	<1	
Benzo(a)anthracene, mg/kg	<0.03	<0.03	<0.03	<0.03	
Benzo(a)pyrene, mg/kg	<0.03	<0.03	<0.03	<0.03	
Benzo(b)fluoranthene, mg/kg	<0.03	<0.03	<0.03	<0.03	
Benzo(g,h,i)perylene, mg/kg	<0.03	<0.03	<0.03	<0.03	
Benzo(k)fluoranthene, mg/kg	<0.03	<0.03	<0.03	<0.03	
Benzyl alcohol, mg/kg	<0.2	<0.2	<0.2	<0.2	
Benzoic acid, mg/kg	<0.2	<0.2	<0.2	<0.2	
Butylbenzylphthalate, mg/kg	<0.03	<0.03	<0.03	<0.03	
Chrysene, mg/kg	<0.03	<0.03	<0.03	<0.03	
Di-n-octylphthalate, mg/kg	<0.03	<0.03	<0.03	<0.03	
Dibenzo(a,h)anthracene, mg/kg	<0.03	<0.03	<0.03	<0.03	
Dibenzofuran, mg/kg	<0.03	<0.03	<0.03	0.08	
Dibutylphthalate, mg/kg	<0.03	<0.03	<0.03	<0.03	



# Analytical Report

LOG NO: E91-06-177

Received: 10 JUN 91

Mr. Chris Nwabuzoh  
 Robert E. Gils Associates, Inc.  
 6400 Hollis Street Suite 3  
 Emeryville, California 94608

Project: DB-100554

## REPORT OF ANALYTICAL RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED			
06-177-6	B20-20'	06 JUN 91			
06-177-7	B21-20'	05 JUN 91			
06-177-8	B22-20'	06 JUN 91			
06-177-10	B16-10'	06 JUN 91			
PARAMETER		06-177-6	06-177-7	06-177-8	06-177-10
Diethylphthalate, mg/kg		<0.03	<0.03	<0.03	<0.03
Dimethylphthalate, mg/kg		<0.03	<0.03	<0.03	<0.03
Fluoranthene, mg/kg		<0.03	<0.03	<0.03	<0.03
Fluorene, mg/kg		<0.03	<0.03	<0.03	0.05
Hexachlorobenzene, mg/kg		<0.03	<0.03	<0.03	<0.03
Hexachlorobutadiene, mg/kg		<0.03	<0.03	<0.03	<0.03
Hexachlorocyclopentadiene, mg/kg		<0.03	<0.03	<0.03	<0.03
Hexachloroethane, mg/kg		<0.03	<0.03	<0.03	<0.03
Indeno(1,2,3-c,d)pyrene, mg/kg		<0.03	<0.03	<0.03	<0.03
Isophorone, mg/kg		<0.03	<0.03	<0.03	<0.03
N-Nitrosodimethylamine, mg/kg		<0.03	<0.03	<0.03	<0.03
N-Nitrosodiphenylamine, mg/kg		<0.03	<0.03	<0.03	<0.03
N-Nitrosodi-n-propylamine, mg/kg		<0.03	<0.03	<0.03	<0.03
Nitrobenzene, mg/kg		<0.03	<0.03	<0.03	<0.03
Naphthalene, mg/kg		<0.03	0.03	<0.03	0.06
Phenanthrene, mg/kg		<0.03	<0.03	<0.03	<0.03
Phenol, mg/kg		<0.03	<0.03	<0.03	<0.03
Pentachlorophenol, mg/kg		<0.03	<0.03	<0.03	<0.03
Pyrene, mg/kg		<0.03	<0.03	<0.03	<0.03
Bis(2-chloroethoxy)methane, mg/kg		<0.03	<0.03	<0.03	<0.03
Bis(2-chloroethyl)ether, mg/kg		<0.03	<0.03	<0.03	<0.03
Bis(2-chloroisopropyl)ether, mg/kg		<0.03	<0.03	<0.03	<0.03
Bis(2-ethylhexyl)phthalate, mg/kg		<3	<3	<3	<3
Other B/N,A Ext. Priority Pollutants		---	---	---	---

# Analytical Report

LOG NO: E91-06-177

Received: 10 JUN 91

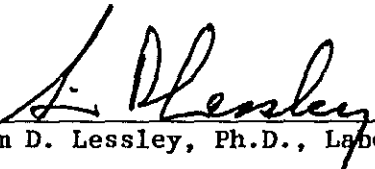
Mr. Chris Nwabuzoh  
Robert E. Gils Associates, Inc.  
6400 Hollis Street Suite 3  
Emeryville, California 94608

Project: DB-100554

## REPORT OF ANALYTICAL RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
06-177-9	B21	06 JUN 91
PARAMETER	06-177-9	
Sample Held, Not Analyzed	HELD	

  
Sim D. Lessley, Ph.D., Laboratory Director







## BATCH QC REPORT: Definitions and Terms

Accuracy	The ability of a procedure to determine the "true" concentration of an analyte
Precision	The reproducibility of a procedure demonstrated by the agreement between analyses performed on either duplicates of the same sample or a pair of duplicate spikes
Batch	A group of samples analyzed sequentially using the same calibration curve, reagents, and instrument
Laboratory Control Standard (LCS)	Laboratory reagent water spiked with known compounds and subjected to the same procedures as the samples. The LCS thus indicates the accuracy of the analytical method and, because it is prepared from a different source than the standard used to calibrate the instrument, it also serves to double-check the calibration
Matrix QC	Quality control tests performed on actual client samples. For most inorganic analyses, the laboratory uses a pair of duplicate samples and a spiked sample. For most organic analyses, the laboratory uses a pair of spiked samples (duplicate spikes)
LC Result	Laboratory result of an LCS analysis
LT Result	Expected result, or true value, of the LCS analysis
R1, R2 Result:	Result of the analysis of replicate aliquots of a sample, with R1 indicating the first analysis of the sample and R2 its corresponding duplicate; used to determine precision
S1, S2 Result	Result of the analysis of replicate spiked aliquots, with S1 indicating one spike of the sample and S2 the second spike; used to determine precision and accuracy
R Bar Result	The average of replicate analysis results
S Bar Result:	The average of spike analysis results
True value	The theoretical, or expected, result of a spike sample analysis
Percent Recovery	The percentage of analyte recovered. For LCS, the percent recovery calculation is: $LC + LT \times 100$ For spike recoveries, the percent recovery calculation is: $\frac{(S \text{ Bar} - \text{Sample Concentration})}{\text{Spike Amount}} \times 100$
Relative Percent Difference (RPD)	Calculated using one of the following: $\frac{(R1 - R2) \times 100}{(R1 + R2) + 2} \qquad \frac{(S1 - S2) \times 100}{(S1 + S2) + 2}$
Blank Result	The result of the analysis of a method blank, which is reagent water that is analysed using the same reagents, instruments and procedures as the samples in a batch; used to determine laboratory contamination
Reporting Detection Limit (RDL)	BCA-assigned limit based on—but not the same as—method detection limits (MDLs) determined using EPA guidelines

: ORDER PLACED FOR CLIENT: Robert E. Gils Associates, Inc. 9106177 :

: BC ANALYTICAL : EMVL LAB : 14:11:25 03 JUL 1991 - P. 1 :

SAMPLES...	SAMPLE DESCRIPTION..	DETERM.....	DATE....	METHOD.....	EQUIP.	BATCH	ID.NO
			ANALYZED				
9106177*1	B14-20'	8270	06.25.91	8270	517-02	119	7038
9106177*2	B15-10'	8270	06.25.91	8270	517-02	119	7038
9106177*3	B17-15'	8270	06.25.91	8270	517-02	119	7038
9106177*4	B18-10'	8270	06.25.91	8270	517-02	119	7038
9106177*5	B19-20'	8270	06.25.91	8270	517-02	119	7038
9106177*6	B20-20'	8270	06.25.91	8270	517-02	119	3002
9106177*7	B21-20'	8270	06.26.91	8270	517-02	119	3002
9106177*8	B22-20'	8270	06.26.91	8270	517-02	119	3002
9106177*9	B21	HOLD	06.11.91			1	7356
9106177*10	B16-10'	IR.PETROHC	06.19.91	418.1	513-03	36	7453
		8270	06.25.91	8270	517-02	119	7038

\*\*\*

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

BATCH QC REPORT

ORDER: E9106177

DATE REPORTED : 07/03/91

Page 1

LABORATORY CONTROL STANDARDS

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
B/N,A Ext. Priority Pollutants						
Dilution Factor	06.25.91	119	1	1	Times	100
1,2,4-Trichlorobenzene	06.25.91	119	0.8	1.7	mg/kg	47
1,4-Dichlorobenzene	06.25.91	119	0.8	1.7	mg/kg	47
2,4-Dinitrotoluene	06.25.91	119	0.9	1.7	mg/kg	53
2-Chlorophenol	06.25.91	119	1.7	3.3	mg/kg	52
4-Chloro-3-methylphenol	06.25.91	119	1.7	3.3	mg/kg	52
4-Nitrophenol	06.25.91	119	1.7	3.3	mg/kg	52
Acenaphthene	06.25.91	119	0.9	1.7	mg/kg	53
N-Nitrosodi-n-propylamine	06.25.91	119	0.6	1.7	mg/kg	35
Phenol	06.25.91	119	1.4	3.3	mg/kg	42
Pentachlorophenol	06.25.91	119	1.8	3.3	mg/kg	55
Pyrene	06.25.91	119	0.9	1.7	mg/kg	53
Petroleum Hydrocarbons (418.1)	06.19.91	36	310	310	mg/L	100

BC ANALYTICAL

BATCH QC REPORT

ORDER: E9106177

DATE REPORTED : 07/03/91

Page 1

MATRIX QC PRECISION (DUPLICATES)

PARAMETER	DATE	BATCH	R1	R2	UNIT	RELATIVE
	ANALYZED	NUMBER	RESULT	RESULT		ZDIFF
Petroleum Hydrocarbons (418.1)	06.19.91	36	<50	<50	mg/kg	NA

BC ANALYTICAL

BATCH QC REPORT  
 ORDER: E9106177

DATE REPORTED : 07/03/91

Page 1

MATRIX QC PRECISION (DUPLICATE SPIKES)

PARAMETER	DATE ANALYZED	BATCH NUMBER	S1 RESULT	S2 RESULT	UNIT	RELATIVE ZDIFF
B/N,A Ext. Priority Pollutants						
Dilution Factor	06.25.91	119	1	1	Times	0
1,2,4-Trichlorobenzene	06.25.91	119	0.9	0.9	mg/kg	0
1,4-Dichlorobenzene	06.25.91	119	0.8	0.8	mg/kg	0
2,4-Dinitrotoluene	06.25.91	119	0.9	0.9	mg/kg	0
2-Chlorophenol	06.25.91	119	1.9	2.0	mg/kg	5
4-Chloro-3-methylphenol	06.25.91	119	1.9	2.0	mg/kg	5
4-Nitrophenol	06.25.91	119	2.1	2.5	mg/kg	17
Acenaphthene	06.25.91	119	1.0	1.1	mg/kg	10
N-Nitrosodi-n-propylamine	06.25.91	119	0.8	0.8	mg/kg	0
Phenol	06.25.91	119	1.6	1.8	mg/kg	12
Pentachlorophenol	06.25.91	119	2.0	2.1	mg/kg	5
Pyrene	06.25.91	119	1.0	1.0	mg/kg	0

BC ANALYTICAL

BATCH QC REPORT  
 ORDER: E9106177

DATE REPORTED : 07/03/91

Page 1

MATRIX QC ACCURACY (SPIKES)

PARAMETER	DATE ANALYZED	BATCH NUMBER	SBAR RESULT	TRUE RESULT	RBAR RESULT	UNIT	PERCENT RECOVERY
B/N,A Ext. Priority Pollutants							
1,2,4-Trichlorobenzene	06.25.91	119	0.9	1.7	<0.03	mg/kg	53
1,4-Dichlorobenzene	06.25.91	119	0.8	1.7	<0.03	mg/kg	47
2,4-Dinitrotoluene	06.25.91	119	0.9	1.7	<0.03	mg/kg	53
2-Chlorophenol	06.25.91	119	1.95	3.3	<0.03	mg/kg	59
4-Chloro-3-methylphenol	06.25.91	119	1.95	3.3	<0.03	mg/kg	59
4-Nitrophenol	06.25.91	119	2.3	3.3	<0.7	mg/kg	70
Acenaphthene	06.25.91	119	1.05	1.7	0.12	mg/kg	59
N-Nitrosodi-n-propylamine	06.25.91	119	0.8	1.7	<0.03	mg/kg	47
Phenol	06.25.91	119	1.7	3.3	<0.03	mg/kg	52
Pentachlorophenol	06.25.91	119	<u>2.05</u>	3.3	<0.03	mg/kg	62
Pyrene	06.25.91	119	1	1.7	<0.03	mg/kg	59
Petroleum Hydrocarbons (418.1)	06.19.91	36	260	310	<50	mg/kg	84

## BC ANALYTICAL

BATCH QC REPORT

ORDER: E9106177

DATE REPORTED : 07/03/91

Page 1

## METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
B/N,A Ext. Priority Pollutants					
1,2,4-Trichlorobenzene	06.25.91	119	0	0.03	mg/kg
1,2-Dichlorobenzene	06.25.91	119	0	0.03	mg/kg
1,2-Diphenylhydrazine	06.25.91	119	0	0.03	mg/kg
1,3-Dichlorobenzene	06.25.91	119	0	0.03	mg/kg
1,4-Dichlorobenzene	06.25.91	119	0	0.03	mg/kg
2,4,5-Trichlorophenol	06.25.91	119	0	0.03	mg/kg
2,4,6-Trichlorophenol	06.25.91	119	0	0.03	mg/kg
2,4-Dichlorophenol	06.25.91	119	0	0.03	mg/kg
2,4-Dimethylphenol	06.25.91	119	0	0.03	mg/kg
2,4-Dinitrophenol	06.25.91	119	0	0.3	mg/kg
2,4-Dinitrotoluene	06.25.91	119	0	0.03	mg/kg
2,6-Dinitrotoluene	06.25.91	119	0	0.03	mg/kg
2-Chloronaphthalene	06.25.91	119	0	0.03	mg/kg
2-Chlorophenol	06.25.91	119	0	0.03	mg/kg
2-Methyl-4,6-dinitrophenol	06.25.91	119	0	0.03	mg/kg
2-Methylnaphthalene	06.25.91	119	0	0.03	mg/kg
2-Methylphenol (o-Cresol)	06.25.91	119	0	0.03	mg/kg
2-Nitroaniline	06.25.91	119	0	0.2	mg/kg
2-Nitrophenol	06.25.91	119	0	0.03	mg/kg
3,3'-Dichlorobenzidine	06.25.91	119	0	0.03	mg/kg
3-Nitroaniline	06.25.91	119	0	0.2	mg/kg
4-Bromophenylphenylether	06.25.91	119	0	0.03	mg/kg
4-Chloro-3-methylphenol	06.25.91	119	0	0.03	mg/kg
4-Chloroaniline	06.25.91	119	0	0.2	mg/kg
4-Chlorophenylphenylether	06.25.91	119	0	0.03	mg/kg
4-Methylphenol (p-Cresol)	06.25.91	119	0	0.03	mg/kg
4-Nitroaniline	06.25.91	119	0	0.2	mg/kg
4-Nitrophenol	06.25.91	119	0	0.6	mg/kg
Acenaphthene	06.25.91	119	0	0.03	mg/kg
Acenaphthylene	06.25.91	119	0	0.03	mg/kg
Aniline	06.25.91	119	0	0.03	mg/kg
Anthracene	06.25.91	119	0	0.03	mg/kg
Benzidine	06.25.91	119	0	1	mg/kg
Benzo(a)anthracene	06.25.91	119	0	0.03	mg/kg
Benzo(a)pyrene	06.25.91	119	0	0.03	mg/kg
Benzo(b)fluoranthene	06.25.91	119	0	0.03	mg/kg
Benzo(g,h,i)perylene	06.25.91	119	0	0.03	mg/kg

## BC ANALYTICAL

BATCH QC REPORT

ORDER: E9106177

DATE REPORTED : 07/03/91

Page 2

## METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Benzo(k)fluoranthene	06.25.91	119	0	0.03	mg/kg
Benzyl alcohol	06.25.91	119	0	0.03	mg/kg
Benzoic acid	06.25.91	119	0	0.2	mg/kg
Butylbenzylphthalate	06.25.91	119	0	0.03	mg/kg
Chrysene	06.25.91	119	0	0.03	mg/kg
Di-n-octylphthalate	06.25.91	119	0	0.03	mg/kg
Dibenzo(a,h)anthracene	06.25.91	119	0	0.03	mg/kg
Dibenzofuran	06.25.91	119	0	0.03	mg/kg
Dibutylphthalate	06.25.91	119	0	0.03	mg/kg
Diethylphthalate	06.25.91	119	0	0.03	mg/kg
Dimethylphthalate	06.25.91	119	0	0.03	mg/kg
Fluoranthene	06.25.91	119	0	0.03	mg/kg
Fluorene	06.25.91	119	0	0.03	mg/kg
Hexachlorobenzene	06.25.91	119	0	0.03	mg/kg
Hexachlorobutadiene	06.25.91	119	0	0.03	mg/kg
Hexachlorocyclopentadiene	06.25.91	119	0	0.03	mg/kg
Hexachloroethane	06.25.91	119	0	0.03	mg/kg
Indeno(1,2,3-c,d)pyrene	06.25.91	119	0	0.03	mg/kg
Isophorone	06.25.91	119	0	0.03	mg/kg
N-Nitrosodimethylamine	06.25.91	119	0	0.03	mg/kg
N-Nitrosodiphenylamine	06.25.91	119	0	0.03	mg/kg
N-Nitrosodi-n-propylamine	06.25.91	119	0	0.03	mg/kg
Nitrobenzene	06.25.91	119	0	0.03	mg/kg
Naphthalene	06.25.91	119	0	0.03	mg/kg
Phenanthrene	06.25.91	119	0	0.03	mg/kg
Phenol	06.25.91	119	0	0.03	mg/kg
Pentachlorophenol	06.25.91	119	0	0.03	mg/kg
Pyrene	06.25.91	119	0	0.03	mg/kg
Bis(2-chloroethoxy)methane	06.25.91	119	0	0.03	mg/kg
Bis(2-chloroethyl)ether	06.25.91	119	0	0.03	mg/kg
Bis(2-chloroisopropyl)ether	06.25.91	119	0	0.03	mg/kg
Bis(2-ethylhexyl)phthalate	06.25.91	119	0	3	mg/kg
Petroleum Hydrocarbons (418.1)	06.19.91	36	0	50	mg/kg



CHAIN OF CUSTODY RECORD

BCA Log Number 91106777

Client name <b>RGA</b>				Project or PO# <b>DB 100554</b>		Analyses required						
Address <b>1260 45th Street, E</b>				Phone # <b>(415) 547-7771</b>		<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">8270</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">4/8-1</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Hole</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Hazardous sample Special handling required</div> </div>						
City, State, Zip <b>Emeryville, CA 94608</b>			Report assignment <b>Chris Nwabuzoh</b>									
Lab Sample number	Date sampled	Time sampled	Type* See key below	Sampled by <b>Chris Nwabuzoh</b>	Number of containers	Remarks						
-1	B14-20'	6-6-91	1am	SO	1	x						
-2	B15-10'	6-6-91	1am	SO	1	x						
10	B16-10'	6-6-91	1am	SO	1	x	☒					
3	B17-15'	6-5-91	PM	SO	1	x						
4	B18-10'	6-5-91	1am	SO	1	x						
5	B19-20'	6-5-91	PM	SO	1	x						
6	B20-20'	6-6-91	PM	SO	1	x						
7	B21-20'	6-5-91	PM	SO	1	x						
8	B22-20'	6-6-91	PM	SO	1	x						
9	B21	6-6-91	1am	GW <del>SO</del> E-N	1	x		x				Added By TB 6/10/91

Signature	Print Name	Company	Date	Time
Relinquished by <i>Chris Nwabuzoh</i>	<b>CHRIS NWABUZOH</b>	<b>RGA</b>	<b>6-10-91</b>	
Received by <i>J. Anderson</i>	<b>J. ANDERSON</b>	<b>BCA</b>	<b>6-10-91</b>	<b>10:55</b>
Relinquished by				
Received by				
Relinquished by				
Received by Laboratory				

**B C ANALYTICAL**  
 1255 Powell Street, Emeryville, CA 94608 (415) 428-2300  
 801 Western Avenue, Glendale, CA 91201 (818) 247-5737  
 1260 Pacific Avenue, Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made  
 Hazardous samples will be returned to client or disposed of at client's expense  
 Disposal arrangements: \_\_\_\_\_

\*KEY: AQ—Aqueous NA—Nonaqueous SL—Sludge  
 GW—Groundwater SO—Soil OT—Other PE—Petroleum

# Analytical Report

LOG NO: E91-06-284

Received: 13 JUN 91

Mailed: JUL 03 1991

Mr. Chris Nwabuzoh  
 Robert E. Gils Associates, Inc.  
 6400 Hollis Street Suite 3  
 Emeryville, California 94608

Project: DB 100610

## REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION	AQUEOUS SAMPLES	DATE SAMPLED
06-284-1	B-14		11 JUN 91
06-284-2	B-19		11 JUN 91
06-284-3	B-20		11 JUN 91
06-284-4	B-22		11 JUN 91

PARAMETER	06-284-1	06-284-2	06-284-3	06-284-4
B/N,A Ext.Pri.Poll. (EPA-8270)				
Date Analyzed	06.26.91	06.26.91	06.26.91	06.26.91
Date Extracted	06.18.91	06.18.91	06.18.91	06.18.91
Dilution Factor, Times	1	10	1	1
1,2,4-Trichlorobenzene, ug/L	<2	<20	<2	<2
1,2-Dichlorobenzene, ug/L	<2	<20	<2	<2
1,2-Diphenylhydrazine, ug/L	<10	<100	<10	<10
1,3-Dichlorobenzene, ug/L	<2	<20	<2	<2
1,4-Dichlorobenzene, ug/L	<2	<20	<2	<2
2,4,5-Trichlorophenol, ug/L	<10	<100	<10	<10
2,4,6-Trichlorophenol, ug/L	<10	<100	<10	<10
2,4-Dichlorophenol, ug/L	<5	<50	<5	<5
2,4-Dimethylphenol, ug/L	<5	780	<5	<5
2,4-Dinitrophenol, ug/L	<20	<200	<20	<20
2,4-Dinitrotoluene, ug/L	<20	<200	<20	<20
2,6-Dinitrotoluene, ug/L	<5	<50	<5	<5
2-Chloronaphthalene, ug/L	<2	<20	<2	<2
2-Chlorophenol, ug/L	<5	<50	<5	<5
2-Methyl-4,6-dinitrophenol, ug/L	<20	<200	<20	<20
2-Methylnaphthalene, ug/L	<2	150	<2	3
2-Methylphenol (o-Cresol), ug/L	<5	240	<5	<5
2-Nitroaniline, ug/L	<20	<200	<20	<20
2-Nitrophenol, ug/L	<5	<50	<5	<5
3,3'-Dichlorobenzidine, ug/L	<20	<200	<20	<20
3-Nitroaniline, ug/L	<20	<200	<20	<20



# Analytical Report

LOG NO: E91-06-284

Received: 13 JUN 91

Mr. Chris Nwabuzoh  
Robert E. Gils Associates, Inc.  
6400 Hollis Street Suite 3  
Emeryville, California 94608

Project: DB 100610

## REPORT OF ANALYTICAL RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED			
06-284-1	B-14	11 JUN 91			
06-284-2	B-19	11 JUN 91			
06-284-3	B-20	11 JUN 91			
06-284-4	B-22	11 JUN 91			
PARAMETER	06-284-1	06-284-2	06-284-3	06-284-4	
4-Bromophenylphenylether, ug/L	<5	<50	<5	<5	
4-Chloro-3-methylphenol, ug/L	<10	<100	<10	<10	
4-Chloroaniline, ug/L	<10	<100	<10	<10	
4-Chlorophenylphenylether, ug/L	<5	<50	<5	<5	
4-Methylphenol (p-Cresol), ug/L	<10	150	<10	<10	
4-Nitroaniline, ug/L	<20	<200	<20	<20	
4-Nitrophenol, ug/L	<50	<500	<50	<50	
Acenaphthene, ug/L	<2	60	<2	<2	
Acenaphthylene, ug/L	<2	<20	<2	<2	
Aniline, ug/L	<20	<200	<20	<20	
Anthracene, ug/L	<2	<20	<2	<2	
Benzidine, ug/L	<200	<2000	<200	<200	
Benzo(a)anthracene, ug/L	<2	<20	<2	<2	
Benzo(a)pyrene, ug/L	<2	<20	<2	<2	
Benzo(b)fluoranthene, ug/L	<2	<20	<2	<2	
Benzo(g,h,i)perylene, ug/L	<2	<20	<2	<2	
Benzo(k)fluoranthene, ug/L	<2	<20	<2	<2	
Benzyl alcohol, ug/L	<10	<100	<10	<10	
Benzoic acid, ug/L	<50	<500	<50	<50	
Butylbenzylphthalate, ug/L	<10	<100	<10	<10	
Chrysene, ug/L	<2	<20	<2	<2	
Di-n-octylphthalate, ug/L	<10	<100	<10	<10	
Dibenzo(a,h)anthracene, ug/L	<2	<20	<2	<2	
Dibenzofuran, ug/L	<5	<50	<5	<5	
Dibutylphthalate, ug/L	<10	<100	<10	<10	



# Analytical Report

LOG NO: E91-06-284

Received: 13 JUN 91

Mr. Chris Nwabuzoh  
 Robert E. Gils Associates, Inc.  
 6400 Hollis Street Suite 3  
 Emeryville, California 94608

Project: DB 100610

## REPORT OF ANALYTICAL RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED			
06-284-1	B-14	11 JUN 91			
06-284-2	B-19	11 JUN 91			
06-284-3	B-20	11 JUN 91			
06-284-4	B-22	11 JUN 91			
PARAMETER	06-284-1	06-284-2	06-284-3	06-284-4	
Diethylphthalate, ug/L	<10	<100	<10	<10	
Dimethylphthalate, ug/L	<10	<100	<10	<10	
Fluoranthene, ug/L	<2	<20	<2	<2	
Fluorene, ug/L	<2	<20	<2	2	
Hexachlorobenzene, ug/L	<2	<20	<2	<2	
Hexachlorobutadiene, ug/L	<5	<50	<5	<5	
Hexachlorocyclopentadiene, ug/L	<50	<500	<50	<50	
Hexachloroethane, ug/L	<10	<100	<10	<10	
Indeno(1,2,3-c,d)pyrene, ug/L	<2	<20	<2	<2	
Isophorone, ug/L	<5	<50	<5	<5	
N-Nitrosodimethylamine, ug/L	<5	<50	<5	<5	
N-Nitrosodiphenylamine, ug/L	<5	<50	<5	<5	
N-Nitrosodi-n-propylamine, ug/L	<5	<50	<5	<5	
Nitrobenzene, ug/L	<2	<20	<2	<2	
Naphthalene, ug/L *	<2	1500	<2	2	
Phenanthrene, ug/L	<2	<20	<2	5	
Phenol, ug/L	<10	<100	<10	<10	
Pentachlorophenol, ug/L	<20	<200	<20	<20	
Pyrene, ug/L	<2	<20	<2	<2	
Bis(2-chloroethoxy)methane, ug/L	<5	<50	<5	<5	
Bis(2-chloroethyl)ether, ug/L	14	<20	<2	<2	
Bis(2-chloroisopropyl)ether, ug/L	<5	<50	<5	<5	
Bis(2-ethylhexyl)phthalate, ug/L	<20	<200	<20	<20	
Other B/N,A Ext.Pri.Poll. (EPA-8270)	---	---	---	---	

# Analytical Report

LOG NO: E91-06-284

Received: 13 JUN 91

Mr. Chris Nwabuzoh  
Robert E. Gils Associates, Inc.  
6400 Hollis Street Suite 3  
Emeryville, California 94608

LIQUID  
↓

Project: DB 100610

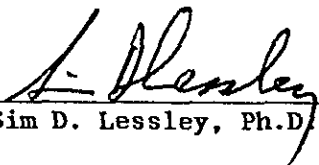
## REPORT OF ANALYTICAL RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED
06-284-1	B-14	11 JUN 91
06-284-2	B-19	11 JUN 91
06-284-3	B-20	11 JUN 91
06-284-4	B-22	11 JUN 91

PARAMETER	06-284-1	06-284-2	06-284-3	06-284-4
Semi-Quantified Results **				
3-Methylphenol, ug/L		700		
Butyl Cellosolve, ug/L ( <i>ethylene glycol</i> )	500	400	300	200
C8H10O (Phenol), ug/L		500		
C8H6S, ug/L		300		
C9H12O (Phenol), ug/L		300		

\*\* Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

  
Sim D. Lessley, Ph.D., Laboratory Director



**CHAIN OF CUSTODY RECORD**

BCA Log Number 9106284

Client name <b>R G A</b>				Project or PO# <b>DB 100610</b>		Analyses required <i>(Diagonal lines)</i> 8220 Hazardous sample Special handling required							
Address <b>1260 45th St</b>				Phone # <b>(415) 547-7771</b>									
City, State, Zip <b>Emeryville, CA</b>			Report attention <b>Chris Nwabuzoh</b>										
Lab Sample number	Date sampled	Time sampled	Type* See key below	Sampled by <b>CHRIS NWABUZOH</b>	Number of containers							Remarks	
1	B-146-14-91	pm	AQ		2	X							
2	B-196-14-91	pm	AQ		2	X							
3	B-206-14-91	pm	AQ		2	X							
4	B-226-14-91	pm	AQ		2	X							

Signature	Print Name	Company	Date	Time
Relinquished by <i>Chris Nwabuzoh</i>	<b>CHRIS NWABUZOH</b>	<b>R G A</b>	<b>6-13-91</b>	
Received by <i>J. Anderson</i>	<b>J. ANDERSON</b>	<b>BCA</b>	<b>6/13/91</b>	
Relinquished by				
Received by				
Relinquished by				
Received by Laboratory				

**BC ANALYTICAL**  
 1255 Powell Street, Emeryville, CA 94608 (415) 428-2300  
 801 Western Avenue, Glendale, CA 91201 (818) 247-5737  
 1200 Pacific Avenue, Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made  
 Hazardous samples will be returned to client or disposed of at client's expense.  
 Disposal arrangements: \_\_\_\_\_

\*KEY: AO—Aqueous NA—Nonaqueous SL—Sludge  
 GW—Groundwater SO—Soil OT—Other PE—Petroleum