

SOIL REMEDIATION & CLOSURE REPORT

**5800 CHRISTIE STREET
EMERYVILLE, CALIFORNIA**

JULY 21, 1989

SUBMITTED TO:

**MR. DENNIS BYRNE
ALAMEDA COUNTY HEALTH CARE SERVICES
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CALIFORNIA 94621**

PREPARED FOR:

**CROLEY & HERRING INVESTMENT COMPANY
1311 63RD STREET
EMERYVILLE, CALIFORNIA 94608**

PREPARED BY:

**AWD TECHNOLOGIES, INC.
10 WEST ORANGE AVENUE
SOUTH SAN FRANCISCO, CALIFORNIA 94080**

July 21, 1989

Mr. Dennis Byrne
Alameda County Health Care Services
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, CA 94621

**SUBJECT: SOIL REMEDIATION & CLOSURE REPORT
5800 CHRISTIE STREET
EMERYVILLE, CALIFORNIA**

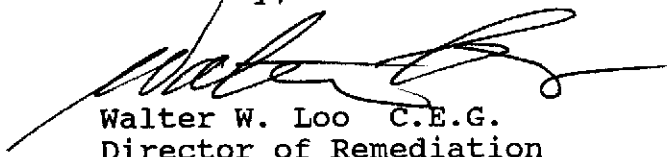
Dear Mr. Byrne:

Enclosed please find a copy of the subject soil closure report for your review.

We look forward for your approval to implement the recommended soil vapor venting system and the recommended groundwater extraction and treatment system.

If there is any question about the subject report, please contact us. We deeply appreciate your cooperation throughout this site remediation and closure effort.

Sincerely,



Walter W. Loo C.E.G.
Director of Remediation

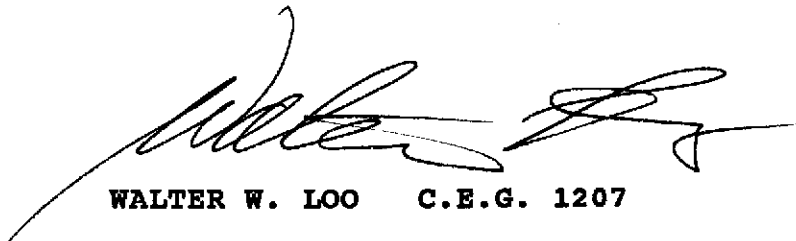
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Enclosure

SOIL REMEDIATION & CLOSURE REPORT

**5800 CHRISTIE STREET
EMERYVILLE, CALIFORNIA**

R E P O R T C E R T I F I C A T I O N



WALTER W. LOO C.E.G. 1207

DIRECTOR OF REMEDIATION

DATE: JULY 21, 1989

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The site is a 0.82 acre property located on the southeast corner of Christie Street and Shellmound Avenue in Emeryville, California (Figure 1-1). A one-story, 22,800 square foot industrial warehouse is the only building located on the property. The building was constructed approximately twenty (20) years ago. Croley and Herring Investment Company (CHIC) purchased the property from Milligan Spika Company in 1980. Space in the building is leased to various tenants. All tenants have been evicted as of January 1989, to clear the building for a new lease. Concrete or asphalt slabs cover the entire site except for the alley to the east of the building and Christie and Powell Streets. These areas are unpaved.

The last tenants to occupy the building were Fisher Berkeley (a manufacturer of communication equipment for health care applications), Flexo Packaging (a manufacturer of printing plates for commercial packaging applications) and Data Plus (a computer software firm). These three tenants were evicted in late 1988/early 1989. Past tenants include Milligan-Spika (a distributor of auto parts), CRT (a computer and office machine repair business) and PRT (a distributor of phonograph records). Fisher Berkeley was an original tenant.

F. P. Lathrop Company, a construction firm, owns the adjacent property to the east. In the past F. P. Lathrop Construction used the property as its corporate yard (Figure 1-2). Currently, A Sherwin-Williams wholesale paint store and the California Department of Health Services leases it.

A Mobil gas station is located to the west of the site on the opposite corner of Powell and Christie (Figure 1-2). A new shopping center, the Powell Street Plaza, is located south of the site across Powell Street.

A soil investigation of the subject facility was previously performed by Robert Gils & Associates and a site assessment report was prepared on January 20, 1989. A total of 17 soil borings were drilled (Figure 1-2).

Significant soil contamination was detected at soil boring locations #1, #2, #3, and #4. Table 1-1 presents the laboratory soil analysis results performed by the Fireman's Fund Insurance Companies Environmental Laboratory in Petaluma (the name has recently been changed to AccuLab). This lab is certified by the American Industrial Hygiene Association (AIHA #103) and by the California Department of Health Services (DOHS) to analyze hazardous waste materials. EPA Method 8240 was used for samples analyzed for solvents. EPA Methods 5020/8015/8020 were used for samples analyzed for gasoline and BTEX.

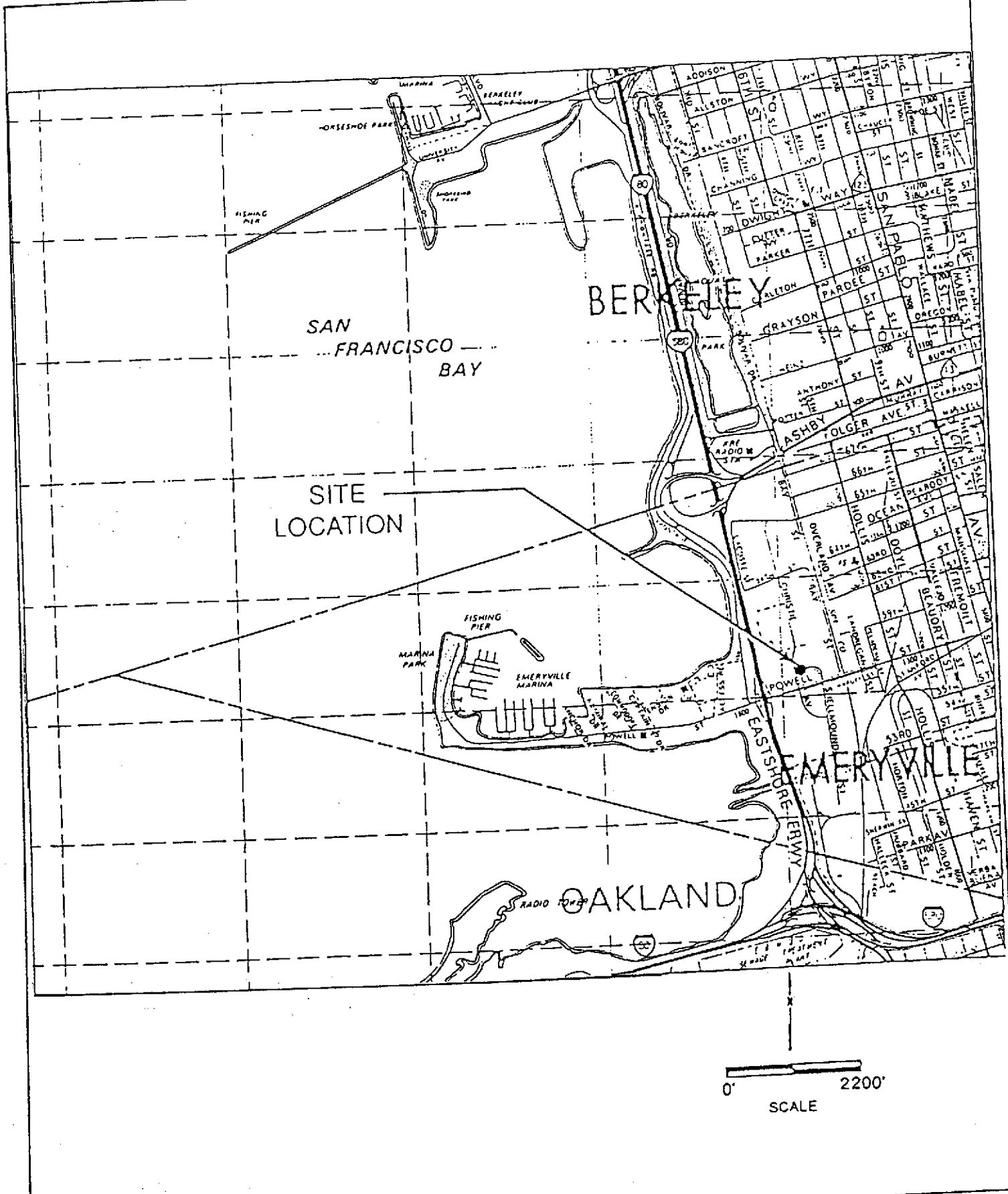
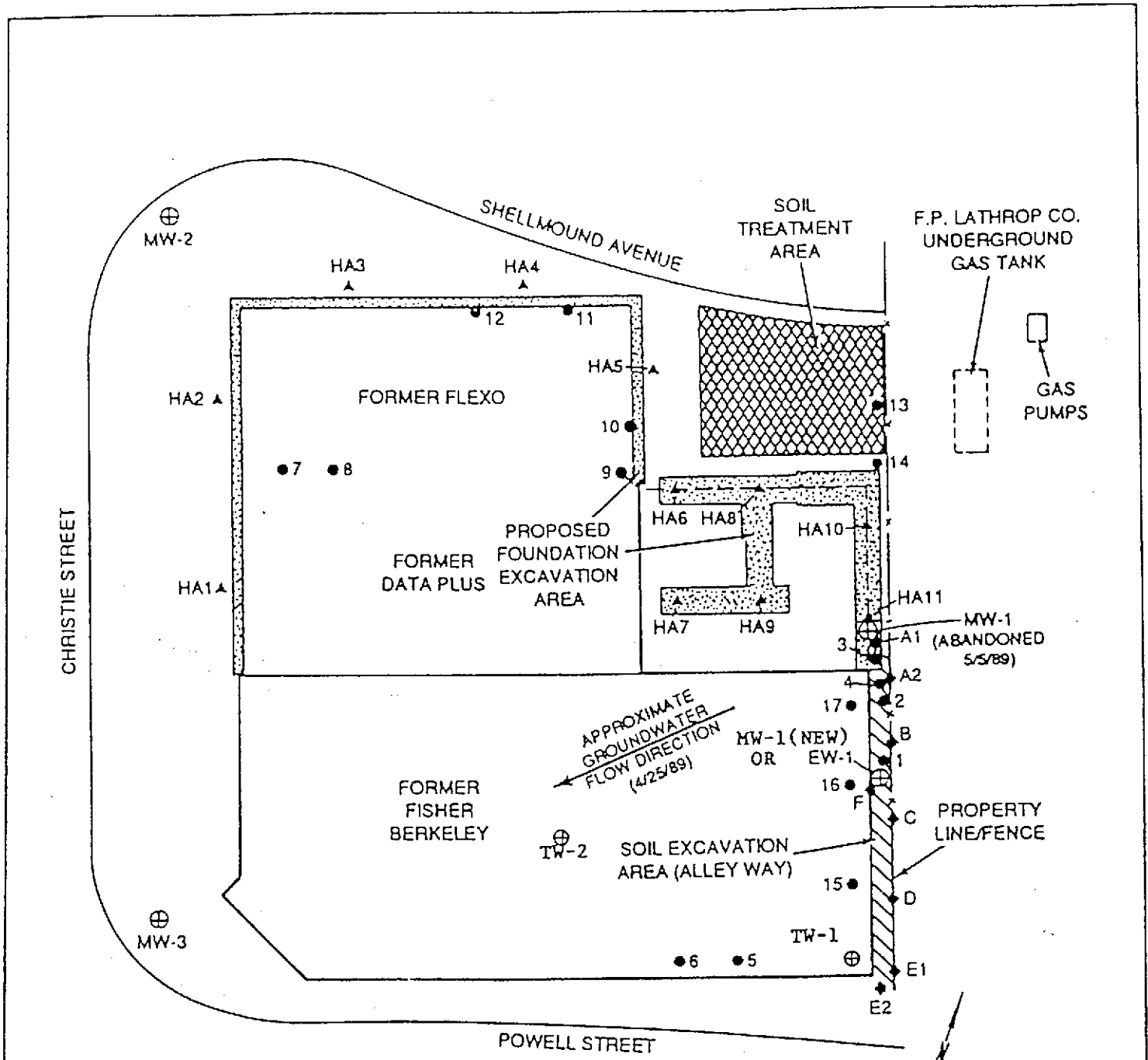


FIGURE 1-1 LOCATION MAP



LEGEND

- GIL'S SOIL BORING LOCATION
- ▲ FOUNDATION EXCAVATION SOIL SAMPLE LOCATION
- ◆ EXCAVATION SOIL SAMPLE
- ⊕ WELL

SCALE IN FEET (APPROX)

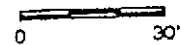


TABLE 1-1
SUMMARY OF SOURCE AREA SOIL TEST & ANALYSIS

<u>Boring Number</u>	<u>Sample Depth</u>	<u>Volatile Organic Compounds (VOC's) Detected</u>	<u>Concentration (PPM)</u>	<u>Total VOC's (PPM)</u>
1	4'	Carbon Tetrachloride	23.0	2624.4
		Ethyl Benzene	3.0	
		Toluene	1400.0	
		1,1,1-Trichloroethane	190.0	
		Trichloroethene	960.0	
		Xylenes	8.4	
	6'	Toluene	26.0	48.7
		1,1,1-Trichloroethane	3.7	
		Trichloroethene	19.0	
2	7'	Carbon Tetrachloride	12.0	339.2
		1,1-Dichloroethane	4.2	
		Toluene	87.0	
		1,1,1-Trichloroethane	76.0	
		Trichloroethene	160.0	
	12'	Carbon Tetrachloride	11.0	264
		Toluene	56.0	
		1,1,1-Trichloroethane	69.0	
		Trichloroethene	93.0	
		Gasoline	35.0	
3	5'	Toluene	33.0	128.3
		1,1,1-Trichloroethane	7.3	
		Trichloroethene	88.0	
	12'	Toluene	0.81	5.6
		1,1,1-Trichloroethane	0.49	
		Trichloroethene	2.9	
4	2'5"	Carbon Tetrachloride	27.0	6735
		Ethyl Benzene	28.0	
		Toluene	2800.0	
		1,1,1-Trichloroethane	280.0	
		Trichloroethene	3600.0	

NOTE: Borings #1, #2, #3, and #4 are located in the Alley Way and near the cleaning tank.

2.0 SOIL EXCAVATION

On April 5, 1989, a source area soil remediation plan was submitted to the Alameda County Health Care Services (lead agency for soil remediation) for review. Approval for the implementation of the on-site soil excavation and remediation was obtained on April 13, 1989 (Appendix A).

Prior to the source area soil excavation, permission for access was obtained from the adjacent land owner (F. P. Lathrop Co.) and the California Department of Health Services (CDOHS). In addition, full cooperation was obtained from Mr. Ric Notini and Mr. Dave Anderson of CDOHS on site clearance and the health and safety plan for excavation.

Prior to the soil excavation, the Bay Area Air Quality Management Board (BAAQMD) was notified in accordance to BAAQMD Regulation 8, Rule 40 as amended February 15, 1989 (Appendix A). Also prior to initiation of soil treatment, advance notice was provided to BAAQMD in accordance to BAAQMD Regulation 8, Rule 40.

During May 1, 1989 through May 4, 1989, the source area soil was excavated and stockpiled at the soil treatment area. A soil sample collected on the north side wall (A-1) of the excavation detected less than 0.5 ppm VOCs. A south side wall soil sample (E-2) did not detect any VOCs. Table 2-1 presents the summary of laboratory soil analysis results. The laboratory analysis and chain-of-custody record are included in Appendix B.

A total of about 80 cubic yards of contaminated soil was excavated and the excavation was backfilled and compacted to specification. The compaction tests were performed by Testing Engineers and test results are included in Appendix B. The excavated soil was placed on a lined surface and covered with plastic sheets.

TABLE 2-1

SUMMARY OF EXCAVATION PIT WALL SOIL SAMPLE ANALYSIS

<u>Sample Number</u>	<u>Sample Depth</u>	<u>Volatile Organic Compounds (VOC's) Detected</u>	<u>Concentration (PPM)</u>	<u>Total VOC's (PPM)</u>
A-1	5'	Methylene Chloride Freon 113 TCE	0.18 0.011 0.019	0.21
A-2	5'	1,2 DCE TCE Toluene	0.12 0.1 0.11	0.33
B	5'	TCA TCE Toluene Ethyl Benzene Xylenes	130 150 180 3.8 28	491.8
C	5'	TCA TCE Toluene Ethyl Benzene Xylenes	23 42 320 9.3 48	442.3
D	5'	TCA TCE Toluene	1.0 18 1.8	20.8
E-1	5'	TCA TCE Benzene Toluene Ethyl Benzene Xylenes	0.5 0.8 0.7 0.7 0.6 1.1	4.4
E-2	5'	ND	-	ND
F	5'	TCA TCE Toluene Chlorobenzene Ethyl Benzene Xylenes	280 1300 2700 18 14 35	4347

3.0 SOIL TREATMENT

The estimated 80 cubic yards of excavated soil was placed on a sheet of high density polyethylene (HDPE) liner with a thickness of 0.03 inch. Berm supports were placed along the edges of the liner to contain fluids which may accumulate at the bottom of the soil unit during treatment. The soil treatment heap is comprised of seven air circulation pipes, a moisture control unit, a temperature control unit, an air blower, regulator valves, flow meters, vacuum gauges, sampling ports and six vapor phase activated carbon drums. The top of the soil heap was covered by black plastic and tarp to minimize volatilization of the soil contaminants. The dimensions of the soil heap is about 20 feet wide, 40 feet long and 4 feet tall with 6 inches of clean sand lying above and below the HDPE liner.

The total VOC's in the excavated soil range from 20.8 to 6735 parts per million (PPM) as summarized in Table 3-1. The initial baseline soil sampling was conducted on 5/5/89. One statistical representative sample was taken for each 40 cubic yards of soil. The soil sampling grid is presented in Figure 3-1. Each block represents 40 cubic yards of soil. Nine discrete soil samples are to be composited into one representative sample. The discrete sample locations are selected in the field by the radom mesh method. For soil baseline and performance characterization, discrete and composite samples were analyzed for VOC by EPA 8240 or EPA 8010/8020 method. Five specific rounds of soil samples were collected on 5/5/89, 5/23/89, 6/5/89, 6/16/89 and 6/29/89 respectively. Table 3-2 summarizes the laboratory analysis results. Laboratory analysis sheets are included in Appendix C.

Since the soil treatment is a combination of bioremediation and vapor venting, microbial plate count and fecal bacteria were also analyzed (Table 4-1).

Table 3-2 is a summary of the soil treatment soil analysis results. The average VOC concentration of 3119 ppm at source area was ultimately reduced to below 5 ppm at the soil treatment heap. The duration since initial excavation (5/1/89) through last round of soil sample (6/29/89) is about 60 days or 2 months. Figure 3-1 presents the VOC and TCE concentration reduction versus time plot on the soil remediation.

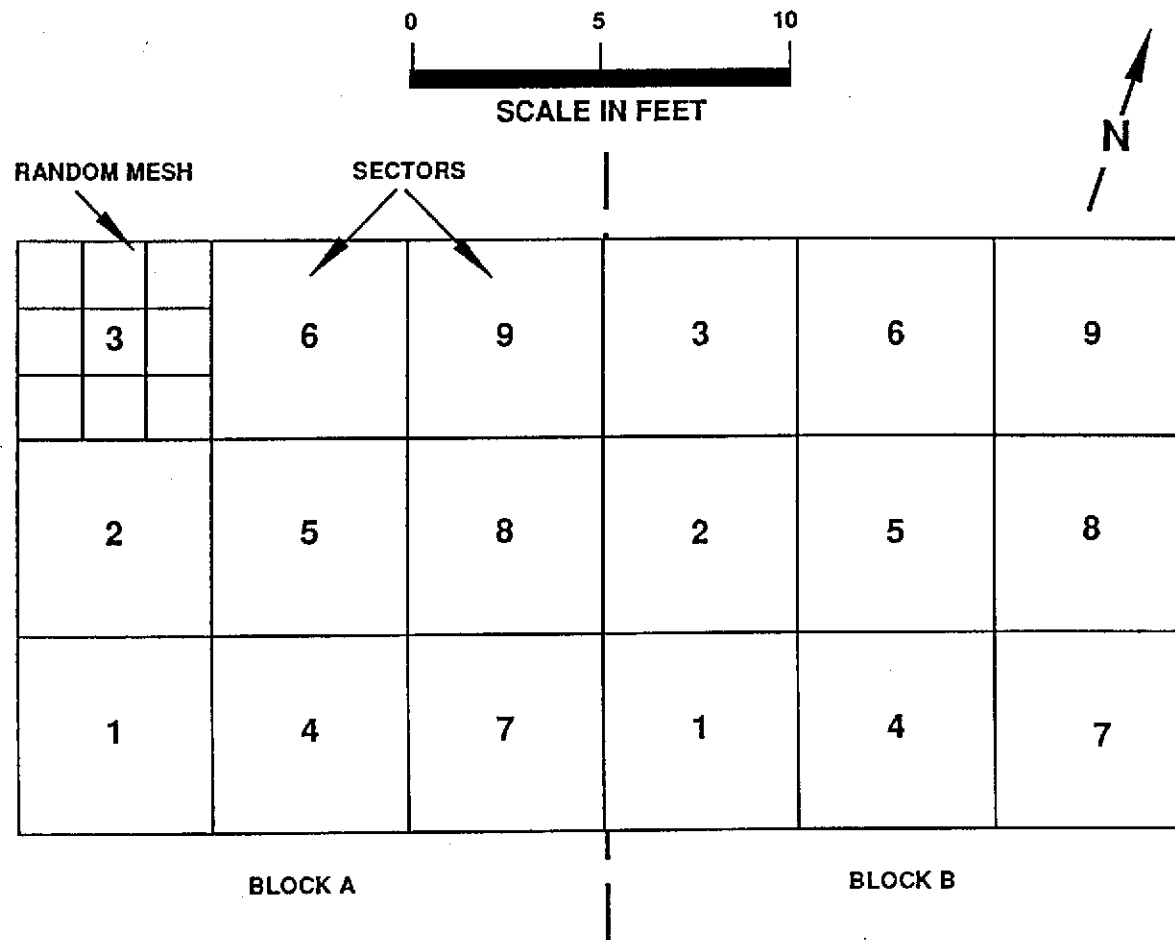


FIGURE 3-1

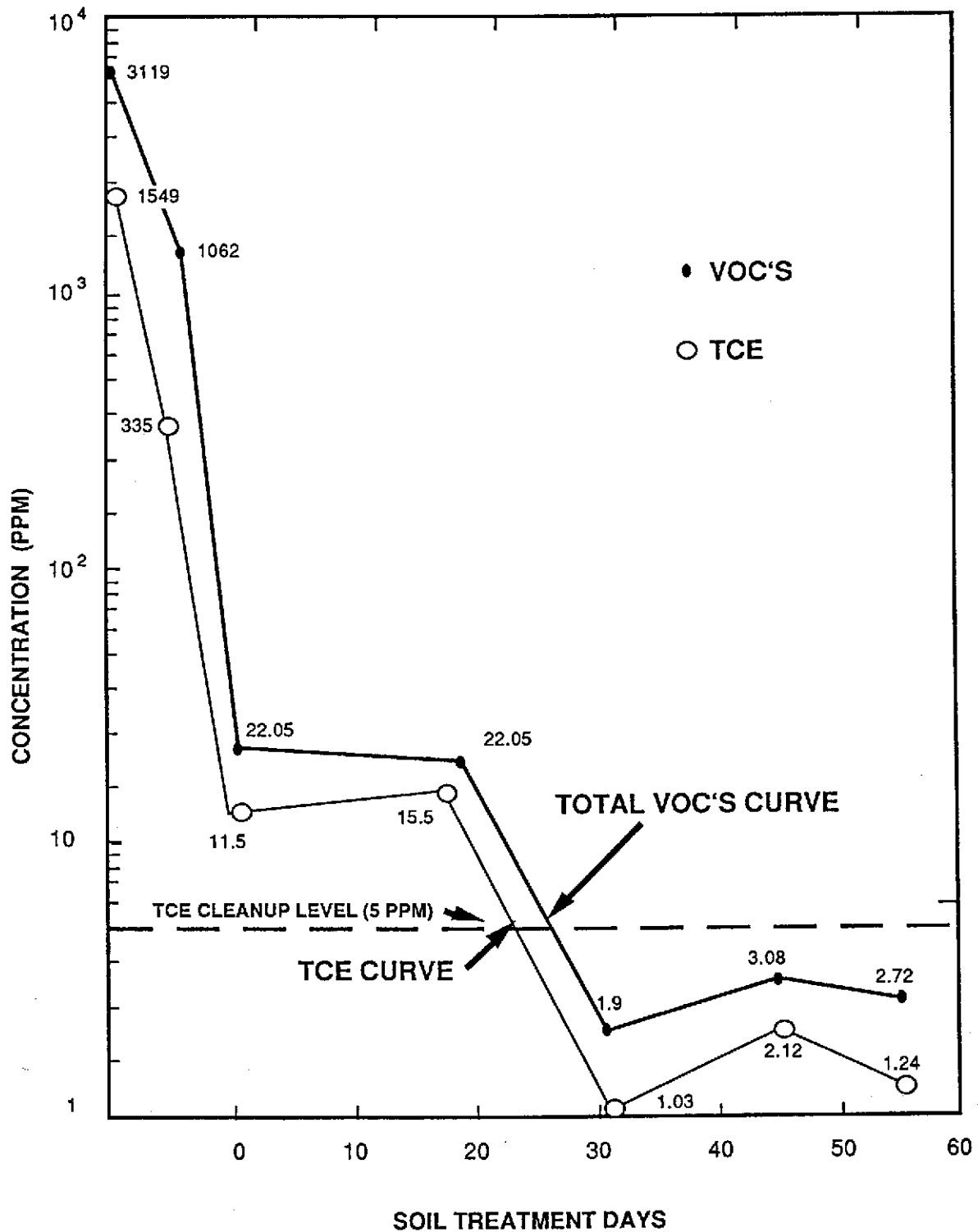


FIGURE 3-2

TABLE 3-1

SUMMARY OF INITIAL SOIL CHEMICAL ANALYSIS
AT LESS THAN 5 FEET DEPTH

<u>Boring Number</u>	<u>Sample Depth</u>	<u>Volatile Organic Compounds (VOC's) Detected</u>	<u>Concentration (PPM)</u>	<u>Total VOC's (PPM)</u>
1	4'	Carbon Tetrachloride	23.0	2624.4
		Ethyl Benzene	3.0	
		Toluene	1400.0	
		1,1,1-Trichloroethane	190.0	
		Trichloroethene	960.0	
		Xylenes	8.4	
3	5'	Toluene	33.0	128.3
		1,1,1-Trichloroethane	7.3	
		Trichloroethene	88.0	
4	2'5"	Carbon Tetrachloride	27.0	6735
		Ethyl Benzene	28.0	
		Toluene	2800.0	
		1,1,1-Trichloroethane	280.0	
		Trichloroethene	3600.0	
B	5'	TCA	130	491.8
		TCE	150	
		Toluene	180	
		Ethyl Benzene	3.8	
		Xylenes	28	
C	5'	TCA	23	442.3
		TCE	42	
		Toluene	320	
		Ethyl Benzene	9.3	
		Xylenes	48	
D	5'	TCA	1.0	20.8
		TCE	18	
		Toluene	1.8	
F	5'	TCA	280	4347
		TCE	1300	
		Toluene	2700	
		Chlorobenzene	18	
		Ethyl Benzene	14	
		Xylenes	35	

TABLE 3-2

SUMMARY OF SOIL TREATMENT TEST & ANALYSIS

AVERAGE CONCENTRATION (PPM) OF ORGANIC COMPOUNDS

	TOLUENE	TCE	TCA	TOTAL VOC'S
SOURCE AREA	1,411	1,549	159	3,119
EXCAVATION PIT	640	335	87	1,062
INITIAL 5/5/89	7.5	11.5	3.25	22.25
5/23/89	0.25	15.5	6.0	22.05
6/5/89	0.223	1.03	0.607	1.9
6/16/89	0.343	2.12	0.615	3.08
6/29/89	0.298	1.24	1.18	2.72

4.0 SOIL DECOMMISSION

The soil treatment was completed and terminated on 7/13/89. A verbal approval was obtained from Mr. Dennis Byrne of Alameda County Health Services (with the concurrence of the Bay Area Regional Water Quality Control Board) to dispose of the treated soil to a Class III landfill on 7/11/89. The West Contra Costa Landfill was contacted on 7/12/89 for approval to accept the treated soil. The final three rounds of soil laboratory analytical results and soil declassification reports were submitted to both the landfill and Alameda County Health Services. The soil treatment system was dismantled on 7/13/89. Soil disposal approval was obtained from Mr. Randy Thomas, Landfill Manager of West Contra Costa Sanitary Landfill on 7/14/89. The total volatile organic compounds in the final round (6/29/89) of 4 soil samples were all below 5 parts per million (ppm) which is about 10 times lower than the proposed 50 ppm cleanup level. The soil declassification results are included in Appendix D. Both of the soil samples taken on 6/16/89 qualify for a nonhazardous designation per Section 66696 of California code of Regulations Title 22 Division 4. Furthermore, the concentration limit for TCE in soil disposal criteria for the West Contra Costa Landfill is set at below 5 ppm. Since 6/5/89, the total VOC and TCE concentration in soil were all below 5 ppm as indicated in Figure 3-1. Also, the treated soil is free of harmful bacteria such as Fecal Coliforms and Fecal Streptococci as indicted in Table 4-1.

The 80 cubic yards of soil was transported and received by the West Contra Costa Landfill on 7/18/89. The landfill disposition receipts are included in Appendix D.

TABLE 4-1

SUMMARY OF MICROBIOLOGICAL ANALYSIS

	<u>Sample</u>	<u>5/5/89</u>	<u>5/23/89</u>	<u>6/5/89</u>	<u>6/16/89</u>	<u>6/29/89</u>
Standard Aerobic Plate Count/g	A	1.4×10^7	2.8×10^6	5.8×10^5	3.0×10^6	1.6×10^6
	B	1.8×10^7	3.9×10^6	2.4×10^7	2.6×10^6	1.7×10^6
Bacilli Count/g	A	2.0×10^5	1.0×10^4	6.7×10^5	-	<10
	B	1.2×10^5	1.9×10^5	2.0×10^5	-	<10
Pseudomonas Count/g	A	6.4×10^4	4.4×10^4	1.5×10^3	-	<10
	B	2.2×10^3	8.5×10^3	3.0×10^4	-	1.0×10^3
Fecal Coliforms MPN/g	A	<3	-	-	-	<3
	B	<3	-	-	-	<3
Fecal Streptococci/g	A	<10	-	-	-	<10
	B	<10	-	-	-	<10

5.0 RECOMMENDATION

Based on results of soil treatment, classification of treated soil as nonhazardous material, and disposal of the nonhazardous soil to the West Contra Costa Landfill, we recommend closure of the on-site soil remediation phase of the remediation effort.

As indicated in Section 2.0, there are still residual VOC's left on the excavation wall, we propose an in-situ soil vapor extraction and treatment system for the ultimate removal of the residual VOC's which is discussed in Section 5.1.

During the site investigation, trace amount of VOC's in shallow groundwater were detected near the source area, we propose a groundwater extraction and treatment system for the groundwater remediation effort which is discussed in Section 5.2.

5.1 PROPOSED SOIL VAPOR VENTING PLAN

As indicated in Table 2-1, excavation wall soil samples B, C, D and F all showed trace level VOC's. We do not believe the lateral extents of the VOC reached far from the alley way. This is evidenced by the previous soil boring results on boring 15, 16, and 17 which were located on the other side of the wall inside the building (Figure 1-2). The same should apply to the F. P. Lathrop property side.

We propose to install 4 VOC vapor venting wells to remediate the residual VOC left in place. Figure 5-1 is the VOC vapor extraction/treatment system schematic diagram. An air emission permit application will be filed with BAAQMD prior to operation. The vapor treatment system is comprised of vapor phase activated carbon drums connected in series to eliminate VOC emission into the atmosphere.

At boreholes 13 and 14, adjacent to the L. P. Lathrop fuel tank, the low level of gasoline detected (3 to 5 ppm TPH) in soil 11 feet deep. Any vapor volatilization at these low concentrations will most likely be non-detectable by the time it reaches the ground surface. We propose no action remediation at this location.

5.2 PROPOSED GROUNDWATER REMEDIATION PLAN

Initially, three shallow groundwater monitoring wells were installed and were named as MW-1, MW-2 and MW-3 (Figure 1). The associated well logs and construction details are included in Appendix F.

Groundwater samples were collected from these wells and analyzed for EPA 8240 VOCs. Results of the laboratory analyses are included in Appendix G. No VOCs were detected in wells MW-2 and MW-3. Only 2 VOCs were detected at Well MW-1 and they were 1,1-DCA and 1,2-DCE. The detected concentrations for both VOCs were 9 parts per billion (ppb).

A groundwater level survey was performed on April 25, 1989 and the groundwater table elevations at MW-1, MW-2 and MW-3 were 3.31, 3.11 and 2.99 feet above mean sea level, respectively (Table 5-1). The groundwater flow direction was estimated as southwest towards the bay with a hydraulic gradient of 0.00145. Well MW-3 is the downgradient well.

A new groundwater extraction Well EW-1 was constructed on 5/5/89 in the source area after soil excavation and backfill were completed. A groundwater sample collected on 5/8/89 was analyzed for EPA 601 and 602 volatile organic compounds. The following volatile organic compounds were detected:

1,1 DCE	78 ppb (action level 6 ppb)
TCE	640 ppb (action level 5 ppb)
Toluene	190 ppb (action level 180 ppb)
Xylenes	170 ppb (action level 680 ppb)

Two groundwater samples were also collected in the downgradient direction of extraction Well EW-1. One of the sample locations is located at the center of the former Fisher Berkeley facility (TW-2), about 80 feet downgradient. No organic chemical compounds were detected. The other groundwater sample was taken at the southeast corner of the former Fisher Berkeley facility (TW-1). Benzene was detected at 47 ppb. The state action level of benzene is 1 ppb. Because, benzene was not found at the source area, its origin at this location is most likely from an off-site source.

It is apparent from these results that the contaminants on-site have not significantly affected the shallow aquifer. However, the 1,1-DCE, TCE and toluene concentrations are above the state action level for groundwater cleanup. We propose a groundwater extraction/treatment system be installed to clean up the minor quantity of contaminant which was detected. The treatment system will comprise of an aqueous phase activated carbon filter (Figure 5-2).

For estimation of the groundwater remediation volume, we anticipate that the maximum plume has a 60 foot radius, a saturated thickness of 15 feet, and an effective porosity of 0.10. The estimated plume volume is about 127,000 gallons. About 63,500 gallons of the plume volume is estimated to be off-site and underlying the F. P Lathrop property. Extraction Well EW-1 is capable of recovering the contaminated water off-site. The duration of treatment for one plume volume is estimated at 90 days assuming an extraction rate of 1 gallon per minute (1,440 gallons per day). Assuming a total maximum VOC concentration in groundwater at 1 ppm, the amount of VOC in the groundwater plume is estimated at a maximum of 1.1 pounds. We estimate that two 55-gallon drums of aqueous phase activated carbon would be adequate to remove the 1.1 pound of VOCs.

A waste water discharge permit application was filed with Mr. William Meckel of the East Bay Municipal Utility District (EBMUD) on 7/6/89. On 7/12/89, Mr. Meckel visited the site and mentioned a discharge permit will most likely be granted before the end of July, 1989. We are anticipating to start up, operating and testing the groundwater extraction/treatment system immediately after EBMUD permit approval. A copy of the EBMUD discharge application is included in Appendix H.

We propose the three existing wells on site EW-1, MW-2, MW-3 will be monitored and sampled on a quarterly basis and a quarterly self-monitoring report will be filed with your agency during the proposed groundwater extraction and treatment effort. When the groundwater analysis results showed levels below the action levels as indicated above for 1,1-DCE, TCE, toluene and xylenes, we propose to terminate the groundwater remediation effort and will file a groundwater closure report with your agency for site closure.

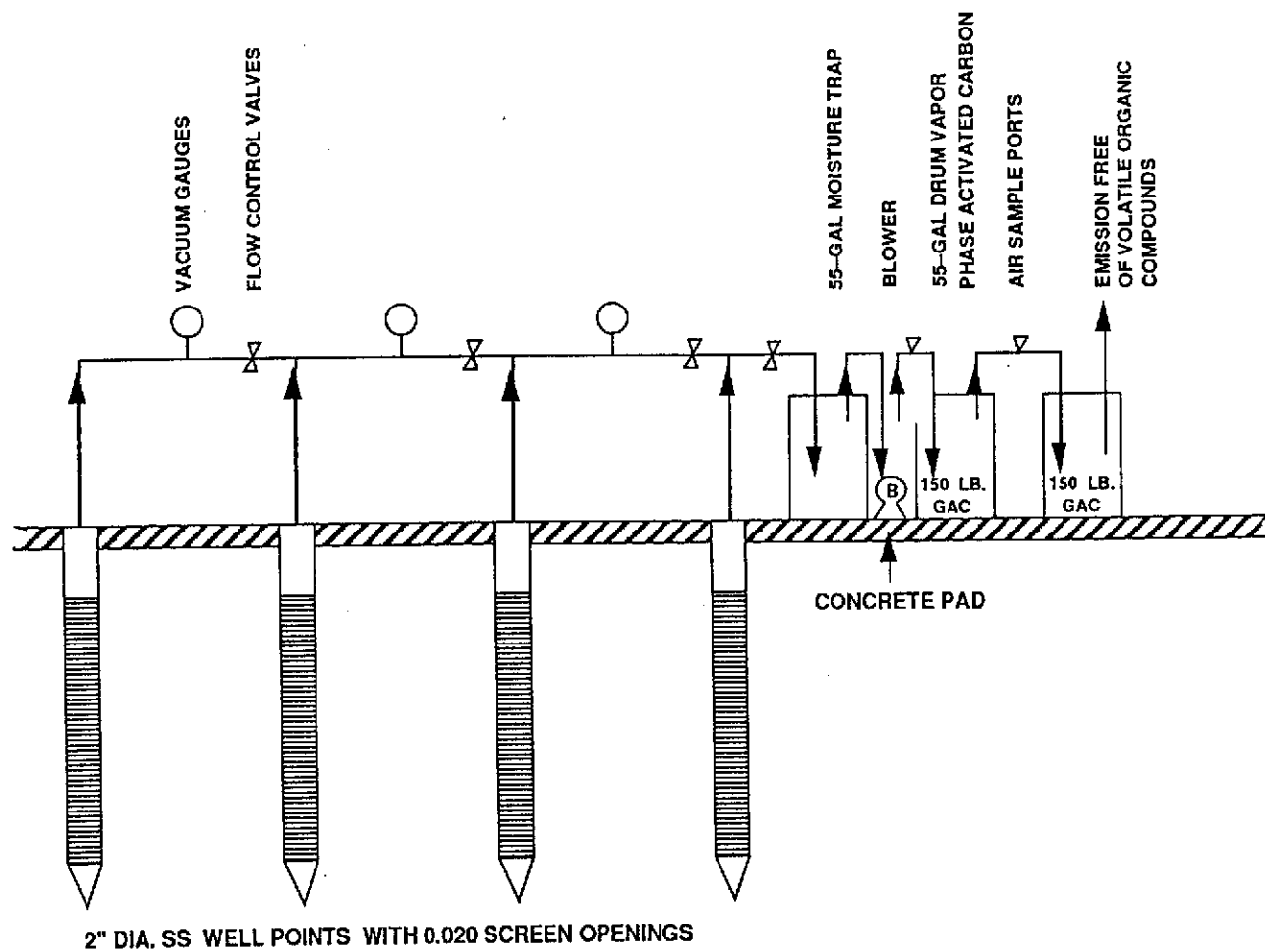


FIGURE 5-1

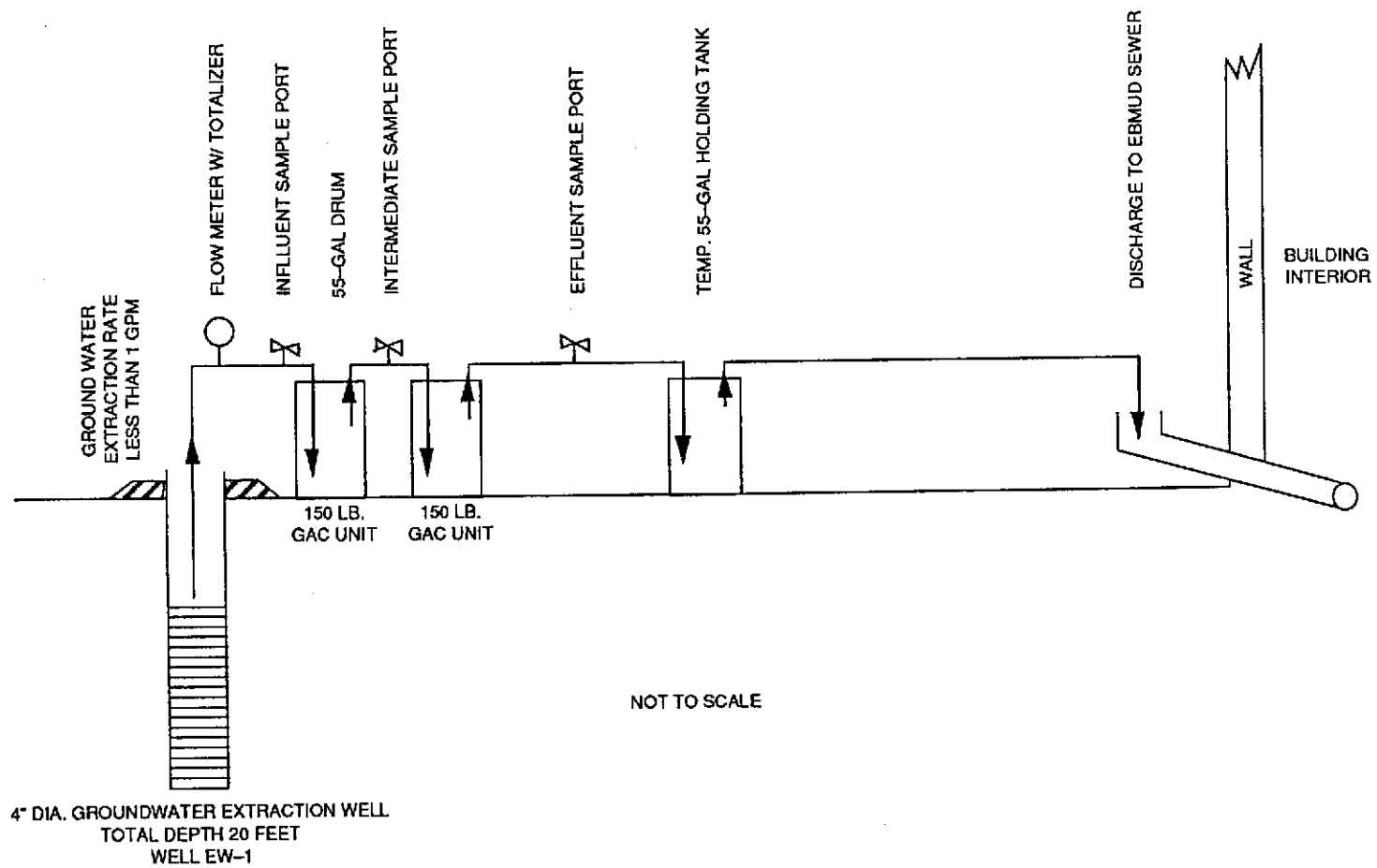


FIGURE 5-2

TABLE 5-1

MONITORING WELL SPECIFICATIONS

	<u>Elevation of Well Top FT. MSL</u>	<u>4/25/89 Static Water Level FT. MSL</u>	<u>5/16/89 Static Water Level FT. MSL</u>
MW-1 (Abandoned 5/5/89)	9.23	3.31	-
MW-2	7.42	3.11	2.91
MW-3	8.51	2.99	2.71
EW-1	8.62	-	3.01
TW-1 (Abandoned 5/18/89)	9.60	-	2.71
TW-2 (Abandoned 5/18/89)	9.62	-	2.7

APPENDIX A

SOIL REMEDIATION PLAN APPROVAL LETTER

LETTER OF NOTIFICATION TO BAAQMD OF INTENTION TO EXCAVATE

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



13 April, 1989

Mr. S.G. Crowley
1311 63rd Street
Emeryville, Ca. 94608

RECEIVED

APR 18 1989

McLAREN

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

Subject: Soil Remediation at 5800 Christie Ave. Emeryville.

Dear Mr. Crowley:

Thank you for the fee deposit check, remediation action and site safety plans submitted to our office concerning the facility listed above. The plans have been reviewed by our staff and approval is granted for their implementation.

If you have any questions concerning this matter, please contact, Dennis Byrne, Hazardous Materials Specialist, at (415) 271-4320.

Sincerely,

Rafat A. Shahid, Chief,
Hazardous Materials Division

RAS:DB

cc; Walter Loo, Principal Geohydrologist
McLaren Environmental Engineering
980 Atlantic Avenue
Suite 100
Alameda, Ca. 94501



McLaren Environmental Engineering

April 20, 1989

Mr. Milton Feldstein
Air Pollution Control Officer
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Dear Mr. Feldstein:

NOTIFICATION OF INTENTION TO EXCAVATE

This letter presents Croley and Herring Investment Company's (CHIC) intention to excavate soil located on site at 5800 Christie Street, Emeryville, California. McLaren is the remediation consultant to CHIC. The scheduled starting date of this excavation is on or during the week of April 24, 1989.

The proposed total excavation will be less than 100 cubic yards of soil. Concentrations of organic compounds detected in the soil average less than 500 ppm. Organic compounds which have been detected include; Carbon Tetrachloride, Ethyl Benzene, Toluene, 1,1,1-Trichloroethane, Trichloroethene, Xylenes, and Gasoline.

Remediation action and site safety plans were submitted to and reviewed by the Alameda County Department of Environmental Health and approval was granted for their implementation (see attached letter). If you have any questions please call me at (415) 521-5200.

Sincerely,

Amy Brownell

Amy Brownell
Assistant Engineer

Attachment

0420LCD1

APPENDIX B

EXCAVATION SOIL SAMPLE TEST RESULTS

- o Volatile Organic Compound Analysis Samples A-1, A-2, B, C, D, E-1, E-2, and F
- o Testing Engineers, Inc. Backfill Compaction Report

McLaren Analytical Laboratory

Chain of Custody Record

LP 1753
 NR 209532

24 hr rush

PROJECT DESIGNATION CHIC 1.0 SAMPLES TAKEN BY: Amy Brownell
AMY BROWNELL

AREA	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE		SAMPLE NO.	TYPE CONTAINER(S)	ANALYSIS REQUIRED
				WATER COMP GRAB	SOIL			
	E2	5/4	1245		X	028531	BRASS SLEEVE	EPA 8240 <u>25165</u>

FIELD DISPOSITION:

IMMEDIATE DELIVERY
 STORAGE REFRIGERATOR ID _____ SECURED YES
 FREEZER ID _____ NO

RELINQUISHED BY: Amy Brownell AMY BROWNELL RECEIVED BY: _____ DATE/TIME 5/5/89 12:30

RELINQUISHED BY: _____ RECEIVED BY: _____ DATE/TIME _____

RECEIVED FOR LABORATORY BY: SACH KUMAR RECEIVED BY: _____ DATE/TIME 5/6/89 9:30 AM

METHOD OF SHIPMENT: FED EX # 2793520730

LABORATORY DISPOSITION:
 IMMEDIATE ANALYSIS STORAGE REFRIGERATOR ID #4 S-36 SECURED YES NO
 FREEZER ID _____
 CABINET ID _____

* PRINT NAME AFTER SIGNATURE



McLaren Environmental Engineering

11101 White Rock Road, Rancho Cordova, CA 95670 (916) 638-3696

McLaren Analytical Laboratory

Chain of Custody Record

PROJECT DESIGNATION CHIC 100

SAMPLES TAKEN BY: AMY D BROWNELL

AREA	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE		SAMPLE NO.	TYPE CONTAINER(S)	ANALYSIS REQUIRED
				WATER COMP	GRAB			
	#B	5/2/89	1000			X 029054	BRASS SLEEVE	EPA 8240 (25045)
	#C	5/2/89	1345			X 029055	↓	EPA 8240 (25046)
	#D	5/2/89	1505			X 029056	↓	EPA 8240 (25047)
	#A1	5/3/89	730			X 029057	BRASS SLEEVE	EPA 8240 (25048)
	#E1	5/3/89	945			X 029058	↓	EPA 8240 (25049)
	#F	5/3/89	1400			X 029060	↓	EPA 8240 (25050)

FIELD DISPOSITION: * Sample run as 48 hours rush per SAT 5/5/89

IMMEDIATE DELIVERY
STORAGE REFRIGERATOR ID _____
FREEZER ID _____

SECURED YES
 NO

RELINQUISHED BY: Amy D Brownell
Amy Brownell

RECEIVED BY: _____

DATE/TIME
5:00 PM 5/3/89

RELINQUISHED BY: _____

RECEIVED BY: _____

DATE/TIME

RECEIVED FOR LABORATORY BY: Michael A. Remenburg

DATE/TIME
5/4/89 10:50

METHOD OF SHIPMENT: FED Ex 203 1257855

LABORATORY DISPOSITION:
IMMEDIATE ANALYSIS STORAGE REFRIGERATOR ID ✓ 538 SECURED
FREEZER ID _____ YES NO
CABINET ID _____

* PRINT NAME AFTER SIGNATURE



HSL VOLATILE ORGANICS
EPA METHOD 8240

Project: CHIC 1.0

Lab ID: 25048

Sample Location: #A1

Date Sampled: 05/03/89

Sample Number: 029057

Date Analyzed: 05/06/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u>	<u>REPORTING LIMIT</u>
	ug/kg (ppb)	ug/kg (ppb)
Chloromethane	< 10	10.
Bromomethane	< 10	10.
Vinyl Chloride	< 10	10.
Chloroethane	< 10	10.
Methylene Chloride	180.	25.
Acetone	< 25	25.
Carbon Disulfide	< 5	5.
1,1-Dichloroethene	< 5	5.
1,1-Dichloroethene	< 5	5.
1,2-Dichloroethene (cis/trans)	8.	5.
Chloroform	< 5	5.
Freon 113	11.	5.
1,2-Dichloroethane	< 5	5.
2-Butanone	< 25	25.
1,1,1-Trichloroethane	< 5	5.
Carbon Tetrachloride	< 5	5.
Bromodichloromethane	< 5	5.
1,2-Dichloropropane	< 5	5.
trans-1,3-Dichloropropene	< 5	5.
Trichloroethene	19.	5.
Benzene	< 5	5.
1,1,2-Trichloroethane	< 5	5.
Dibromochloromethane	< 5	5.
cis-1,3-Dichloropropene	< 5	5.
Bromoform	< 5	5.
4-Methyl-2-pentanone	< 25	25.
2-Hexanone	< 25	25.
1,1,2,2-Tetrachloroethane	< 5	5.
Tetrachloroethylene	< 10	10.
Toluene	< 5	5.
Chlorobenzene	< 5	5.
Ethyl Benzene	< 5	5.
Styrene	< 5	5.
Total Xylene	< 5	5.

Analyst: K. Badal
K. Badal

Reviewed By: R. L. James
R. L. James

Date: 05/08/89

Laboratory Director: J. M. Bartell
J. M. Bartell



Lab ID: 25048

GCMS 8240 SURROGATE % RECOVERY

Compounds	% Recovery	Soil Matrix
S1 = D4-1,2-Dichloroethane	104	70-121
S2 = D8-Toluene	116	81-117
S3 = 4-Bromofluorobenzene	92	74-121

Comments:



HSL VOLATILE ORGANICS
EPA METHOD 8240

Project: CHIC 1.0

Lab ID: 24911

Sample Location: #A2 North End

Date Sampled: 05/01/89

Sample Number: 029053

Date Analyzed: 05/22/89

<u>COMPOUND</u>	<u>ANALYTE</u>	<u>REPORTING</u>
	<u>CONCENTRATION</u>	<u>LIMIT</u>
	ug/kg (ppb)	ug/kg (ppb)
Chloromethane	< 25	25.
Bromomethane	< 25	25.
Vinyl Chloride	< 25	25.
Chloroethane	< 25	25.
Methylene Chloride	< 65	65.
Acetone	< 63	63.
Carbon Disulfide	< 13	13.
1,1-Dichloroethene	< 13	13.
1,1-Dichloroethane	< 13	13.
1,2-Dichloroethene(cis/trans)	120.	13.
Chloroform	< 13	13.
Freon 113	< 13	13.
1,2-Dichloroethane	< 13	13.
2-Butanone	< 63	63.
1,1,1-Trichloroethane	< 13	13.
Carbon Tetrachloride	< 13	13.
Bromodichloromethane	< 13	13.
1,2-Dichloropropane	< 13	13.
trans-1,3-Dichloropropene	< 13	13.
Trichloroethene	100.	13.
Benzene	< 13	13.
1,1,2-Trichloroethane	< 13	13.
Dibromochloromethane	< 13	13.
cis-1,3-Dichloropropene	< 13	13.
Bromoform	< 13	13.
4-Methyl-2-pentanone	< 63	63.
2-Hexanone	< 63	63.
1,1,2,2-Tetrachloroethane	< 13	13.
Tetrachloroethylene	< 25	25.
Toluene	110.	13.
Chlorobenzene	< 13	13.
Ethyl Benzene	< 13	13.
Styrene	< 13	13.
Total Xylene	< 13	13.

Analyst: Kathleen Badal for:
L. A. Mooney

Reviewed By: [Signature]

R. L. James

Date: 05/23/89

Laboratory Director: [Signature]

J. M. Bastell



Lab ID: 24911

GCMS 8240 SURROGATE % RECOVERY

Compounds	% Recovery	Soil Matrix
S1 = D4-1,2-Dichloroethane	98	70-121
S2 = D8-Toluene	100	81-117
S3 = 4-Bromofluorobenzene	100	74-121

Comments: Results as reported have been blank corrected.



VOLATILE HALOGENATED ORGANIC COMPOUNDS
EPA METHOD 8010 (MODIFIED)

Project: CHIC 1.0

Lab ID: 25045

Sample
Location: #B

Date
Collected: 05/02/89

Sample
Number: 029054

Date
Analyzed: 05/12/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/kg (ppb)	<u>REPORTING LIMIT</u> ug/kg (ppb)
Chloromethane	< 2000	2000.
Bromomethane	< 2000	2000.
Vinyl Chloride	< 300	300.
Chloroethane	< 2000	2000.
Methylene Chloride	< 10000	10000.
Trichlorofluoromethane	< 200	200.
1,1-Dichloroethylene	< 200	200.
1,1-Dichloroethane	< 200	200.
Trans-1,2-Dichloroethylene	< 200	200.
Chloroform	< 200	200.
1,2-Dichloroethane	< 200	200.
1,1,1-Trichloroethane	130000.	200.
Carbon Tetrachloride	< 200	200.
Bromodichloromethane	< 300	300.
1,2-Dichloropropane	< 200	200.
C-1,3-Dichloropropene	< 300	300.
Trichloroethylene	150000.	200.
Chlorodibromomethane	< 300	300.
1,1,2-Trichloroethane	< 300	300.
t-1,3-Dichloropropene	< 300	300.
Bromoform	< 300	300.
1,1,2,2-Tetrachloroethane	< 300	300.

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u>	<u>REPORTING LIMIT</u>
Tetrachloroethylene	1500.	200.
Chlorobenzene	< 200*	200.

Surrogate recovery (percent):
 Bromochloromethane 101%
 Bromofluorobenzene 92%

Comments: * Chlorobenzene detected at 100 ppb.

Analyst: *Sumita Leyesa* Reviewed By: *J. M. Hoch* Date: 05/22/89
 T. Leyesa

Laboratory Director: *J. M. Bartell*
 J. M. Bartell

VOLATILE AROMATIC COMPOUNDS
EPA METHOD 8020

Project: CHIC 1.0

Lab ID: 25045

Sample
Location: #B

Date
Collected: 05/02/89

Sample
Number: 029054

Date
Analyzed: 05/12/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/kg (ppb)	<u>REPORTING LIMIT</u> ug/kg (ppb)
Benzene	< 200	200.
Toluene	180000. *	200.
Chlorobenzene	< 200 **	200.
Ethylbenzene	3800.	200.
Total Xylene	28000.	200.

Surrogate recovery (percent)
Trifluorotoluene 98%

Comments: ** Chlorobenzene detected at 100 ppb.
* Outside of linear range.

Analyst: Inesita P. Leyesa Reviewed By: J. M. Hoch Date: 05/22/89
T. Leyesa

Laboratory Director: J. M. Bartell
J. M. Bartell



VOLATILE HALOGENATED ORGANIC COMPOUNDS
EPA METHOD 8010 (MODIFIED)

Project: CHIC 1.0

Lab ID: 25046

Sample
Location: #C

Date
Collected: 05/02/89

Sample
Number: 029055

Date
Analyzed: 05/10/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/kg (ppb)	<u>REPORTING LIMIT</u> ug/kg (ppb)
Chloromethane	< 2000	2000.
Bromomethane	< 2000	2000.
Vinyl Chloride	< 300	300.
Chloroethane	< 2000	2000.
Methylene Chloride	< 10000	10000.
Trichlorofluoromethane	< 200	200.
1,1-Dichloroethylene	< 200	200.
1,1-Dichloroethane	< 200	200.
Trans-1,2-Dichloroethylene	< 200	200.
Chloroform	< 200	200.
1,2-Dichloroethane	< 200	200.
1,1,1-Trichloroethane	23000.	200.
Carbon Tetrachloride	< 200	200.
Bromodichloromethane	< 300	200.
1,2-Dichloropropane	< 200	200.
C-1,3-Dichloropropene	< 300	200.
Trichloroethylene	42000.	200.
Chlorodibromomethane	< 300	300.
1,1,2-Trichloroethane	< 300	200.
t-1,3-Dichloropropene	< 300	200.
Bromoform	< 300	300.
1,1,2,2-Tetrachloroethane	< 300	300.

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u>	<u>REPORTING LIMIT</u>
Tetrachloroethylene	< 200	200.
Chlorobenzene	< 200	200.

Surrogate recovery (percent):
 Bromochloromethane 99%
 Bromofluorobenzene 70%

Comments:

Analyst: A. Putnam Reviewed By: J. M. Hoch Date: 05/22/89
 A. Putnam

Laboratory Director: J. M. Bartell
 J. M. Bartell



VOLATILE AROMATIC COMPOUNDS
EPA METHOD 8020

Project: CHIC 1.0

Lab ID: 25046

Sample
Location: #C

Date
Collected: 05/02/89

Sample
Number: 029055

Date
Analyzed: 05/10/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/kg (ppb)	<u>REPORTING LIMIT</u> ug/kg (ppb)
Benzene	< 200	200.
Toluene	320000. *	200.
Chlorobenzene	< 200	200.
Ethylbenzene	9300.	200.
Total Xylene	48000.	200.

Surrogate recovery (percent)
Trifluorotoluene 99%

Comments: * Outside of linear range.

Analyst: A. Putnam
A. Putnam

Reviewed By: J. M. Hoch
J. M. Hoch

Date: 05/22/89

Laboratory Director: J. M. Bartell
J. M. Bartell



VOLATILE HALOGENATED ORGANIC COMPOUNDS
EPA METHOD 8010 (MODIFIED)

Project: CHIC 1.0

Lab ID: 25047

Sample
Location: #D

Date
Collected: 05/03/89

Sample
Number: 029056

Date
Analyzed: 05/10/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/kg (ppb)	<u>REPORTING LIMIT</u> ug/kg (ppb)
Chloromethane	< 2000	2000.
Bromomethane	< 2000	2000.
Vinyl Chloride	< 300	300.
Chloroethane	< 2000	2000.
Methylene Chloride	< 10000	10000.
Trichlorofluoromethane	< 200	200.
1,1-Dichloroethylene	< 200	200.
1,1-Dichloroethane	< 200	200.
Trans-1,2-Dichloroethylene	< 200	200.
Chloroform	< 200	200.
1,2-Dichloroethane	< 200	200.
1,1,1-Trichloroethane	1000.	200.
Carbon Tetrachloride	< 200	200.
Bromodichloromethane	< 300	300.
1,2-Dichloropropane	< 200	200.
C-1,3-Dichloropropene	< 300	300.
Trichloroethylene	18000.	200.
Chlorodibromomethane	< 300	300.
1,1,2-Trichloroethane	< 300	300.
t-1,3-Dichloropropene	< 300	300.
Bromoform	< 300	300.
1,1,2,2-Tetrachloroethane	< 300	300.

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u>	<u>REPORTING LIMIT</u>
Tetrachloroethylene	< 200	200.
Chlorobenzene	< 200	200.

Surrogate recovery (percent):
 Bromochloromethane 122%
 Bromofluorobenzene 120%

Comments:

Analyst: A. Putnam Reviewed By: J. M. Hoch Date: 05/22/89

Laboratory Director: J. M. Bartell



VOLATILE AROMATIC COMPOUNDS
EPA METHOD 8020

Project: CHIC 1.0

Lab ID: 25047

Sample
Location: #D

Date
Collected: 05/03/89

Sample
Number: 029056

Date
Analyzed: 05/10/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/kg (ppb)	<u>REPORTING LIMIT</u> ug/kg (ppb)
Benzene	< 200	200.
Toluene	1800.	200.
Chlorobenzene	< 200	200.
Ethylbenzene	< 200	200.
Total Xylene	< 200	200.

Surrogate recovery (percent) 92%

Comments:

Analyst: A. Putnam
A. Putnam

Reviewed By: J. M. Hoch
J. M. Hoch

Date: 05/22/89

Laboratory Director: J. M. Bartell
J. M. Bartell



VOLATILE HALOGENATED ORGANIC COMPOUNDS
EPA METHOD 8010 (MODIFIED)

Project: CHIC 1.0

Lab ID: 25049

Sample
Location: #E1

Date
Collected: 05/03/89

Sample
Number: 029058

Date
Analyzed: 05/10/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/kg (ppb)	<u>REPORTING LIMIT</u> ug/kg (ppb)
Chloromethane	< 2000	2000.
Bromomethane	< 2000	2000.
Vinyl Chloride	< 300	300.
Chloroethane	< 2000	2000.
Methylene Chloride	< 10000	10000.
Trichlorofluoromethane	< 200	200.
1,1-Dichloroethylene	< 200	200.
1,1-Dichloroethane	< 200	200.
Trans-1,2-Dichloroethylene	< 200	200.
Chloroform	< 200	200.
1,2-Dichloroethane	< 200	200.
1,1,1-Trichloroethane	500.	200.
Carbon Tetrachloride	< 200	200.
Bromodichloromethane	< 300	300.
1,2-Dichloropropane	< 200	200.
C-1,3-Dichloropropene	< 300	300.
Trichloroethylene	800.	200.
Chlorodibromomethane	< 300	300.
1,1,2-Trichloroethane	< 300	300.
t-1,3-Dichloropropene	< 300	300.
Bromoform	< 300	300.
1,1,2,2-Tetrachloroethane	< 300	300.

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u>	<u>REPORTING LIMIT</u>
Tetrachloroethylene	< 200	200.
Chlorobenzene	< 200	200.

Surrogate recovery (percent):
 Bromochloromethane 102%
 Bromofluorobenzene 106%

Comments:

Analyst: A. Putnam Reviewed By: J. M. Hoch Date: 05/22/89
 Laboratory Director: J. M. Bartell



VOLATILE AROMATIC COMPOUNDS
EPA METHOD 8020

Project: CHIC 1.0

Lab ID: 25049

Sample
Location: #E1

Date
Collected: 05/03/89

Sample
Number: 029058

Date
Analyzed: 05/10/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/kg (ppb)	<u>REPORTING LIMIT</u> ug/kg (ppb)
Benzene	700.	200.
Toluene	700.	200.
Chlorobenzene	< 200	200.
Ethylbenzene	600.	200.
Total Xylene	1100.	200.

Surrogate recovery (percent) 97%

Comments:

Analyst: A. Putnam
A. Putnam

Reviewed By: J. M. Hoch
J. M. Hoch

Date: 05/22/89

Laboratory Director: J. M. Bartell
J. M. Bartell



HSL VOLATILE ORGANICS
EPA METHOD 8240

Project: CHIC 1.0

Lab ID: 25168

Sample Location: E 2

Date Sampled: 05/04/89

Sample Number: 028531

Date Analyzed: 05/06/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/kg (ppb)	<u>REPORTING LIMIT</u> ug/kg (ppb)
Chloromethane	< 10	10.
Bromomethane	< 10	10.
Vinyl Chloride	< 10	10.
Chloroethane	< 10	10.
Methylene Chloride	< 25	25.
Acetone	< 25	25.
Carbon Disulfide	< 5	5.
1,1-Dichloroethene	< 5	5.
1,1-Dichloroethene	< 5	5.
1,2-Dichloroethene(cis/trans)	< 5	5.
Chloroform	< 5	5.
Freon 113	< 5	5.
1,2-Dichloroethane	< 5	5.
2-Butanone	< 25	25.
1,1,1-Trichloroethane	< 5	5.
Carbon Tetrachloride	< 5	5.
Bromodichloromethane	< 5	5.
1,2-Dichloropropane	< 5	5.
trans-1,3-Dichloropropene	< 5	5.
Trichloroethene	< 5	5.
Benzene	< 5	5.
1,1,2-Trichloroethane	< 5	5.
Dibromochloromethane	< 5	5.
cis-1,3-Dichloropropene	< 5	5.
Bromoform	< 5	5.
4-Methyl-2-pentanone	< 25	25.
2-Hexanone	< 25	25.
1,1,2,2-Tetrachloroethane	< 5	5.
Tetrachloroethylene	< 10	10.
Toluene	< 5	5.
Chlorobenzene	< 5	5.
Ethyl Benzene	< 5	5.
Styrene	< 5	5.
Total Xylene	< 5	5.

Analyst: K. Badal
K. Badal

Reviewed By: R. L. James

Date: 05/08/89

Laboratory Director: J. M. Bartell



Lab ID: 25168

GCMS 8240 SURROGATE % RECOVERY

Compounds	% Recovery	Soil Matrix
S1 = D4-1,2-Dichloroethane	108	70-121
S2 = D8-Toluene	105	81-117
S3 = 4-Bromofluorobenzene	117	74-121

Comments:



VOLATILE HALOGENATED ORGANIC COMPOUNDS
EPA METHOD 8010 (MODIFIED)

Project: CHIC 1.0

Lab ID: 25050

Sample
Location: #F

Date
Collected: 05/03/89

Sample
Number: 029060

Date
Analyzed: 05/12/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/kg (ppb)	<u>REPORTING LIMIT</u> ug/kg (ppb)
Chloromethane	< 10000	10000.
Bromomethane	< 10000	10000.
Vinyl Chloride	< 3000	3000.
Chloroethane	< 10000	10000.
Methylene Chloride	< 30000	30000.
Trichlorofluoromethane	< 2000	2000.
1,1-Dichloroethylene	< 2000	2000.
1,1-Dichloroethane	< 2000	2000.
Trans-1,2-Dichloroethylene	< 2000	2000.
Chloroform	< 2000	2000.
1,2-Dichloroethane	< 2000	2000.
1,1,1-Trichloroethane	280000.	2000.
Carbon Tetrachloride	< 2000	2000.
Bromodichloromethane	< 3000	3000.
1,2-Dichloropropane	< 2000	2000.
C-1,3-Dichloropropene	< 3000	3000.
Trichloroethylene	1300000.*	2000.
Chlorodibromomethane	< 3000	3000.
1,1,2-Trichloroethane	< 3000	3000.
t-1,3-Dichloropropene	< 3000	3000.
Bromoform	< 3000	3000.
1,1,2,2-Tetrachloroethane	< 3000	3000.

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u>	<u>REPORTING LIMIT</u>
Tetrachloroethylene	5800.	2000.
Chlorobenzene	18000.	2000.
Surrogate recovery (percent):		
Bromochloromethane	105%	
Bromofluorobenzene	92%	

Comments: 1:10 dilution used in analysis.
* Outside linear range.

Analyst: Inesita P. Leyesa Reviewed By: J. M. Hoch Date: 05/22/89
T. Leyesa

Laboratory Director: J. M. Bartell
J. M. Bartell



VOLATILE AROMATIC COMPOUNDS
EPA METHOD 8020

Project: CHIC 1.0

Lab ID: 25050

Sample
Location: #F

Date
Collected: 05/03/89

Sample
Number: 029060

Date
Analyzed: 05/12/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/kg (ppb)	<u>REPORTING LIMIT</u> ug/kg (ppb)
Benzene	< 2000	2000.
Toluene	2700000. *	2000.
Chlorobenzene	18000.	2000.
Ethylbenzene	14000.	2000.
Total Xylene	35000.	2000.

Surrogate recovery (percent)
Trifluorotoluene 84%

Comments: * Outside of linear range.
1:10 dilution use in analysis.

Analyst: Inesita P. Luyosa
T. Luyosa

Reviewed By: J. M. Hoch
J. M. Hoch

Date: 05/22/89

Laboratory Director: J. M. Bartell
J. M. Bartell





Testing Engineers, Inc.

PROJECT NO: 50028 "C"	TYPE OF INSPECTION	PLACE OF INSPECTION
PROJECT NAME: Christie Ave. Backfill 5800 Christie Ave., Emeryville, Client Job #59201-002	Nuclear Density WORK REQUEST NO: H1028	Jobsite ZONE: 1
DATE: 5-4-89		
HOURS: 4		
INSPECTOR: Glasser		

Reported to: Amy Brownell Company: McClaren Engineering

Feature: Trench backfill

Field Test Procedure: ASTM D2922 & D3017

Lab Test Procedure: ASTM D1557

<u>Material Description</u>	<u>Opt. Moist.</u>	<u>Max. Density</u>	<u>Lab Ref. #</u>
1. Light brown sand	13.3%	1.93 g/cc	LM217
2.			
3.			
4.			

Location	Elev.	FIELD TEST RESULTS		Curve No.	Rel. Comp.	Proj. Spec.
		Field Dens. g/cc	Field Moist. %			
East side of building						
1 20' S of N face	FSG	1.87	11.2	1	96	90
2 40' S of N face	FSG	1.84	14.1	1	95	90
3 2' S of N face	FSG	1.80	11.7	1	93	90
4 10' N of S face	FSG	1.86	10.8	1	96	90

NOTE: Test results constitute the reporting of factual information derived from test(s) made by our laboratory following prescribed procedures. These test results should not be considered as an engineering opinion with respect thereto.

3cc: McClaren Engineering
980 Atlantic Ave. STE 100
Alameda, CA 94501

Reviewed by *M. Isaak*
M. Isaak, C.E. #14708
Expiration Date 3-31-93

APPENDIX C

SOIL TREATMENT LABORATORY TEST RESULTS

06/05/89	Soil Samples (4)
06/16/89	Soil Samples (6)
06/29/89	Soil Samples (4)

McLaren Analytical Laboratory

Chain of Custody Record

DUE: 6/11/89

FOR MOBIL CHEM

No 209523

PROJECT DESIGNATION

CHIC 1.0

SAMPLES TAKEN BY:*

LUANN MCREE

AREA	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE			SAMPLE NO.	TYPE CONTAINER(S)	ANALYSIS REQUIRED
				WATER COMP	WATER GRAB	SOIL			
	A1	6/5/89	1300			X	004987	BRASS SLEEVE	nitrate composite Nitrate K ₂ phosphorus ammonia chloride
	A2		1315				004988		
composite	A3		1330				X	004989	
	A4		1345				X	004990	
	A5		1400				X	004991	
	A6		1415				X	004992	
	A7		1430				X	004993	
	A8		1500				X	004994	
	A9		1515				X	004995	
composite	B1	6/5/89	1530			X	004996	2010 2020 8270 composite Nitrate K ₂ phosphorus ammonia chloride	
	B2		1545				004997		
	B3		1600				X	004998	
	B4		1615				X	004999	
	B5		1630				X	005000	
	B6		1645				X	028532	
	B7		1700				X	028533	
	B8		1715				X	028534	
	B9		1730				X	028535	

FIELD DISPOSITION:

IMMEDIATE DELIVERY

STORAGE REFRIGERATOR ID _____

SECURED YES

FREEZER ID _____

NO

RELINQUISHED BY:*

RECEIVED BY:*

(BOS)

DATE/TIME

Luann M Cree

Bridm Scherle

6-6-89 10:30

RELINQUISHED BY:

RECEIVED BY:*

(BOS)

DATE/TIME

Bridm Scherle

Joy Dickman

6-6-89 11:20

RECEIVED FOR LABORATORY BY:*

DATE/TIME

METHOD OF SHIPMENT:

LABORATORY DISPOSITION:

IMMEDIATE ANALYSIS

STORAGE

REFRIGERATOR ID _____

SECURED

FREEZER ID _____

CABINET ID _____

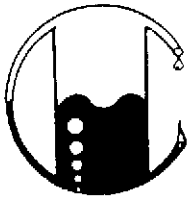
YES NO

* PRINT NAME AFTER SIGNATURE



McLaren Environmental Engineering

11101 White Rock Road, Rancho Cordova, CA 95670 (916) 638-3696



MOBILE CHEM LABS INC.

1678 Reliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

McLaren Engineering Inc.
980 Atlantic Ave. Suite #100
Alameda, CA 94501
Attn: Walter Loo

Date Sampled: 06-05-89
Date Received: 06-06-89
Date Reported: 06-14-89

Sample Number

069059

Sample Description

Proj # CHIC1.0

A6 Soil

PRIORITY POLLUTANTS

----- VOLATILE ORGANIC COMPOUNDS -----

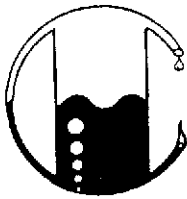
results in ppb

Benzene.....	<50	trans-1,2-Dichloroethene...	<50
Bromomethane.....	<100	1,2-Dichloropropane.....	<50
Bromodichloromethane.....	<50	1,3-Dichloropropane.....	<50
Bromoform.....	<50	Ethylbenzene.....	<50
Carbon tetrachloride.....	<50	Methylene chloride.....	<50
Chlorobenzene.....	<50	1,1,2,2-Tetrachloroethane..	<50
Chloroethane.....	<100	Tetrachloroethene.....	<50
2-Chloroethylvinyl ether.....	<50	1,1,1-Trichloroethane.....	180
Chloroform.....	<50	1,1,2-Trichloroethane.....	<50
Chloromethane.....	<100	Trichloroethene.....	1,100
Dibromochloromethane.....	<50	Toluene.....	<50
1,1-Dichloroethane.....	<50	Vinyl chloride.....	<100
1,2-Dichloroethane.....	<50	1,2-Dichlorobenzene.....	<100
1,1-Dichloroethene.....	<50	1,3-Dichlorobenzene.....	<100
		1,4-Dichlorobenzene.....	<100
		Total Xylenes.....	<50

MOBILE CHEM LABS

Ronald G. Evans
Ronald G. Evans
Lab Director

NOTE: Analysis was performed using
methods 8010 and 8020



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McLaren Engineering Inc.
980 Atlantic Ave. Suite #100
Alameda, CA 94501
Attn: Walter Loo

Date Sampled: 06-05-89
Date Received: 06-06-89
Date Reported: 06-14-89

Sample Number

069058

Sample Description

Proj # CHIC1.0

A8 Soil

PRIORITY POLLUTANTS

----- VOLATILE ORGANIC COMPOUNDS -----

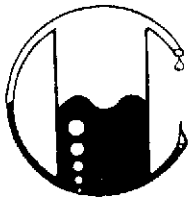
results in ppb

Benzene.....	<50	trans-1,2-Dichloroethene...	<50
Bromomethane.....	<100	1,2-Dichloropropane.....	<50
Bromodichloromethane.....	<50	1,3-Dichloropropane.....	<50
Bromoform.....	<50	Ethylbenzene.....	<50
Carbon tetrachloride.....	<50	Methylene chloride.....	<50
Chlorobenzene.....	<50	1,1,2,2-Tetrachloroethane..	<50
Chloroethane.....	<100	Tetrachloroethene.....	<50
2-Chloroethylvinyl ether.....	<50	1,1,1-Trichloroethane.....	580
Chloroform.....	<50	1,1,2-Trichloroethane.....	<50
Chloromethane.....	<100	Trichloroethene.....	1,100
Dibromochloromethane.....	<50	Toluene.....	88
1,1-Dichloroethane.....	<50	Vinyl chloride.....	<100
1,2-Dichloroethane.....	<50	1,2-Dichlorobenzene.....	<100
1,1-Dichloroethene.....	<50	1,3-Dichlorobenzene.....	<100
		1,4-Dichlorobenzene.....	<100
		Total Xylenes.....	<50

MOBILE CHEM LABS

Ronald G. Evans
Ronald G. Evans
Lab Director

NOTE: Analysis was performed using
methods 8010 and 8020



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McLaren Engineering Inc.
980 Atlantic Ave. Suite #100
Alameda, CA 94501
Attn: Walter Loo

Date Sampled: 06-05-89
Date Received: 06-06-89
Date Reported: 06-14-89

Sample Number

069060

Sample Description

Proj # CHIC1.0

B4

Soil

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

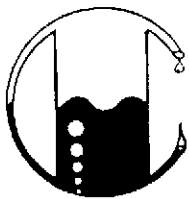
results in ppb

Benzene.....	<50	trans-1,2-Dichloroethene...	<50
Bromomethane.....	<100	1,2-Dichloropropane.....	<50
Bromodichloromethane.....	<50	1,3-Dichloropropane.....	<50
Bromoform.....	<50	Ethylbenzene.....	<50
Carbon tetrachloride.....	<50	Methylene chloride.....	<50
Chlorobenzene.....	<50	1,1,2,2-Tetrachloroethane..	<50
Chloroethane.....	<100	Tetrachloroethene.....	<50
2-Chloroethylvinyl ether.....	<50	1,1,1-Trichloroethane.....	1,700
Chloroform.....	<50	1,1,2-Trichloroethane.....	<50
Chloromethane.....	<100	Trichloroethene.....	900
Dibromochloromethane.....	<50	Toluene.....	250
1,1-Dichloroethane.....	<50	Vinyl chloride.....	<100
1,2-Dichloroethane.....	<50	1,2-Dichlorobenzene.....	<100
1,1-Dichloroethene.....	<50	1,3-Dichlorobenzene.....	<100
		1,4-Dichlorobenzene.....	<100
		Total Xylenes.....	<50

MOBILE CHEM LABS

Ronald G. Evans
Ronald G. Evans
Lab Director

NOTE: Analysis was performed using
methods 8010 and 8020



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McLaren Engineering Inc.
980 Atlantic Ave. Suite #100
Alameda, CA 94501
Attn: Walter Loo

Date Sampled: 06-05-89
Date Received: 06-06-89
Date Reported: 06-14-89

Sample Number

069061

Sample Description

Proj # CHIC1.0

B9

Soil

PRIORITY POLLUTANTS

----- VOLATILE ORGANIC COMPOUNDS -----

results in ppb

Benzene.....	<50	trans-1,2-Dichloroethene...	<50
Bromomethane.....	<100	1,2-Dichloropropane.....	<50
Bromodichloromethane.....	<50	1,3-Dichloropropene.....	<50
Bromoform.....	<50	Ethylbenzene.....	<50
Carbon tetrachloride.....	<50	Methylene chloride.....	<50
Chlorobenzene.....	<50	1,1,2,2-Tetrachloroethane..	<50
Chloroethane.....	<100	Tetrachloroethene.....	<50
2-Chloroethylvinyl ether.....	<50	1,1,1-Trichloroethane.....	<50
Chloroform.....	<50	1,1,2-Trichloroethane.....	<50
Chloromethane.....	<100	Trichloroethene.....	<50
Dibromochloromethane.....	<50	Toluene.....	<50
1,1-Dichloroethane.....	<50	Vinyl chloride.....	<100
1,2-Dichloroethane.....	<50	1,2-Dichlorobenzene.....	<100
1,1-Dichloroethene.....	<50	1,3-Dichlorobenzene.....	<100
		1,4-Dichlorobenzene.....	<100
		Total Xylenes.....	<50

MOBILE CHEM LABS

Ronald G. Evans
Ronald G. Evans
Lab Director

NOTE: Analysis was performed using
methods 8010 and 8020

McLaren Analytical Laboratory

Chain of Custody Record

No 209698

PROJECT DESIGNATION

Chic 1.0

SAMPLES TAKEN BY:

Brook Wright Brook Wright

AREA	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE		SAMPLE NO.	TYPE CONTAINER(S)	ANALYSIS REQUIRED	
				WATER COMP	GRAB				SOIL
	A1	6/16/89				029251	Brass Tube	8010, 8020, Nitrates; Rephosphorus, Ammoniac Chloride	
	A2					X			029252
	A3					X			029253
	A4					X			029254
	A5					X			029255
	A6					X			029256
	A7					X			029257
	A8					X			029258
	A9					X			029259
	B1					029260			
	B2					X			029261
	B3					X			029262
	B4					X			029263
	B5					X			029264
	B6					X			029265
	B7					X			029266
	B8					X			029267
	B9					X			029268

FIELD DISPOSITION:

IMMEDIATE DELIVERY

STORAGE REFRIGERATOR ID _____

FREEZER ID _____

NOTE: 1 DISCRETE 1 COMPOSITE

FOR A & B SAMPLES

SECURED YES

NO

(5 DAY TURNAROUND)

RELINQUISHED BY:

Brook Wright

RECEIVED BY:

Brian Scheeler (BES)

DATE/TIME

6/16/89 1:50

RELINQUISHED BY:

Brian Scheeler (BES)

RECEIVED BY:

Brook Wright

DATE/TIME

6-16-89 4:30

RECEIVED FOR LABORATORY BY:

Brook Wright

DATE/TIME

6-16-89 4:30

METHOD OF SHIPMENT:

LABORATORY DISPOSITION:

IMMEDIATE ANALYSIS

STORAGE

REFRIGERATOR ID _____

SECURED

FREEZER ID _____

YES NO

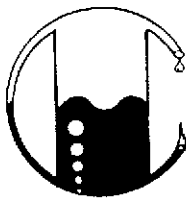
CABINET ID _____

* PRINT NAME AFTER SIGNATURE



McLaren Environmental Engineering

11101 White Rock Road, Rancho Cordova, CA 95670 (916) 638-3696



MOBILE CHEM LABS INC.

1678 Reliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

McLaren Engineering Inc.
980 Atlantic Ave. Suite #100
Alameda, CA 94501
Attn: Walter Loo

Date Sampled: 06-16-89
Date Received: 06-16-89
Date Reported: 06-21-89

Sample Number

069115

Sample Description

Proj # CHIC1.0

Comp. A4 SOIL

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

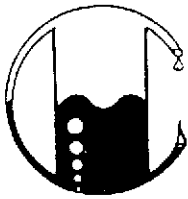
results in ppb

Benzene.....	<50	trans-1,2-Dichloroethene...	<50
Bromomethane.....	<100	1,2-Dichloropropane.....	<50
Bromodichloromethane.....	<50	1,3-Dichloropropene.....	<50
Bromoform.....	<50	Ethylbenzene.....	<50
Carbon tetrachloride.....	<50	Methylene chloride.....	<50
Chlorobenzene.....	<50	1,1,2,2-Tetrachloroethane..	<50
Chloroethane.....	<100	Tetrachloroethene.....	<50
2-Chloroethylvinyl ether.....	<50	1,1,1-Trichloroethane.....	120
Chloroform.....	<50	1,1,2-Trichloroethane.....	<50
Chloromethane.....	<100	Trichloroethene.....	160
Dibromochloromethane.....	<50	Toluene.....	300
1,1-Dichloroethane.....	<50	Vinyl chloride.....	<100
1,2-Dichloroethane.....	<50	1,2-Dichlorobenzene.....	<100
1,1-Dichloroethene.....	<50	1,3-Dichlorobenzene.....	<100
		1,4-Dichlorobenzene.....	<100
		Total Xylenes.....	<50

MOBILE CHEM LABS

Ronald G. Evans
Ronald G. Evans
Lab Director

NOTE: Analysis was performed using
methods 8010 and 8020



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McLaren Engineering Inc.
980 Atlantic Ave. Suite #100
Alameda, CA 94501
Attn: Walter Loo

Date Sampled: 06-16-89
Date Received: 06-16-89
Date Reported: 06-21-89

Sample Number

069116

Sample Description

Proj # CHIC1.0

Comp. B6 SOIL

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

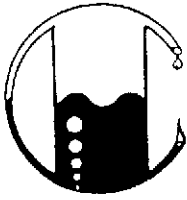
results in ppb

Benzene.....	<50	trans-1,2-Dichloroethene...	<50
Bromomethane.....	<100	1,2-Dichloropropane.....	<50
Bromodichloromethane.....	<50	1,3-Dichloropropane.....	<50
Bromoform.....	<50	Ethylbenzene.....	<50
Carbon tetrachloride.....	<50	Methylene chloride.....	<50
Chlorobenzene.....	<50	1,1,2,2-Tetrachloroethane..	<50
Chloroethane.....	<100	Tetrachloroethene.....	<50
2-Chloroethylvinyl ether.....	<50	1,1,1-Trichloroethane.....	360
Chloroform.....	<50	1,1,2-Trichloroethane.....	<50
Chloromethane.....	<100	Trichloroethene.....	930
Dibromochloromethane.....	<50	Toluene.....	200
1,1-Dichloroethane.....	<50	Vinyl chloride.....	<100
1,2-Dichloroethane.....	<50	1,2-Dichlorobenzene.....	<100
1,1-Dichloroethene.....	<50	1,3-Dichlorobenzene.....	<100
		1,4-Dichlorobenzene.....	<100
		Total Xylenes.....	<50

MOBILE CHEM LABS

Ronald G. Evans
Ronald G. Evans
Lab Director

NOTE: Analysis was performed using
methods 8010 and 8020



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McLaren Engineering Inc.
980 Atlantic Ave. Suite #100
Alameda, CA 94501
Attn: Walter Loo

Date Sampled: 06-16-89
Date Received: 06-16-89
Date Reported: 06-19-89

Sample Number

069100

Sample Description

Proj # CHIC1.0

Comp. A1-A9 SOIL

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

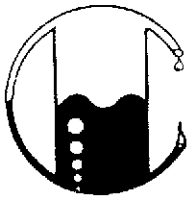
results in ppb

Benzene.....	<50	trans-1,2-Dichloroethene...	<50
Bromomethane.....	<100	1,2-Dichloropropane.....	<50
Bromodichloromethane.....	<50	1,3-Dichloropropene.....	<50
Bromoform.....	<50	Ethylbenzene.....	<50
Carbon tetrachloride.....	<50	Methylene chloride.....	<50
Chlorobenzene.....	<50	1,1,2,2-Tetrachloroethane..	160
Chloroethane.....	<100	Tetrachloroethene.....	<50
2-Chloroethylvinyl ether.....	<50	1,1,1-Trichloroethane.....	1,200
Chloroform.....	<50	1,1,2-Trichloroethane.....	<50
Chloromethane.....	<100	Trichloroethene.....	6,300
Dibromochloromethane.....	<50	Toluene.....	510
1,1-Dichloroethane.....	<50	Vinyl chloride.....	<100
1,2-Dichloroethane.....	<50	1,2-Dichlorobenzene.....	<100
1,1-Dichloroethene.....	<50	1,3-Dichlorobenzene.....	<100
		1,4-Dichlorobenzene.....	<100
		Total Xylenes.....	<50

MOBILE CHEM LABS

Ronald G. Evans
Ronald G. Evans
Lab Director

NOTE: Analysis was performed using
methods 8010 and 8020



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McLaren Engineering Inc.
980 Atlantic Ave. Suite #100
Alameda, CA 94501
Attn: Walter Loo

Date Sampled: 06-16-89
Date Received: 06-16-89
Date Reported: 06-19-89

Sample Number

069101

Sample Description

Proj # CHIC1.0

Comp. B1-B9 SOIL

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

results in ppb

Benzene.....	<50	trans-1,2-Dichloroethene...	<50
Bromomethane.....	<100	1,2-Dichloropropane.....	<50
Bromodichloromethane.....	<50	1,3-Dichloropropene.....	<50
Bromoform.....	<50	Ethylbenzene.....	<50
Carbon tetrachloride.....	<50	Methylene chloride.....	<50
Chlorobenzene.....	<50	1,1,2,2-Tetrachloroethane..	65
Chloroethane.....	<100	Tetrachloroethene.....	<50
2-Chloroethylvinyl ether.....	<50	1,1,1-Trichloroethane.....	780
Chloroform.....	<50	1,1,2-Trichloroethane.....	<50
Chloromethane.....	<100	Trichloroethene.....	1,100
Dibromochloromethane.....	<50	Toluene.....	360
1,1-Dichloroethane.....	<50	Vinyl chloride.....	<100
1,2-Dichloroethane.....	<50	1,2-Dichlorobenzene.....	<100
1,1-Dichloroethene.....	<50	1,3-Dichlorobenzene.....	<100
		1,4-Dichlorobenzene.....	<100
		Total Xylenes.....	<50

MOBILE CHEM LABS

Ronald G. Evans
Ronald G. Evans
Lab Director

NOTE: Analysis was performed using
methods 8010 and 8020

069180

FOR MOBIL CHEM

- 5 DAY TURNS AROUND 004310



Keep

CHAIN OF CUSTODY RECORD

Sampler: JEFF Huckwubler Date Shipped: 6-29-89 Carrier: _____

Telephone: (415) 521-5200 Airbill Number: _____ Cooler: Blue Ice

SHIP TO: McLaren Analytical Laboratory 11101 White Rock Road Rancho Cordova, CA 95670 (916) 638-3696 FAX: 521-1547 SEND RESULTS TO: Client Name: _____ Company: McLaren 980 Atlantic Av Address: Alameda, CA 95401 Phone: 521-5200

PROJECT NAME: CHIC - 1.0 PROJECT #: _____

LABORATORY PROJECT (LP) #: _____ P.O. #: _____

Relinquished by: (Signature) Jeff Huckwubler Received by: (Signature) Charles R. Morawetz Date: 6-29-89 Time: _____

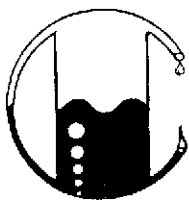
ANALYSIS REQUEST

Table with columns: Sample ID Number, Sample Description, Date/Time, Analysis Requested, T.A.T., Type of Container, Number of Containers, Lab ID. Includes handwritten entries for samples 005351-005368 and analysis requests like COMPOSITE, PHOSPHORUS, AMMONIA CHLORIDE, PH.

069180
069181

Special Instructions/Comments: 2 Descreet Samples 192 193

Sample Condition Upon Receipt: Expected Analytical Turn-Around Times: 1 = Immediate Attention: 24 hours 2 = Rush: 48 hours 3 = Standard: 1 week 4 = Standard: 2 weeks Laboratory Disposition: Storage Refrigerator ID _____ Secured: Yes _____ No _____ Storage Freezer ID _____



MOBILE CHEM LABS INC.

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Lafayette, CA 94549 • (415) 945-1266

McLaren Engineering Inc.
980 Atlantic Ave. Suite #100
Alameda, CA 94501
Attn: Walter Loo

Date Sampled: 06-29-89
Date Received: 06-29-89
Date Reported: 07-05-89

Sample Number

069192

Sample Description

Proj # CHIC1.0

A3

Soil

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

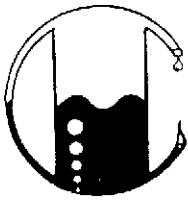
results in ppb

Benzene.....	<50	trans-1,2-Dichloroethene...	<50
Bromomethane.....	<100	1,2-Dichloropropane.....	<50
Bromodichloromethane.....	<50	1,3-Dichloropropane.....	<50
Bromoform.....	<50	Ethylbenzene.....	<50
Carbon tetrachloride.....	<50	Methylene chloride.....	<50
Chlorobenzene.....	<50	1,1,2,2-Tetrachloroethane..	<50
Chloroethane.....	<100	Tetrachloroethene.....	<50
2-Chloroethylvinyl ether.....	<50	1,1,1-Trichloroethane....	1,600
Chloroform.....	<50	1,1,2-Trichloroethane.....	<50
Chloromethane.....	<100	Trichloroethene.....	1,200
Dibromochloromethane.....	<50	Toluene.....	380
1,1-Dichloroethane.....	<50	Vinyl chloride.....	<100
1,2-Dichloroethane.....	<50	1,2-Dichlorobenzene.....	<100
1,1-Dichloroethene.....	<50	1,3-Dichlorobenzene.....	<100
		1,4-Dichlorobenzene.....	<100
		Total Xylenes.....	<50

MOBILE CHEM LABS

Ronald G. Evans
Ronald G. Evans
Lab Director

NOTE: Analysis was performed using
methods 8010 and 8020



MOBILE CHEM LABS INC.

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Lafayette, CA 94549 • (415) 945-1266

McLaren Engineering Inc.
980 Atlantic Ave. Suite #100
Alameda, CA 94501
Attn: Walter Loo

Date Sampled: 06-29-89
Date Received: 06-29-89
Date Reported: 07-05-89

Sample Number

069193

Sample Description

Proj # CHIC1.0

B6 Soil

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

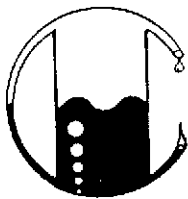
results in ppb

Benzene.....	<50	trans-1,2-Dichloroethene...	<50
Bromomethane.....	<100	1,2-Dichloropropane.....	<50
Bromodichloromethane.....	<50	1,3-Dichloropropane.....	<50
Bromoform.....	<50	Ethylbenzene.....	<50
Carbon tetrachloride.....	<50	Methylene chloride.....	<50
Chlorobenzene.....	<50	1,1,2,2-Tetrachloroethane..	<50
Chloroethane.....	<100	Tetrachloroethene.....	<50
2-Chloroethylvinyl ether.....	<50	1,1,1-Trichloroethane....	1,500
Chloroform.....	<50	1,1,2-Trichloroethane.....	<50
Chloromethane.....	<100	Trichloroethene.....	2,200
Dibromochloromethane.....	<50	Toluene.....	270
1,1-Dichloroethane.....	<50	Vinyl chloride.....	<100
1,2-Dichloroethane.....	<50	1,2-Dichlorobenzene.....	<100
1,1-Dichloroethene.....	<50	1,3-Dichlorobenzene.....	<100
		1,4-Dichlorobenzene.....	<100
		Total Xylenes.....	<50

MOBILE CHEM LABS

Ronald G. Evans
Ronald G. Evans
Lab Director

NOTE: Analysis was performed using
methods 8010 and 8020



MOBILE CHEM LABS INC.

1678 Reliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

McLaren Engineering Inc.
980 Atlantic Ave. Suite #100
Alameda, CA 94501
Attn: Walter Loo

Date Sampled: 06-29-89
Date Received: 06-29-89
Date Reported: 06-30-89

Sample Number

069180

Sample Description

Proj # CHIC1.0

A1-A9 Soil

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

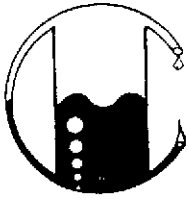
results in ppb

Benzene.....	<50	trans-1,2-Dichloroethene...	<50
Bromomethane.....	<100	1,2-Dichloropropane.....	<50
Bromodichloromethane.....	<50	1,3-Dichloropropene.....	<50
Bromoform.....	<50	Ethylbenzene.....	<50
Carbon tetrachloride.....	<50	Methylene chloride.....	<50
Chlorobenzene.....	<50	1,1,2,2-Tetrachloroethane..	<50
Chloroethane.....	<100	Tetrachloroethene.....	<50
2-Chloroethylvinyl ether.....	<50	1,1,1-Trichloroethane.....	1,200
Chloroform.....	<50	1,1,2-Trichloroethane.....	<50
Chloromethane.....	<100	Trichloroethene.....	1,200
Dibromochloromethane.....	<50	Toluene.....	210
1,1-Dichloroethane.....	<50	Vinyl chloride.....	<100
1,2-Dichloroethane.....	<50	1,2-Dichlorobenzene.....	<100
1,1-Dichloroethene.....	<50	1,3-Dichlorobenzene.....	<100
		1,4-Dichlorobenzene.....	<100
		Total Xylenes.....	<50

MOBILE CHEM LABS

Ronald G. Evans
Ronald G. Evans
Lab Director

NOTE: Analysis was performed using
methods 8010 and 8020



MOBILE CHEM LABS INC.

1678 Reliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

McLaren Engineering Inc.
980 Atlantic Ave. Suite #100
Alameda, CA 94501
Attn: Walter Loo

Date Sampled: 06-29-89
Date Received: 06-29-89
Date Reported: 06-30-89

Sample Number

069181

Sample Description

Proj # CHIC1.0

B1-B9

Soil

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

results in ppb

Benzene.....	<50	trans-1,2-Dichloroethene...	<50
Bromomethane.....	<100	1,2-Dichloropropane.....	<50
Bromodichloromethane.....	<50	1,3-Dichloropropene.....	<50
Bromoform.....	<50	Ethylbenzene.....	<50
Carbon tetrachloride.....	<50	Methylene chloride.....	<50
Chlorobenzene.....	<50	1,1,2,2-Tetrachloroethane..	<50
Chloroethane.....	<100	Tetrachloroethene.....	<50
2-Chloroethylvinyl ether.....	<50	1,1,1-Trichloroethane.....	420
Chloroform.....	<50	1,1,2-Trichloroethane.....	<50
Chloromethane.....	<100	Trichloroethene.....	360
Dibromochloromethane.....	<50	Toluene.....	330
1,1-Dichloroethane.....	<50	Vinyl chloride.....	<100
1,2-Dichloroethane.....	<50	1,2-Dichlorobenzene.....	<100
1,1-Dichloroethene.....	<50	1,3-Dichlorobenzene.....	<100
		1,4-Dichlorobenzene.....	<100
		Total Xylenes.....	<50

MOBILE CHEM LABS

Ronald G. Evans
Ronald G. Evans
Lab Director

NOTE: Analysis was performed using
methods 8010 and 8020

APPENDIX D

SOIL DECLASSIFICATION LABORATORY TEST RESULTS



**DETERMINATION OF THE HAZARDOUS
POTENTIAL OF A WASTE SAMPLE**

**Prepared for
Mobile Chem Labs, Inc.**

**Prepared by
EA Engineering, Science, and Technology, Inc.
Western Regional Operations**

**30 June 1989
70008.01**

EA performed a static, acute screening test on two soil samples (Sample #069100 and 069101) received from Mobile Chem Labs, Inc., Lafayette, California.

Test Methodology

An initial screening bioassay was performed to determine if the sample should be designated as a hazardous waste. The sample was tested using juvenile fathead minnows (Pimephales promelas) in the manner prescribed by the California Department of Fish and Game Water Pollution Control Laboratory (Polisini and Bartos 1987). Test conditions are summarized in Appendix A. Minnows were exposed to five weight/volume concentrations of the sample: 2,000, 1,750, 1,500, 1,250 and 1,000 mg/L. Dilution and control waters were a soft synthetic water formulated per EPA/600/4-85/014.

Test Results

No toxic response to the concentrations tested was demonstrated. No significant mortality occurred in any of the concentrations (Table 1). Water quality values are summarized in Table 2.

This sample qualifies for a nonhazardous designation per Section 66696 of California Code of Regulations Title 22 Division 4.

TABLE 1 SUMMARY OF SURVIVAL DATA FROM (*Pimephales promelas*)
 4-DAY TOXICITY SCREENING TEST IN SOIL SAMPLE #069100

<u>Effluent Concentration (mg/L)</u>	<u>Proportion Surviving in Replicate Chambers</u>		<u>Average Survival (%)</u>
0 (Control)	1.00	0.90	95
1,000	1.00	1.00	100
1,250	1.00	1.00	100
1,500	1.00	1.00	100
1,750	1.00	0.90	95
2,000	1.00	1.00	100

TABLE 2 SUMMARY OF SURVIVAL DATA FROM (*Pimephales promelas*)
 4-DAY TOXICITY SCREENING TEST IN SOIL SAMPLE #069101

<u>Effluent Concentration (mg/L)</u>	<u>Proportion Surviving in Replicate Chambers</u>		<u>Average Survival (%)</u>
0 (Control)	1.00	0.90	95
1,000	1.00	1.00	100
1,250	1.00	1.00	100
1,500	1.00	1.00	100
1,750	1.00	1.00	100
2,000	1.00	1.00	100

TABLE 3 SUMMARY OF WATER QUALITY MEASUREMENTS FOR THE Pimephales promelas
4-DAY SURVIVAL TEST IN SOIL SAMPLE #069100

Test Concentration (percent effluent)	Mean Value (\pm SE)					
	pH	Temp (C)	DO (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Conductivity (umhos/cm)
Control	7.03 ± 0.21	19.8 ± 0.36	8.0 ± 0.55	65.0 ± 3.4	65.0 ± 3.4	159.0 ± 6.4
1,000 mg/L	7.53 ± 0.05	19.6 ± 0.22	8.2 ± 0.45			
1,250 mg/L	7.47 ± 0.05	19.6 ± 0.20	8.1 ± 0.56			
1,500 mg/L	7.48 ± 0.06	19.6 ± 0.20	8.0 ± 0.69			
1,750 mg/L	7.48 ± 0.07	19.6 ± 0.18	7.9 ± 0.70			
2,000 mg/L	7.47 ± 0.07	19.6 ± 0.20	8.0 ± 0.67	71.8 ± 6.4	65.0 ± 3.4	172.0 ± 8.3

TABLE 4 SUMMARY OF WATER QUALITY MEASUREMENTS FOR THE Pimephales promelas
4-DAY SURVIVAL TEST IN SOIL SAMPLE #069101

Test Concentration (percent effluent)	Mean Value (\pm SE)					
	pH	Temp (C)	DO (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Conductivity (umhos/cm)
Control	7.03 ± 0.21	19.8 ± 0.36	8.0 ± 0.55	65.0 ± 3.4	65.0 ± 3.4	159.0 ± 6.4
1,000 mg/L	7.19 ± 0.02	19.6 ± 0.27	8.2 ± 0.53			
1,250 mg/L	7.30 ± 0.03	19.6 ± 0.23	8.2 ± 0.50			
1,500 mg/L	7.38 ± 0.05	19.6 ± 0.24	8.0 ± 0.66			
1,750 mg/L	7.42 ± 0.07	19.6 ± 0.24	8.2 ± 0.56			
2,000 mg/L	7.43 ± 0.06	19.6 ± 0.24	8.0 ± 0.46	71.8 ± 3.4	65.0 ± 3.4	172.0 ± 13.0

NONRENEWAL
ACUTE RENEWAL TOXICITY TEST

Client: Mohala Chem Labs Test Container: 2.5 GAL Organism: Common Name: Fathead Minnow Beginning Date: 6/21/89 Time: 1400
 Project No: 2000B-01 Test Volume: 2 LITERS Scientific Name: Pimephales promelas Ending Date: 6/25/89 Time: 1500
 Test Article: Swal Sample Test Duration: 76 hrs Lot No: FAH-02B Test Temp. Range: 20 °C ± 2 °C
 QC Test No: NA Dilution Water: EPA Soft Source: Lee Thayer Farm Test Salinity: 0
 Sample No: 069100 Reference Toxicant: NA Age of Test Organisms: 2-50 days Acclimation Temp. Range: 15-20 °C
 Test: Static or Flow-thru Acclimation (days): 7 days

* began aerating

Conc. or %	Cont. No.	Number of Live Organisms					Dissolved Oxygen (mg/l)					Temperature (°C)					pH				
		0	24	48	72	96	0	24*	48	72	96	0	24	48	72	96	0	24	48	72	96
C		10	10	10	9	9	8.7	6.6	9.3	8.4	7.6	19.4	19.6	18.7	19.9	20.0	7.61	7.43	6.92	7.59	7.63
		10	10	10	10	10	8.1	5.4	9.3	8.5	7.9	19.4	20.3	18.7	21.7	20.0	7.11	7.09	6.84	6.93	7.12
1000	1	10	10	10	10	10	8.5	6.1	9.0	8.5	8.0	19.3	19.8	18.9	19.9	20.1	7.53	7.35	7.60	7.60	7.66
	2	10	10	10	10	10	8.9	6.9	9.2	8.5	8.0	19.4	19.8	18.9	19.9	20.1	7.48	7.31	7.56	7.61	7.60
1250	1	10	10	10	10	10	8.7	6.1	9.2	8.7	8.1	19.5	19.8	18.9	19.8	20.0	7.47	7.29	7.56	7.57	7.54
	2	10	10	10	10	10	8.5	5.9	9.1	8.7	8.2	19.5	19.7	18.9	19.9	20.1	7.44	7.27	7.54	7.57	7.44
1500	1	10	10	10	10	10	8.4	5.2	9.1	8.8	8.1	19.5	19.7	18.9	19.9	20.1	7.45	7.27	7.54	7.58	7.53
	2	10	10	10	10	10	8.6	5.5	9.2	8.8	8.0	19.5	19.7	18.9	19.7	20.1	7.43	7.25	7.55	7.59	7.61
1750	1	10	10	10	10	10	8.7	5.7	9.1	8.7	7.6	19.5	19.7	18.9	19.7	20.0	7.42	7.23	7.54	7.57	7.65
	2	10	10	10	10	10	8.6	4.7	9.0	8.6	8.0	19.5	19.7	18.9	19.7	20.0	7.42	7.22	7.54	7.56	7.59
2000	1	10	10	10	10	10	8.7	5.2	9.1	8.8	8.0	19.5	19.6	18.9	19.8	20.0	7.40	7.20	7.54	7.59	7.57
	2	10	10	10	10	10	8.7	5.6	9.0	8.6	8.1	19.5	19.6	18.9	19.8	20.1	7.42	7.21	7.54	7.60	7.61
Investigator		MJG	MJG	alg	alg	ms	MJG	MJG	alg	alg	ms	MJG	MJG	alg	alg	ms	MJG	MJG	alg	alg	ms
Instrument No.																					
Time		1400	1400	1500	1500	1500	1500	1400	1500	1500	1500	1430	1400	1500	1500	1500	1430	1400	1500	1500	

	Alkalinity (mg/l)					Hardness (mg/l)					Salinity (ppt)					Conductivity (µmhos/cm)					Residual Chlorine (µg/l)					Ammonia (mg/l)				
	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control	51.3	68.4	68.4	68.4	68.4	51.3	68.4	68.4	68.4	68.4	0	0	0	0	0	140	150	160	170	175										
Highest Effluent	51.3	68.4	68.4	68.4	68.4	51.3	68.4	68.4	68.4	68.4	155	0	0	0	0	155	155	175	175	200										

0
MJB

NONRENEWAL
ACUTE RENEWAL TOXICITY TEST

Client: Mobile Chem Test Container: 2.5 GAL Organism: Common Name: Fathead Minnow Beginning Date: 6/21/89 Time: 1400
 Project No: 7000 B-1 Test Volume: 2 LITRES Scientific Name: Pimephales promelas Ending Date: 6/25/89 Time: 1500
 Test Article: Soil Sample Test Duration: 96 hrs Lot No: Fisher 02B Test Temp. Range: 20°C ± 2°C
 QC Test No: NA Dilution Water: EPA Soft Source: Rocky Mountain Fish Test Salinity: 0
 Sample No: 069101 Reference Toxicant: NA Age of Test Organisms: 2-30 days Acclimation Temp. Range: 5-20°C
 Test: (Static) or Flow-thru Acclimation (days): 7

+ began aerating

Conc. or %	Cont. No.	Number of Live Organisms					Dissolved Oxygen (mg/l)					Temperature (°C)					pH				
		0	24	48	72	96	0	24*	48	72	96	0	24	48	72	96	0	24	48	72	96
C		10	10	10	10	10	8.1	5.4	9.3	8.5	8.7	19.4	20.3	18.7	21.7	20.0	7.11	7.09	6.84	6.93	7.12
		10	10	10	9	9	8.7	6.6	9.3	8.4	7.6	19.1	19.6	18.7	19.7	20.0	7.61	7.43	6.97	7.59	7.63
1000	1	10	10	10	10	10	8.5	6.3	9.3	8.7	8.5	19.4	20.0	18.7	20.0	20.1	7.13	7.16	7.08	7.18	7.14
	2	10	10	10	10	10	8.6	6.1	9.2	8.7	8.6	19.3	20.0	18.8	20.0	20.1	7.21	7.21	7.19	7.29	7.56
1250	1	10	10	10	10	10	8.7	6.4	9.2	8.6	8.4	19.3	19.9	18.8	19.9	20.1	7.26	7.20	7.28	7.33	7.26
	2	10	10	10	10	10	8.6	6.2	9.1	8.6	8.2	19.3	19.9	18.7	19.9	20.0	7.27	7.25	7.27	7.43	7.35
1500	1	10	10	10	10	10	8.5	5.2	9.2	8.4	8.3	19.3	19.9	18.7	19.8	20.1	7.29	7.22	7.42	7.46	7.44
	2	10	10	10	10	10	8.7	5.9	9.3	8.6	8.2	19.3	19.9	18.8	19.8	20.1	7.28	7.22	7.42	7.50	7.56
1750	1	10	10	10	10	10	8.7	6.0	9.3	8.6	8.2	19.3	19.9	18.8	19.8	20.1	7.31	7.23	7.43	7.55	7.59
	2	10	10	10	9	9	8.6	6.0	9.3	8.7	8.4	19.4	19.9	18.8	19.8	20.1	7.32	7.22	7.47	7.55	7.51
2000	1	10	10	10	10	10	8.5	6.2	9.3	8.2	8.2	19.4	19.9	18.7	19.8	20.0	7.33	7.23	7.42	7.55	7.55
	2	10	10	10	10	10	8.6	6.8	9.3	8.4	8.0	19.4	19.9	18.8	19.8	20.0	7.35	7.23	7.48	7.56	7.57
Investigator		MSG	MSG	MSG	MSG	MSG	MSG	MSG	MSG	MSG	MSG	MSG	MSG	MSG	MSG	MSG	MSG	MSG	MSG	MSG	MSG
Instrument No.							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Time		1400	1400	1500	1500	1500	1430	1400	1500	1500	1500	1430	1400	1500	1500	1500	1430	1400	1500	1500	1500

	Alkalinity (mg/l)					Hardness (mg/l)					Salinity (ppt)					Conductivity (µmhos/cm)					Residual Chlorine (µg/l)					Ammonia (mg/l)				
	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control	51.3	68.4	68.4	68.4	68.4	51.3	68.4	68.4	68.4	68.4	0	0	0	0	0	140	150	160	170	175										
Highest Effluent	51.3	68.4	68.4	68.4	68.4	68.4	68.4	85.5	68.4	68.4	0	0	0	0	0	140	150	160	170	220										

150
MSG

LENGTH-WEIGHT DATA SHEET

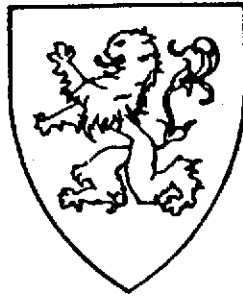
Project No's. 70008.01 Investigator: Chance
 Test Species: Fundulus liminaris Date/Time: 6-26-99 / 1000
 Lot No. FHM-02B

Individual Number	Weight (g)	Standard Length (mm)
1	0.4344	34
2	0.3264	32
3	0.3926	33
4	0.4777	36
5	0.2852	32
6	0.5223	38
7	0.4710	39
8	0.3193	35
9	0.3295	35
10	0.4119	37
11	0.4843	38
12	0.3094	34
13	0.5675	39
14	0.2619	33
15	0.3284	34
16	0.2834	34
17	0.1997	30
18	0.4820	38
19	0.2466	32
20	0.3703	36

Range: 0.1997 - 0.5675 35.0 - 39.0
 Mean: 0.376 35.0
 S.D. ± 0.100 1.26

APPENDIX E

WEST CONTRA COSTA LANDFILL TREATED SOIL
APPLICATION AND DISPOSAL RECEIPTS



Croley and Herring Investment Company

July 12, 1989

Mr. Fred Chaosky
Richmond Landfill
205 41st Street
Richmond, CA 94805

**SUBJECT: ADDITIONAL SOIL DISPOSAL
THE GOOD GUYS SITE
5800 CHRISTIE STREET
EMERYVILLE, CALIFORNIA**

Dear Mr. Chaoske:

As per our conversation, there is 80 cubic yards of soil that needs to be disposed to your landfill. Attached please find the laboratory analysis of soil from the 80 cubic yard of material. We have obtained verbal approval from Mr. Dennis Byrne of Alameda County Health for the disposal to a Class III landfill. Attached also is a toxicity criteria test results on the subject soil with a non-hazardous classification.

If you have any questions about this letter, please contact us. Thank you for your expeditious approval on this effort.

Sincerely,


Steve Croley

Attachments

cc: Mr. Paul Waalkes, The Good Guys, Inc.
Mr. Greg Steele, The Good Guys, Inc.
Mr. Ron Thompson, Pacific Construction
Mr. Walter Loo, AWD Technologies, Inc.



**WEST CONTRA COSTA COUNTY
SANITARY LANDFILL**

Office: 205 41st St., Richmond, CA 94805
Telephone (415) 236-8000

CHARGE SLIP

Scale Location: Foot of Parr Blvd., Richmond, California

WEIGHMASTER CERTIFICATE
THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 commencing with Section 12700 of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

West Contra Costa Sanitary Landfill

DRIVER SIGNATURE

[Signature]

01-LINDA MODIE

DEPUTY WEIGHMASTER

TICKET NUMBER: 176
DATE: 7/18/89
TIME: 14:10:35

pd by ch 1435 by

ACCOUNT: 0 *Crowley*
VEHICLE: D120

PER UNIT .00 FEE GROSS WT 70428
TARE WT 31000

COMMODITY: 2 INDUSTRIAL TRASH *cont. soil*
NET WT 39428
UNITS 18 *lbs - 19.714 Tons*

90.00 - PRICE/UNIT .00
29.57 - SUB-TOTAL .00
\$ 119.57 - ADDITIONAL .00
TOTAL OR MIN. 25.00

CUSTOMER COPY



**WEST CONTRA COSTA COUNTY
SANITARY LANDFILL**

Office: 205 41st St., Richmond, CA 94805
Telephone (415) 236-8000

CHARGE SLIP

Scale Location: Foot of Parr Blvd., Richmond, California

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West Contra Costa Sanitary Landfill

DRIVER SIGNATURE

[Signature]

01-LINDA MODIE

DEPUTY WEIGHMASTER

TICKET NUMBER: 103
DATE: 7/18/89
TIME: 11:52:00

pd by ch 1435

ACCOUNT: 0 *Crowley + Herwig*
VEHICLE: HM1 *Heavy Metal*

PER UNIT .00 FEE GROSS WT 70890
TARE WT 29500

COMMODITY: 2 INDUSTRIAL TRASH
NET WT 41390
UNITS 18 *cont. soil*

90.00 - PRICE/UNIT .00
31.04 - SUB-TOTAL .00
\$ 121.04 - ADDITIONAL .00
TOTAL OR MIN. 25.00

CUSTOMER COPY



**WEST CONTRA COSTA COUNTY
SANITARY LANDFILL**

Office: 205 41st St., Richmond, CA 94805
Telephone (415) 236-8000

CHARGE SLIP

Scale Location: Foot of Parr Blvd., Richmond, California.

WEIGHMASTER CERTIFICATE
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West Contra Costa Sanitary Landfill

01-LINDA MODIE

DEPUTY WEIGHMASTER

DRIVER SIGNATURE
[Signature]

*Pd by CL# 1435
for Road Dept 9078*

TICKET NUMBER: 17 DATE: 7/18/89 TIME: 8:51:43

ACCOUNT:	0 Crowley + Hervey	GROSS WT	71412
VEHICLE:	HM1 Hervey Mith PER UNIT .00 FEE	TARE WT	29500
COMMODITY:	2 INDUSTRIAL TRASH <i>Contaminated Soil</i>	NET WT	41912
UNITS:	18 <i>Yds = 30.95</i>	PRICE/UNIT	.00
	<i>surety 90.00 -</i>	SUB-TOTAL	.00
	<i>31.43 -</i>	ADDITIONAL	.00
	<i>121.43</i>	TOTAL OR MIN.	25.00

CUSTOMER COPY



**WEST CONTRA COSTA COUNTY
SANITARY LANDFILL**

Office: 205 41st St., Richmond, CA 94805
Telephone (415) 236-8000

CHARGE SLIP

Scale Location: Foot of Parr Blvd., Richmond, California.

WEIGHMASTER CERTIFICATE
THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

West Contra Costa Sanitary Landfill

01-LINDA MODIE

DEPUTY WEIGHMASTER

DRIVER SIGNATURE
[Signature]

Pd by CL# 1435

TICKET NUMBER: 175 DATE: 7/18/89 TIME: 14: 8: 5

ACCOUNT:	0 Crowley	GROSS WT	72294
VEHICLE:	HM1 PER UNIT .00 FEE	TARE WT	29500
COMMODITY:	2 INDUSTRIAL TRASH <i>Contaminated Soil</i>	NET WT	42794
UNITS:	18 <i>Yds = 21.397</i>	PRICE/UNIT	.00
	<i>surety 90.00 -</i>	SUB-TOTAL	.00
	<i>32.10 -</i>	ADDITIONAL	.00
	<i>122.10</i>	TOTAL OR MIN.	25.00

APPENDIX F

MONITORING WELL SCHEMATIC DIAGRAM



SOIL DRILLING LOG

McLaren Environmental Engineering

SB/MW # : MW-1(NEW) OR EW-1
 # D- 4155
 Page 1 of 1
 Sampler: M. CHRISTENSEN

PROJECT CHIC 3.0 LOCATION 115' S OF SHELLMOUND ON E PROPERTY LINE
 ELEVATION _____ MONITORING DEVICE OVN, DRAEGER TUBES, SENSIDYNE TUBES
 SAMPLING DATE(S) 5/5/89 START 1340 FINISH 1710
 SAMPLING METHOD 10" HOLLOW STEM AUGER SUBCONTRACTOR & EQUIPMENT AQUA SCIENCE ENGINEERS, MOBILE DRILL B-61
 MEMO RELOCATION OF MW-1

Depth Below Surface (ft.)	Penetration Results		Sampler Depth Interval (ft.)	Sample ID #	OVM reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Well Construction Details
	Blows 6"-6"-6"	BFF								
0.0					0.0	Yellowish brown (10YR 5/6) loamy sand; semi-consolidated fill dirt; soft; slightly moist.	SM SC		0.0	
47.3			5.0-6.5		47.3	Concrete Slab	AC		47.3	
8.3			10.0-11.5		8.3	Black (2.5Y 2/0) streaked with dark greenish gray (5GY 4/1) clay loam; very fine grained; slightly plastic; soft; very moist to saturated.	CL		8.3	
9.2			15.0-16.5		9.2	Light olive brown (2.5Y 5/6) gravelly sandy clay loam; very fine sand to gravel; well graded; slightly plastic; soft; saturated.	SC		9.2	
14.1			20.0-21.5		14.1				14.1	



SOIL DRILLING LOG

McLaren Environmental Engineering

SB/MW # : MW-1
 # D-
 Page 1 of 1
 Sampler: B. WRIGHT

PROJECT 5800 CHRISTIE LOCATION 88' SW OF SHELLMOUND, 4' NW OF BACK FENCE
 ELEVATION 9.23' MSL MONITORING DEVICE LEL, 580 A OVM; DRAEGER
 SAMPLING DATE(S) 4/21/89 START 0930 FINISH 1140
 SAMPLING METHOD CALIFORNIA SPLIT SPOON SUBCONTRACTOR & EQUIPMENT AQUA SCIENCE ENGINEERS,
 MEMO HAND AUGER TO 4.5 FEET MOBILE DRILL B-61

Depth Below Surface (ft.)	Penetration Results		Sampler Depth Interval (ft.)	Sample ID #	OVM reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Well Construction Details
	Blows 6"-6"-6"	BF								
5'	3-2	5	4.5-5.5	29105		Grayish brown (2.5Y 5/2) gravelly sand, unconsolidated, well graded slightly moist.	SW	[Graphic Log: Dotted pattern]	3'	Vault Box
	2-1-1	2	6.0-7.5			Very dark gray (2.5Y 3/0) to greenish gray (5GY 6/1) at 3.0'; silty clay, high plasticity, medium stiff, slightly moist common gravel and debris.	CL	[Graphic Log: Diagonal lines]		
10'	1-1-1	2	10.0-11.5			Black (2.5Y 2/0) silty clay, soft, sticky, saturated, organic odor.	OL	[Graphic Log: Horizontal lines]	5.5'	Locking Cap
15'	4-6-14	20	15.0-16.5			Light yellowish brown (2.5Y 6/4) gravelly sand, unconsolidated, well graded, clay to medium pebble gravel, saturated, 21' sample same as above with 20% clay matrix, moist.	SW	[Graphic Log: Dotted pattern]		2" Sch. 40 PVC Flush Joint Blank Casing
20'	6-8-13	21	21.0-22.5							Sanitary Seal, Portland cement with 5% Bentonite
25'										Bentonite Pellets
30'										11" Borehole
										0.020" slot 4" CWW 304 Stainless Steel Well Screen
										8/20 Mesh Sand
									20.5'	T.D. End Cap



SOIL DRILLING LOG

McLaren Environmental Engineering

SB/MW # : MW-2
 # D-
 Page 1 of 1
 Sampler: B. WRIGHT

PROJECT 5800 CHRISTIE LOCATION 8' SW OF SHELLMOUND, 15' E OF CHRISTIE EMERYVILLE
 ELEVATION 7.42' MSL MONITORING DEVICE LEL, 580 A OVM; DRAEGER
 SAMPLING DATE(S) 4/20/89 START 0800 FINISH 1115
 SAMPLING METHOD CALIFORNIA SPLIT SPOON SUBCONTRACTOR & EQUIPMENT AQUA SCIENCE ENGINEERS,
 MEMO HAND AUGER TO THREE FEET MOBILE DRILL B-61

Depth Below Surface (ft.)	Penetration Results		Sampler Depth Interval (ft.)	Sample ID#	OVM reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Well Construction Details
	Blows 6"-6"-6"	BF								
0-5'	2-3-5	8	3.0-4.5	29103	1.0	Light olive brown (2.5Y 5/4) clayey sand, poorly graded, unconsolidated, moist.	SC	[Pattern]	0-3'	
5'-10'	2-1-1	2	6.0-		0.0	Very dark gray (10YR 3/1) sandy clay, medium plasticity, soft, common coarse gravels, and construction debris, moist.	CL	[Pattern]	3'-4'	
					0.0	Dark greenish gray (5GY 4/1) silty sand, poorly graded silt to fine sand, dense saturated	SM	[Pattern]	4'-5'	
						Very dark gray (2.5Y 3/0) silty clay, low plasticity, very soft, sticky, common fine sand, saturated, organic odor.	OL	[Pattern]		
10'-15'	1-1-3	4	10.0-11.5		0.0	Very dark gray (2.5Y 5/4) silty sand, soft, dense, very moist, mild organic odor.	SM	[Pattern]		
					0.8	Light olive brown (2.5Y 5/4) silty sand, dense, poorly graded fine sand, very moist.	SP	[Pattern]		
					0.0	Olive brown (2.5Y 4/4) gravelly sand, unconsolidated, well graded fine sand to fine subrounded pebble gravels, saturated.	SW	[Pattern]		
15'-20'	8-9-13	22	15.0-16.5		0.0	Light olive brown (2.5Y 5/4) silty clay, common embedded pebble gravels, high plasticity, very stiff, slightly moist.	CL	[Pattern]	20'	
					0.0					
20'-30'	8-12-14	26	20.0-21.5		0.0					

APPENDIX G

GROUNDWATER LABORATORY TEST RESULTS



SCIENTIFIC ENVIRONMENTAL
LABORATORIES, INC.

June 26, 1989
Lab. #T891472
Rush

McLaren Environmental Engineering
980 Atlantic Avenue Suite 100
Alameda, Ca. 94501

RECEIVED
JUN 28 1989

Attn: Mr. Walter Loo

McLAREN

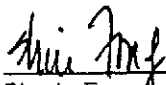
certified analytical report

Sample Received: 6-22-89

Date Collection: 6-21-89

Source: MW-1

<u>Analysis</u>	<u>Results (mg/L)</u>	<u>EPA #</u>	<u>D.L.</u>
Chemical Oxygen Demand	420	410.1	1.0
Total Suspended Solids	12	160.2	1.0
Lead	< 0.05	7420	0.05
Total Dissolved Solids	16000	160.1	1.0



Shui Fong
Director, Water Laboratory

SF:dc

McLaren Analytical Laboratory

Chain of Custody Record

L.P. 1761
No 211564

* 24 hr. rush

Mark Christensen

PROJECT DESIGNATION CHIC 3.0

SAMPLES TAKEN BY: Mark Christensen

AREA	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE			SAMPLE NO.	TYPE CONTAINER(S)	ANALYSIS REQUIRED
				WATER COMP	WATER GRAB	SOIL			
	Trip Blank	5/8/89	12:10		X		118988	VIA	62A 601/602
	↓	↓	↓		X		118989	↓	spare
	↓	↓	↓		X		118990	↓	spare
	↓	↓	↓		X		118991	↓	spare
	MW-1 (new)	5/8/89	14:20		X		118992	VIA 601/602	24 hr rush
	↓	↓	↓		X		118993	↓	spare
	↓	↓	↓		X		118994	↓	spare
	↓	↓	↓		X		118995	↓	spare

FIELD DISPOSITION: 8 Air Bubbles in 118991

IMMEDIATE DELIVERY

STORAGE REFRIGERATOR ID _____

SECURED YES

FREEZER ID _____

NO

RELINQUISHED BY:

Mark Christensen

RECEIVED BY:

DATE/TIME

5/8/89 15:45

RELINQUISHED BY:

RECEIVED BY:

DATE/TIME

RECEIVED FOR LABORATORY BY:

Michael N. Neuenburg

MICHAEL N. NEUENBURG

DATE/TIME

5/9/89 10:00

METHOD OF SHIPMENT:

Fed. Ex. 2793520726

LABORATORY DISPOSITION:

IMMEDIATE ANALYSIS

STORAGE

REFRIGERATOR ID _____

SECURED

**SAMPLES RECEIVED
IN GOOD CONDITION**

FREEZER ID _____

CABINET ID _____

YES NO

* PRINT NAME AFTER SIGNATURE



McLaren Environmental Engineering

11101 White Rock Road, Rancho Cordova, CA 95670 (916) 638-3696

VOLATILE HALOGENATED ORGANIC COMPOUNDS
EPA METHOD 601 (MODIFIED)

Project: CHIC 2.0

Lab ID: 25197

Sample
Location: MW-1 (New)

Date
Collected: 05/08/89

Sample
Number: 118992-95

Date
Analyzed: 05/09/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/L (ppb)	<u>REPORTING LIMIT</u> ug/L (ppb)
Chloromethane	< 400	400.
Bromomethane	< 400	400.
Vinyl Chloride	< 100	100.
Chloroethane	< 400	400.
Methylene Chloride	< 2000	2000.
Trichlorofluoromethane	< 50	50.
1,1-Dichloroethylene	< 50	50.
1,1-Dichloroethane	< 50	50.
Trans-1,2-Dichloroethylene	< 50	50.
Chloroform	< 50	50.
1,2-Dichloroethane	< 50	50.
1,1,1-Trichloroethane	< 50	50.
Carbon Tetrachloride	< 50	50.
Bromodichloromethane	< 50	50.
1,2-Dichloropropane	< 50	50.
C-1,3-Dichloropropene	< 50	50.
Trichloroethylene	< 640.	50.
Chlorodibromomethane	< 100	100.
1,1,2-Trichloroethane	< 50	50.
t-1,3-Dichloropropene	< 50	50.
Bromoform	< 100	100.
1,1,2,2-Tetrachloroethane	< 100	100.

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u>	<u>REPORTING LIMIT</u>
Tetrachloroethylene	< 50	50.
Chlorobenzene	< 50	50.
1,3-Dichlorobenzene	< 50	50.
1,2-Dichlorobenzene	< 50	50.
1,4-Dichlorobenzene	< 50	50.
Freon 113	< 1000	1000.
Surrogate recovery (percent):		
Bromochloromethane	100%	
Bromofluorobenzene	115%	

Comments: Results as reported are blank corrected.
1:100 dilution used in analysis.

Analyst: A. Putnam
A. Putnam

Reviewed By: J. M. Hoch Date: 05/16/89
J. M. Hoch

Laboratory Director: J. M. Bartell
J. M. Bartell



VOLATILE AROMATIC COMPOUNDS
EPA METHOD 602

Project: CHIC 3.0

Lab ID: 25198

Sample
Location: MW-1 (New)

Date
Collected: 05/08/89

Sample
Number: 118992-95

Date
Analyzed: 05/09/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/L (ppb)	<u>REPORTING LIMIT</u> ug/L (ppb)
Benzene	< 0.5	0.5
Toluene	190.	0.5
Chlorobenzene	< 0.5	0.5
Ethylbenzene	< 0.5	0.5
p-Xylene	50.	0.5
m-Xylene	120.	0.5
o-Xylene	*	0.5
o-Dichlorobenzene	< 0.5	0.5
m-Dichlorobenzene	< 0.5	0.5
p-Dichlorobenzene	< 0.5	0.5
Surrogate recovery (percent)	105%	

Comments: * Coelutes with m-Xylene.
Results as reported are blank corrected.
1:100 dilution used in analysis.

Analyst: A. Putnam
A. Putnam

Reviewed By: J. M. Hoch

Date: 05/16/89

Laboratory Director: J. M. Bartell

J. M. Bartell



VOLATILE HALOGENATED ORGANIC COMPOUNDS
EPA METHOD 601 (MODIFIED)

Project: CHIC 2.0

Lab ID: 25195

Sample
Location: Trip Blank

Date
Collected: 05/08/89

Sample
Number: 118988-91

Date
Analyzed: 05/09/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/L (ppb)	<u>REPORTING LIMIT</u> ug/L (ppb)
Chloromethane	< 4	4.
Bromomethane	< 4	4.
Vinyl Chloride	< 1	1.
Chloroethane	< 4	4.
Methylene Chloride	< 10	10.
Trichlorofluoromethane	< 0.5	0.5
1,1-Dichloroethylene	< 0.5	0.5
1,1-Dichloroethane	< 0.5	0.5
Trans-1,2-Dichloroethylene	< 0.5	0.5
Chloroform	< 0.5	0.5
1,2-Dichloroethane	< 0.5	0.5
1,1,1-Trichloroethane	< 0.5	0.5
Carbon Tetrachloride	< 0.5	0.5
Bromodichloromethane	< 0.5	0.5
1,2-Dichloropropane	< 0.5	0.5
C-1,3-Dichloropropene	< 0.5	0.5
Trichloroethylene	< 0.5	0.5
Chlorodibromomethane	< 1	1.
1,1,2-Trichloroethane	< 0.5	0.5
t-1,3-Dichloropropene	< 0.5	0.5
Bromoform	< 1	1.
1,1,2,2-Tetrachloroethane	< 1	1.

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u>	<u>REPORTING LIMIT</u>
Tetrachloroethylene	< 0.5	0.5
Chlorobenzene	< 0.5	0.5
1,3-Dichlorobenzene	< 0.5	0.5
1,2-Dichlorobenzene	< 0.5	0.5
1,4-Dichlorobenzene	< 0.5	0.5
Freon 113	< 10	10.
Surrogate recovery (percent):		
Bromochloromethane	94%	
Bromofluorobenzene	114%	

Comments: Results as reported are blank corrected.

Analyst: A. Putnam Reviewed By: J. M. Hoch Date: 05/16/89
A. Putnam

Laboratory Director: J. M. Bartell
J. M. Bartell



VOLATILE AROMATIC COMPOUNDS
EPA METHOD 602

Project: CHIC 3.0

Lab ID: 25196

Sample
Location: Trip Blank

Date
Collected: 05/08/89

Sample
Number: 118988-91

Date
Analyzed: 05/09/89

<u>COMPOUND</u>	<u>ANALYTE</u>	<u>REPORTING</u>
	<u>CONCENTRATION</u>	<u>LIMIT</u>
	ug/L	ug/L
	(ppb)	(ppb)
Benzene	< 0.5	0.5
Toluene	< 0.5	0.5
Chlorobenzene	< 0.5	0.5
Ethylbenzene	< 0.5	0.5
p-Xylene	< 0.5	0.5
m-Xylene	< 0.5	0.5
o-Xylene	< 0.5	0.5
o-Dichlorobenzene	< 0.5	0.5
m-Dichlorobenzene	< 0.5	0.5
p-Dichlorobenzene	< 0.5	0.5

Surrogate recovery (percent) 130%

Comments: Surrogate recovery was high; however, since sample has no positive results, data is not adversely affected.

Analyst: A. Putnam Reviewed By: J. M. Hoch (Date: 05/16/89)

Laboratory Director: J. M. Bartell



McLaren Analytical Laboratory

Chain of Custody Record

L.P. 1699
 No 209517

24 hr. mesh

PROJECT DESIGNATION Chic-3.0

SAMPLES TAKEN BY: Brock Wright

AREA	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE			SAMPLE NO.	TYPE CONTAINER(S)	ANALYSIS REQUIRED
				WATER		SOIL			
				COMP	GRAB				
	MW-1	4/25/89	1200		X		028517	VOA	624 (29512) (4)
					X		028518	VOA	624 spare
					X		028519	VOA	624
					X		028520	VOA	624
					X		028521	VOA	624
					X		028522	VOA	624 spare
					X		028523	VOA	624
					X		028524	VOA	624

FIELD DISPOSITION: Fed Ex #2030976726 * = Preserved with HCl

IMMEDIATE DELIVERY STORAGE REFRIGERATOR ID _____ SECURED YES

FREEZER ID _____ NO

RELINQUISHED BY: Brock Wright RECEIVED BY: _____ DATE/TIME: 4/25/89 1400

RELINQUISHED BY: _____ RECEIVED BY: _____ DATE/TIME: _____

RECEIVED FOR LABORATORY BY: Michael N. Neuenburg MICHAEL N. NEUENBURG DATE/TIME: 4/24/89 10:00

METHOD OF SHIPMENT: _____

LABORATORY DISPOSITION: IMMEDIATE ANALYSIS STORAGE REFRIGERATOR ID 3 SECURED

FREEZER ID _____ YES

CABINET ID _____ NO

**SAMPLES RECEIVED
 IN GOOD CONDITION**

* PRINT NAME AFTER SIGNATURE



McLaren Analytical Laboratory

Chain of Custody Record

L.P. 1699
 No 209519

24 hr rush

PROJECT DESIGNATION Chic-3.0

SAMPLES TAKEN BY: Brad Weight

AREA	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE		SAMPLE NO.	TYPE CONTAINER(S)	ANALYSIS REQUIRED
				WATER COMP GRAB	SOIL			
	MW-2	4/25/89	1040	X		028501	VOA	624 ²⁴⁵⁰⁷ 624 (GM)
				X		028502	VOA	624 spare
				X		028503	VOA	624 ↓
				X		028504	VOA	624 ↓
				X		028505	VOA	624 622µ
				X		028506	VOA	624 spare
				X		028507	VOA	624 ↓
				X		028508	VOA	624 ↓

FIELD DISPOSITION: Fed Ex # 2050976726 * : preserved with HCL

IMMEDIATE DELIVERY
 STORAGE REFRIGERATOR ID _____ SECURED YES
 FREEZER ID _____ NO

RELINQUISHED BY: Brad Weight RECEIVED BY: _____ DATE/TIME: 4/25/89 1400
 RELINQUISHED BY: _____ RECEIVED BY: _____ DATE/TIME: _____

RECEIVED FOR LABORATORY BY: Michael N. Neuenburg **MICHAEL N. NEUENBURG** DATE/TIME: 4/26/89 10:00
 METHOD OF SHIPMENT: _____

LABORATORY DISPOSITION:
 IMMEDIATE ANALYSIS **SAMPLES RECEIVED IN GOOD CONDITION** REFRIGERATOR ID 3 SECURED: YES
 FREEZER ID _____ NO
 CABINET ID _____

* PRINT NAME AFTER SIGNATURE



McLaren Analytical Laboratory

Chain of Custody Record

L.P. 1699
No 209518

24 hr rest

PROJECT DESIGNATION *Chic - 3.0*

SAMPLES TAKEN BY: *Bradley & Bradley*

AREA	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE		SAMPLE NO.	TYPE CONTAINER(S)	ANALYSIS REQUIRED
				WATER COMP	SOIL GRAB			
	<i>MW-3</i>	<i>4/25/89</i>	<i>1125</i>		<i>X</i>	<i>028509</i>	<i>VOA</i>	<i>001</i> ^{<i>24570</i>} <i>624</i> ^{<i>6</i>}
					<i>X</i>	<i>028510</i>	<i>VOA</i>	<i>001</i> <i>spare</i>
					<i>X</i>	<i>028511</i>	<i>VOA</i>	<i>001</i> <i>L</i>
					<i>X</i>	<i>028512</i>	<i>VOA</i>	<i>001</i> <i>L</i>
					<i>X</i>	<i>028513</i>	<i>VOA</i>	<i>002</i> <i>*</i>
					<i>X</i>	<i>028514</i>	<i>VOA</i>	<i>002</i> <i>spare</i>
					<i>X</i>	<i>028515</i>	<i>VOA</i>	<i>002</i> <i>L</i>
					<i>X</i>	<i>028516</i>	<i>VOA</i>	<i>002</i> <i>L</i>

FIELD DISPOSITION: *FedEx # 2030976724* * : Preserved with HCL

IMMEDIATE DELIVERY STORAGE REFRIGERATOR ID _____ SECURED YES
FREEZER ID _____ NO

RELINQUISHED BY: *Bradley & Bradley* RECEIVED BY: _____ DATE/TIME: *4/25/89 1400*

RELINQUISHED BY: _____ RECEIVED BY: _____ DATE/TIME: _____

RECEIVED FOR LABORATORY BY: *Michael N. Neuenburg* **MICHAEL N. NEUENBURG** DATE/TIME: *4/26/89 1010*

METHOD OF SHIPMENT: _____

LABORATORY DISPOSITION:

IMMEDIATE ANALYSIS STORAGE REFRIGERATOR ID 3 SECURED YES NO
SAMPLES RECEIVED FREEZER ID _____
IN GOOD CONDITION CABINET ID _____

* PRINT NAME AFTER SIGNATURE



McLaren Analytical Laboratory

Chain of Custody Record

L.P. 1699
No 209516

24 hr wash

PROJECT DESIGNATION Chic - 3.0

SAMPLES TAKEN BY: Bruce Wright Bradley

AREA	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE		SAMPLE NO.	TYPE CONTAINER(S)	ANALYSIS REQUIRED
				WATER				
				COMP	GRAB			
	<u>Tri. Blank</u>	<u>4/25/89</u>	<u>1000</u>		<u>X</u>	<u>028525</u>	<u>VOA</u>	<u>624 (4)</u>
					<u>X</u>	<u>028526</u>	<u>VOA</u>	<u>spare</u>
					<u>X</u>	<u>028527</u>	<u>VOA</u>	<u>h</u>
					<u>X</u>	<u>028528</u>	<u>VOA</u>	<u>*</u>
					<u>X</u>	<u>028529</u>	<u>VOA</u>	<u>spare *</u>
					<u>X</u>	<u>028530</u>	<u>VOA</u>	<u>h *</u>

FIELD DISPOSITION: Fed Ex # 2030976726

*: preserved with

IMMEDIATE DELIVERY
 STORAGE REFRIGERATOR ID _____
 FREEZER ID _____

SECURED YES
 NO

RELINQUISHED BY: Bruce Wright RECEIVED BY: _____ DATE/TIME: 4/25/89 1400

RELINQUISHED BY: _____ RECEIVED BY: _____ DATE/TIME: _____

RECEIVED FOR LABORATORY BY: Michael N. Neuenburg DATE/TIME: 4/26/89 10:00
MICHAEL N. NEUENBURG

METHOD OF SHIPMENT:

LABORATORY DISPOSITION:
 IMMEDIATE ANALYSIS STORAGE REFRIGERATOR ID 3
SAMPLES RECEIVED IN GOOD CONDITION
 FREEZER ID _____
 CABINET ID _____

SECURED
 YES NO

* PRINT NAME AFTER SIGNATURE



VOLATILE ORGANICS
MODIFIED EPA METHOD 624

Project: CHIC-3.0

Lab ID: 24512

Sample Location: MW-1

Date Sampled: 04/25/89

Sample Number: 028517

Date Analyzed: 04/27/89

<u>COMPOUND</u>	<u>ANALYTE</u>	<u>REPORTING</u>
	<u>CONCENTRATION</u>	<u>LIMIT</u>
	ug/L (ppb)	ug/L (ppb)
Chloromethane	< 10	10.
Bromomethane	< 10	10.
Vinyl Chloride	< 10	10.
Chloroethane	< 10	10.
Methylene Chloride	< 25	25.
Acetone	< 25	25.
Carbon Disulfide	< 5	5.
1,1 Dichloroethene	< 5	5.
1,1 Dichloroethane	9.	5.
1,2 Dichloroethene(cis/trans)	9.	5.
Chloroform	< 5	5.
1,2 Dichloroethane	< 5	5.
2 Butanone	< 25	25.
1,1,1 Trichloroethane	< 5	5.
Carbon Tetrachloride	< 5	5.
Bromodichloromethane	< 5	5.
1,2 Dichloropropane	< 5	5.
Trans 1,3 Dichloropropene	< 5	5.
Trichloroethene	< 5	5.
Benzene	< 5	5.
1,1,2 Trichloroethane	< 5	5.
Dibromochloromethane	< 5	5.
Cis 1,3 Dichloropropene	< 5	5.
Bromoform	< 5	5.
4 Methyl 2 Pentanone	< 25	25.
2 Hexanone	< 25	25.
1,1,2,2 Tetrachloroethane	< 5	5.
Tetrachloroethylene	< 10	10.
Toluene	< 5	5.
Chlorobenzene	< 5	5.
Ethyl Benzene	< 5	5.
Styrene	< 5	5.
Total Xylenes	< 5	5.

Analyst: K. Badal Reviewed By: R. L. James Date: 04/27/89

Laboratory Director: J. M. Bartell



Lab ID: 24512

GCMS 624 SURROGATE % RECOVERY

COMPOUND NAME	% RECOVERY	RANGE
S1 = 1,2-Dichloroethane-D4	108	76-114
S2 = Toluene-D8	94	88-110
S3 = 4-Bromofluorobenzene	96	86-115

Comments:



VOLATILE ORGANICS
MODIFIED EPA METHOD 624

Project: CHIC-3.0

Lab ID: 24509

Sample Location: MW-2

Date Sampled: 04/25/89

Sample Number: 028501

Date Analyzed: 04/26/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/L (ppb)	<u>REPORTING LIMIT</u> ug/L (ppb)
Chloromethane	< 10	10.
Bromomethane	< 10	10.
Vinyl Chloride	< 10	10.
Chloroethane	< 10	10.
Methylene Chloride	< 25	25.
Acetone	< 25	25.
Carbon Disulfide	< 5	5.
1,1 Dichloroethene	< 5	5.
1,1 Dichloroethane	< 5	5.
1,2 Dichloroethene(cis/trans)	< 5	5.
Chloroform	< 5	5.
1,2 Dichloroethane	< 5	5.
2 Butanone	< 25	25.
1,1,1 Trichloroethane	< 5	5.
Carbon Tetrachloride	< 5	5.
Bromodichloromethane	< 5	5.
1,2 Dichloropropane	< 5	5.
Trans 1,3 Dichloropropene	< 5	5.
Trichloroethene	< 5	5.
Benzene	< 5	5.
1,1,2 Trichloroethane	< 5	5.
Dibromochloromethane	< 5	5.
Cis 1,3 Dichloropropene	< 5	5.
Bromoform	< 5	5.
4 Methyl 2 Pentanone	< 25	25.
2 Hexanone	< 25	25.
1,1,2,2 Tetrachloroethane	< 5	5.
Tetrachloroethylene	< 10	10.
Toluene	< 5	5.
Chlorobenzene	< 5	5.
Ethyl Benzene	< 5	5.
Styrene	< 5	5.
Total Xylenes	< 5	5.

Analyst: K. Badal Reviewed By: R. L. James Date: 04/27/89

Laboratory Director: J. M. Bartell



Lab ID: 24509

GCMS 624 SURROGATE % RECOVERY

COMPOUND NAME	% RECOVERY	RANGE
S1 = 1,2-Dichloroethane-D4	106	76-114
S2 = Toluene-D8	98	88-110
S3 = 4-Bromofluorobenzene	102	86-115

Comments:



VOLATILE ORGANICS
MODIFIED EPA METHOD 624

Project: CHIC-3.0

Lab ID: 24510

Sample Location: MW-3

Date Sampled: 04/25/89

Sample Number: 028509

Date Analyzed: 04/27/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/L (ppb)	<u>REPORTING LIMIT</u> ug/L (ppb)
Chloromethane	< 10	10.
Bromomethane	< 10	10.
Vinyl Chloride	< 10	10.
Chloroethane	< 10	10.
Methylene Chloride	< 25	25.
Acetone	< 25	25.
Carbon Disulfide	< 5	5.
1,1 Dichloroethene	< 5	5.
1,1 Dichloroethane	< 5	5.
1,2 Dichloroethene(cis/trans)	< 5	5.
Chloroform	< 5	5.
1,2 Dichloroethane	< 5	5.
2 Butanone	< 25	25.
1,1,1 Trichloroethane	< 5	5.
Carbon Tetrachloride	< 5	5.
Bromodichloromethane	< 5	5.
1,2 Dichloropropane	< 5	5.
Trans 1,3 Dichloropropene	< 5	5.
Trichloroethene	< 5	5.
Benzene	< 5	5.
1,1,2 Trichloroethane	< 5	5.
Dibromochloromethane	< 5	5.
Cis 1,3 Dichloropropene	< 5	5.
Bromoform	< 5	5.
4 Methyl 2 Pentanone	< 25	25.
2 Hexanone	< 25	25.
1,1,2,2 Tetrachloroethane	< 5	5.
Tetrachloroethylene	< 10	10.
Toluene	< 5	5.
Chlorobenzene	< 5	5.
Ethyl Benzene	< 5	5.
Styrene	< 5	5.
Total Xylenes	< 5	5.

Analyst: K. Badal

Reviewed By: R. L. James

Date: 04/27/89

Laboratory Director: J. M. Bartell



Lab ID: 24510

GCMS 624 SURROGATE % RECOVERY

COMPOUND NAME	% RECOVERY	RANGE
S1 = 1,2-Dichloroethane-D4	93	76-114
S2 = Toluene-D8	101	88-110
S3 = 4-Bromofluorobenzene	103	86-115

Comments:



VOLATILE ORGANICS
MODIFIED EPA METHOD 624

Project: CHIC-3.0

Lab ID: 24511

Sample Location: Trip Blank

Date Sampled: 04/25/89

Sample Number: 028525

Date Analyzed: 04/26/89

COMPOUND	ANALYTE CONCENTRATION	REPORTING LIMIT
	ug/L (ppb)	ug/L (ppb)
Chloromethane	< 10	10.
Bromomethane	< 10	10.
Vinyl Chloride	< 10	10.
Chloroethane	< 10	10.
Methylene Chloride	< 25	25.
Acetone	< 25	25.
Carbon Disulfide	< 5	5.
1,1 Dichloroethene	< 5	5.
1,1 Dichloroethane	< 5	5.
1,2 Dichloroethene(cis/trans)	< 5	5.
Chloroform	< 5	5.
1,2 Dichloroethane	< 5	5.
2 Butanone	< 25	25.
1,1,1 Trichloroethane	< 5	5.
Carbon Tetrachloride	< 5	5.
Bromodichloromethane	< 5	5.
1,2 Dichloropropane	< 5	5.
Trans 1,3 Dichloropropene	< 5	5.
Trichloroethene	< 5	5.
Benzene	< 5	5.
1,1,2 Trichloroethane	< 5	5.
Dibromochloromethane	< 5	5.
Cis 1,3 Dichloropropene	< 5	5.
Bromoform	< 5	5.
4 Methyl 2 Pentanone	< 25	25.
2 Hexanone	< 25	25.
1,1,2,2 Tetrachloroethane	< 5	5.
Tetrachloroethylene	< 10	10.
Toluene	< 5	5.
Chlorobenzene	< 5	5.
Ethyl Benzene	< 5	5.
Styrene	< 5	5.
Total Xylenes	< 5	5.

Analyst: K. Badal

Reviewed By: R. L. James

Date: 04/27/89

Laboratory Director: J. M. Bartell



Lab ID: 24511

GCMS 624 SURROGATE % RECOVERY

COMPOUND NAME	% RECOVERY	RANGE
S1 = 1,2-Dichloroethane-D4	96	76-114
S2 = Toluene-D8	98	88-110
S3 = 4-Bromofluorobenzene	105	86-115

Comments:



McLaren Analytical Laboratory

Chain of Custody Record

LP 1778
No 212051

24 Hr. Rush

Project Mgr - Watten Lee

PROJECT DESIGNATION *Chic 3.0*

SAMPLES TAKEN BY: *Janice Martin-Jones*

AREA	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE			SAMPLE NO.	TYPE CONTAINER(S)	ANALYSIS REQUIRED
				WATER		SOIL			
				COMP	GRAB				
<i>Gravel</i>	<i>Top Blank</i>	<i>5/15/09</i>	<i>6:34</i>		X		<i>108081</i>	<i>VOA</i>	<i>6.24 (2533)</i>
	↓	↓	↓		X		<i>108082</i>		<i>Backup</i>
	↓	↓	↓		X		<i>108083</i>		↓
	↓	↓	↓		X		<i>108084</i>		↓
	<i>T.W-1</i>	<i>5/16/09</i>	<i>11:53</i>		X		<i>108089</i>		<i>6.24 (2533)</i>
	↓	↓	↓		Y		<i>108090</i>		<i>Backup</i>
	↓	↓	↓		Y		<i>108091</i>		<i>9.41.24 Backup</i>
	↓	↓	↓		X		<i>108092</i>		<i>Backup</i>
	<i>T.W-2</i>	↓	<i>11:45</i>		X		<i>108093</i>		<i>6.24 (2533)</i>
	↓	↓	↓		X		<i>108094</i>		<i>Backup</i>

FIELD DISPOSITION:

IMMEDIATE DELIVERY

STORAGE REFRIGERATOR ID _____

SECURED YES

FREEZER ID _____

NO

RELINQUISHED BY:*

RECEIVED BY:*

DATE/TIME

Janice Martin James Martin

5/16/09 5:05

RELINQUISHED BY:*

RECEIVED BY:*

DATE/TIME

RECEIVED FOR LABORATORY BY:*

DATE/TIME

SARAH SUMAR, PURADURAR S.R.

5/16/09 5:05

METHOD OF SHIPMENT:

LABORATORY DISPOSITION:

IMMEDIATE ANALYSIS

STORAGE

REFRIGERATOR ID *#3*

SECURED

FREEZER ID _____

CABINET ID _____

YES NO

* PRINT NAME AFTER SIGNATURE



McLaren Environmental Engineering

11101 White Rock Road, Rancho Cordova, CA 95670 (916) 638-3696

McLaren Analytical Laboratory

Chain of Custody Record

LP 1778
No 212052

24 Hr. Rush Project Mgr Walter Leo

PROJECT DESIGNATION *Chic 3.0*

SAMPLES TAKEN BY: *James Martin James M*

AREA	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE			SAMPLE NO.	TYPE CONTAINER(S)	ANALYSIS REQUIRED
				WATER COMP	WATER GRAB	SOIL			
<i>Goal</i> <i>Quys</i>	<i>TW-2</i>	<i>5/16/89</i>	<i>11:42</i>		X		<i>108095</i>	<i>VOA</i>	<i>Backup</i>
	↓	↓	↓		X		<i>108096</i>	↓	↓
	<i>Sample Blank</i>		<i>12:15</i>		X		<i>108097</i>	↓	<i>679-2532</i>
	↓	↓	↓		X		<i>108098</i>	↓	<i>Backup</i>
	↓	↓	↓		X		<i>108099</i>	↓	↓
	↓	↓	↓		X		<i>108100</i>	↓	↓

FIELD DISPOSITION:

IMMEDIATE DELIVERY

STORAGE REFRIGERATOR ID _____

FREEZER ID _____

SECURED YES

NO

RELINQUISHED BY:*

James Martin James Martin

RELINQUISHED BY:*

RECEIVED BY:*

DATE/TIME
5/16/89 5:05

RECEIVED BY:*

DATE/TIME

RECEIVED FOR LABORATORY BY:*

SARAH SUMAR RAJADUNAI S.R.

DATE/TIME

5/16/89 5:00

METHOD OF SHIPMENT:

LABORATORY DISPOSITION:

IMMEDIATE ANALYSIS

STORAGE

REFRIGERATOR ID *#3*

FREEZER ID _____

CABINET ID _____

SECURED

YES NO

YES NO

* PRINT NAME AFTER SIGNATURE



McLaren Environmental Engineering

11101 White Rock Road, Rancho Cordova, CA 95670 (916) 638-3696

VOLATILE ORGANICS
MODIFIED EPA METHOD 624

Project: CHIC 3.0

Lab ID: 25335

Sample Location: Good Guys TW-1

Date Sampled: 05/16/89

Sample Number: 108089

Date Analyzed: 05/17/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/L (ppb)	<u>REPORTING LIMIT</u> ug/L (ppb)
Chloromethane	< 10	10.
Bromomethane	< 10	10.
Vinyl Chloride	< 10	10.
Chloroethane	< 10	10.
Methylene Chloride	< 25	25.
Acetone	< 25	25.
Carbon Disulfide	< 5	5.
1,1-Dichloroethene	< 5	5.
1,1-Dichloroethane	< 5	5.
1,2-Dichloroethene (cis/trans)	< 5	5.
Chloroform	< 5	5.
Freon 113	< 5	5.
1,2-Dichloroethane	< 5	5.
2-Butanone	< 25	25.
1,1,1-Trichloroethane	< 5	5.
Carbon Tetrachloride	< 5	5.
Bromodichloromethane	< 5	5.
1,2-Dichloropropane	< 5	5.
trans-1,3-Dichloropropene	< 5	5.
Trichloroethene	< 5	5.
Benzene	47.	5.
1,1,2-Trichloroethane	< 5	5.
Dibromochloromethane	< 5	5.
cis-1,3-Dichloropropene	< 5	5.
Bromoform	< 5	5.
4-Methyl-2-Pentanone	< 25	25.
2-Hexanone	< 25	25.
1,1,2,2-Tetrachloroethane	< 5	5.
Tetrachloroethylene	< 10	10.
Toluene	< 5	5.
Chlorobenzene	< 5	5.
Ethyl Benzene	< 5	5.
Styrene	< 5	5.
Total Xylenes	< 5	5.

Analyst: K. Badal
K. Badal

Reviewed By: R. L. James

Date: 05/17/89

Laboratory Director: J. M. Bartell



Lab ID: 25335

GCMS 624 SURROGATE % RECOVERY

COMPOUND NAME	% RECOVERY	RANGE
S1 = 1,2-Dichloroethane-D4	94	76-114
S2 = Toluene-D8	98	88-110
S3 = 4-Bromofluorobenzene	94	86-115

Comments:



**VOLATILE ORGANICS
MODIFIED EPA METHOD 624**

Project: CHIC 3.0

Lab ID: 25336

Sample Location: Good Guys TW-2

Date Sampled: 05/16/89

Sample Number: 108093

Date Analyzed: 05/17/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u>	<u>REPORTING LIMIT</u>
	ug/L (ppb)	ug/L (ppb)
Chloromethane	< 10	10.
Bromomethane	< 10	10.
Vinyl Chloride	< 10	10.
Chloroethane	< 10	10.
Methylene Chloride	< 25	25.
Acetone	< 25	25.
Carbon Disulfide	< 5	5.
1,1-Dichloroethene	< 5	5.
1,1-Dichloroethane	< 5	5.
1,2-Dichloroethene(cis/trans)	< 5	5.
Chloroform	< 5	5.
Freon 113	< 5	5.
1,2-Dichloroethane	< 5	5.
2-Butanone	< 25	25.
1,1,1-Trichloroethane	< 5	5.
Carbon Tetrachloride	< 5	5.
Bromodichloromethane	< 5	5.
1,2-Dichloropropane	< 5	5.
trans-1,3-Dichloropropene	< 5	5.
Trichloroethene	< 5	5.
Benzene	< 5	5.
1,1,2-Trichloroethane	< 5	5.
Dibromochloromethane	< 5	5.
cis-1,3-Dichloropropene	< 5	5.
Bromoform	< 5	5.
4-Methyl-2-Pentanone	< 25	25.
2-Hexanone	< 25	25.
1,1,2,2-Tetrachloroethane	< 5	5.
Tetrachloroethylene	< 10	10.
Toluene	< 5	5.
Chlorobenzene	< 5	5.
Ethyl Benzene	< 5	5.
Styrene	< 5	5.
Total Xylenes	< 5	5.

Analyst: K. Badal
K. Badal

Reviewed By: R. L. James

Date: 05/17/89

Laboratory Director: J. M. Bartell



Lab ID: 25336

GCMS 624 SURROGATE % RECOVERY

COMPOUND NAME	% RECOVERY	RANGE
S1 = 1,2-Dichloroethane-D4	92	76-114
S2 = Toluene-D8	99	88-110
S3 = 4-Bromofluorobenzene	92	86-115

Comments:



**VOLATILE ORGANICS
MODIFIED EPA METHOD 624**

Project: CHIC 3.0

Lab ID: 25334

Sample Location: Good Guys Trip Blank

Date Sampled: 05/15/89

Sample Number: 108081

Date Analyzed: 05/17/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u> ug/L (ppb)	<u>REPORTING LIMIT</u> ug/L (ppb)
Chloromethane	< 10	10.
Bromomethane	< 10	10.
Vinyl Chloride	< 10	10.
Chloroethane	< 10	10.
Methylene Chloride	< 25	25.
Acetone	< 25	25.
Carbon Disulfide	< 5	5.
1,1-Dichloroethene	< 5	5.
1,1-Dichloroethane	< 5	5.
1,2-Dichloroethene(cis/trans)	< 5	5.
Chloroform	< 5	5.
Freon 113	< 5	5.
1,2-Dichloroethane	< 5	5.
2-Butanone	< 25	25.
1,1,1-Trichloroethane	< 5	5.
Carbon Tetrachloride	< 5	5.
Bromodichloromethane	< 5	5.
1,2-Dichloropropane	< 5	5.
trans-1,3-Dichloropropene	< 5	5.
Trichloroethene	< 5	5.
Benzene	< 5	5.
1,1,2-Trichloroethane	< 5	5.
Dibromochloromethane	< 5	5.
cis-1,3-Dichloropropene	< 5	5.
Bromoform	< 5	5.
4-Methyl-2-Pentanone	< 25	25.
2-Hexanone	< 25	25.
1,1,2,2-Tetrachloroethane	< 5	5.
Tetrachloroethylene	< 10	10.
Toluene	< 5	5.
Chlorobenzene	< 5	5.
Ethyl Benzene	< 5	5.
Styrene	< 5	5.
Total Xylenes	< 5	5.

Analyst: K. Badal
K. Badal

Reviewed By: R. L. James
R. L. James

Date: 05/17/89

Laboratory Director: J. M. Bartell
J. M. Bartell



Lab ID: 25334

GCMS 624 SURROGATE % RECOVERY

COMPOUND NAME	% RECOVERY	RANGE
S1 = 1,2-Dichloroethane-D4	92	76-114
S2 = Toluene-D8	100	88-110
S3 = 4-Bromofluorobenzene	91	86-115

Comments:



VOLATILE ORGANICS
MODIFIED EPA METHOD 624

Project: CHIC 3.0

Lab ID: 25337

Sample Location: Good Guys Sample Blank

Date Sampled: 05/16/89

Sample Number: 108097

Date Analyzed: 05/17/89

<u>COMPOUND</u>	<u>ANALYTE CONCENTRATION</u>	<u>REPORTING LIMIT</u>
	ug/L (ppb)	ug/L (ppb)
Chloromethane	< 10	10.
Bromomethane	< 10	10.
Vinyl Chloride	< 10	10.
Chloroethane	< 10	10.
Methylene Chloride	< 25	25.
Acetone	< 25	25.
Carbon Disulfide	< 5	5.
1,1-Dichloroethene	< 5	5.
1,1-Dichloroethane	< 5	5.
1,2-Dichloroethene (cis/trans)	< 5	5.
Chloroform	< 5	5.
Freon 113	< 5	5.
1,2-Dichloroethane	< 5	5.
2-Butanone	< 25	25.
1,1,1-Trichloroethane	< 5	5.
Carbon Tetrachloride	< 5	5.
Bromodichloromethane	< 5	5.
1,2-Dichloropropane	< 5	5.
trans-1,3-Dichloropropene	< 5	5.
Trichloroethene	< 5	5.
Benzene	< 5	5.
1,1,2-Trichloroethane	< 5	5.
Dibromochloromethane	< 5	5.
cis-1,3-Dichloropropene	< 5	5.
Bromoform	< 5	5.
4-Methyl-2-Pentanone	< 25	25.
2-Hexanone	< 25	25.
1,1,2,2-Tetrachloroethane	< 5	5.
Tetrachloroethylene	< 10	10.
Toluene	< 5	5.
Chlorobenzene	< 5	5.
Ethyl Benzene	< 5	5.
Styrene	< 5	5.
Total Xylenes	< 5	5.

Analyst: K. Badal
K. Badal

Reviewed By: R. L. James

Date: 05/17/89

Laboratory Director: J. M. Bartell



Lab ID: 25337

GCMS 624 SURROGATE % RECOVERY

COMPOUND NAME	% RECOVERY	RANGE
S1 = 1,2-Dichloroethane-D4	94	76-114
S2 = Toluene-D8	98	88-110
S3 = 4-Bromofluorobenzene	95	86-115

Comments:



APPENDIX H

WASTE WATER DISCHARGE PERMIT APPLICATION



Croley and Herring Investment Company

July 6, 1989

Mr. William Meckel
East Bay Municipal Utility District
Post Office Box 24055
Oakland, California 94623

Dear Mr. Meckel:

**WASTEWATER DISCHARGE PERMIT APPLICATION - GROUNDWATER TREATMENT DISCHARGE
5800 CHRISTIE STREET, EMERYVILLE, CALIFORNIA**

Enclosed please find a copy of a wastewater discharge permit application for the subject activities. The owner of the property is Croley and Herring Investment Company and the future lessee of the facility is the Good Guys, Inc.

The proposed process involves the extraction of shallow groundwater and treatment with aqueous phase activated carbon prior to the discharge to the East Bay Municipal Utility District (EBMUD) sewer system.

The water balance is estimated at about one gallon per minute discharge rate. The groundwater plume volume is estimated at about 127,000 gallons. The duration of the treatment discharge is estimated at 3 to 12 months.

The contaminated shallow groundwater will be extracted from Well EW-1 (Figure 1). There are 5 other groundwater quality samples collected from MW-1, MW-2, MW-3, TW-1 and TW-2. Samples from MW-2, MW-3 and TW-2 showed no detectable volatile organic compounds (VOCs). MW-1 showed 18 part per billion (ppb) of total VOCs. TW-1 showed 47 ppb of total VOCs. EW-1 showed 1 ppm of total VOCs including 640 ppb of TCE, 190 ppb of toluene and 170 ppb of xylenes. The laboratory analysis sheets for these water samples are attached.

The extraction Well EW-1 is in place. The extracted groundwater will be diverted to an aqueous phase activated carbon system for removal of the VOCs. The aqueous phase activated carbon system included two 55-gallon drums of activated carbon (150 lbs each) connected in series to prevent breakthrough. The total VOCs in 127,000 gallons of groundwater (plume volume) at 1 ppm maximum strength is about 8 pounds. The adsorption capacity of each 55-gallon drum of carbon is estimate at 10 to 15 pounds of VOCs.

1311 63rd Street, Emeryville, California 94608

Mr. William Meckel
July 6, 1989
Page 2

The connection of the discharge from the activated carbon drums to the sewer is indicated in Figure 2.

There is no pretreatment system involved in this proposed treatment system.

For initial testing, the extracted groundwater and the discharge water samples will be analyzed and compared for removal efficiency. Water samples will be taken between the carbon drums and at the discharge point. No discharge will be diverted to the sewer until the laboratory result for the discharge point sample indicates non-detectable with EPA 601 and 602 method of analysis. The analysis will be performed by a certified analytical laboratory. The follow up discharge will be analyzed on a quarterly basis as with the groundwater monitoring wells on the property.

The Alameda County Health Services is the lead agency on the soil cleanup and groundwater investigation effort. The contact person is Mr. Dennis Byrne.

An unspecified source of organic solvents were discovered at the alley way (Figure 1). The contaminated soil was excavated and is currently being treated. Three permanent groundwater monitoring wells were installed plus three temporary groundwater sample point were established.

We propose to start the groundwater extraction/treatment on July 15, 1989.

We appreciate your time for reviewing this application. Please contact us for any questions and the appropriate discharge application fee.

Sincerely,

R. D. Herring

Enclosures

cc: Mr. Paul Waalkes, The Good Guys, Inc.
Mr. Grey Steele, The Good Guys, Inc.
Mr. Dennis Byrne, Alameda County Health Services
Mr. Walter Loo, McLaren



Wastewater Discharge Permit Application

PERMIT NUMBER

APPLICANT BUSINESS NAME <u>Croley and Herring Investment Co.</u>			
ADDRESS OF PREMISE DISCHARGING WASTEWATER <u>5800 Christie</u>		BUSINESS MAILING ADDRESS <u>1311 63rd Street</u>	
STREET ADDRESS <u>Emergencyville CA. 94608</u>		STREET ADDRESS <u>Emergencyville CA. 94608</u>	
CITY <u>Emergencyville</u>		CITY <u>Emergencyville</u>	
ZIP CODE <u>94608</u>		ZIP CODE <u>94608</u>	
CHIEF EXECUTIVE OFFICER			
NAME <u>Richard D. Herring</u>		TITLE <u>Partner, General</u>	
STREET ADDRESS <u>1311 63rd Street</u>		CITY <u>Emergencyville CA</u>	
		ZIP CODE <u>94608</u>	
PERSON TO BE CONTACTED ABOUT THIS APPLICATION		PERSON TO BE CONTACTED IN EVENT OF EMERGENCY	
NAME <u>S/A Above or Stephen G. Croley</u>		NAME <u>R.D. Herring or S.G. Croley</u>	
TITLE <u>Gen. Partner</u>		DAY PHONE <u>652-1276</u>	
PHONE <u>652-1276</u>		NIGHT PHONE <u>R.D.H. 376-3473</u>	
		<u>S.G.C. 283-2314</u>	

DOCUMENTATION TO BE RETURNED WITH THE PERMIT APPLICATION:

- | | |
|---|---|
| <input checked="" type="checkbox"/> PROCESS DESCRIPTION | <input checked="" type="checkbox"/> DESCRIPTION OF PRETREATMENT SYSTEM |
| <input checked="" type="checkbox"/> WATER BALANCE CALCULATIONS | <input checked="" type="checkbox"/> SELF-MONITORING METHOD |
| <input checked="" type="checkbox"/> WASTEWATER STRENGTH DATA BASE | <input type="checkbox"/> SPILL PREVENTION AND CONTAINMENT PLAN |
| <input checked="" type="checkbox"/> SCHEMATIC FLOW DIAGRAM | <input checked="" type="checkbox"/> A LIST OF ALL ENVIRONMENTAL PERMITS (e.g. Air, Hazardous Waste) |
| <input checked="" type="checkbox"/> BUILDING LAYOUT DIAGRAM | <input checked="" type="checkbox"/> OTHER <u>Site History</u> SPECIFY |

PROVISIONS

Applicant will comply with the District Wastewater Control Ordinance and all applicable rules and regulations.

Applicant will report to EBMUD, Wastewater Department any changes, permanent or temporary, to the premise or operations that significantly change the quality or volume of the wastewater discharge or deviation from the terms and conditions under which this permit is granted.

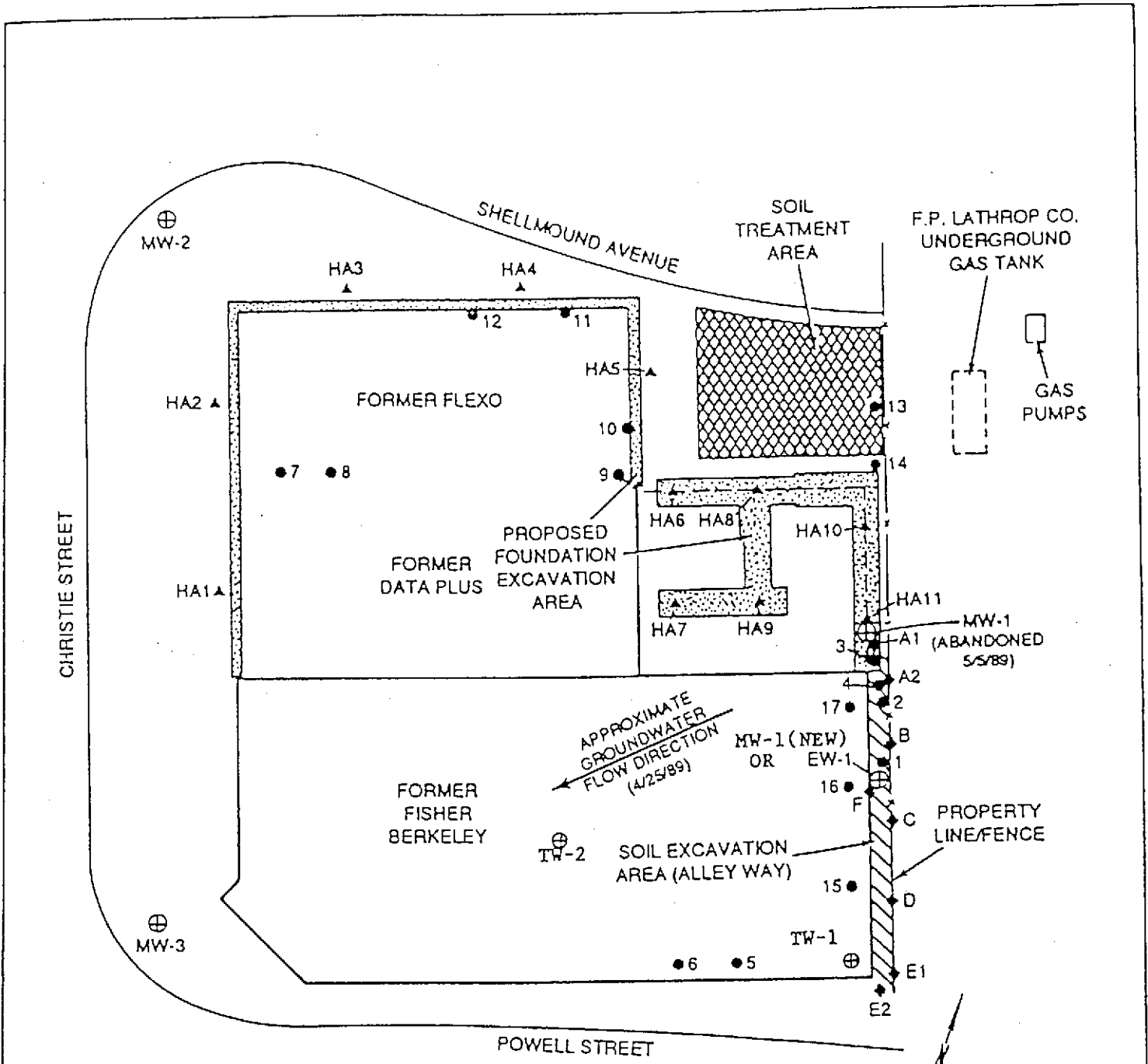
CERTIFICATION

I have personally examined and am familiar with the information submitted in this document and attachments. To the best of my knowledge the submitted information is true, accurate and complete.

TYPE OR PRINT

Name R.D. HERRING SIGNATURE

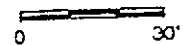
Title Partner DATE 7/6/89



LEGEND

- GIL'S SOIL BORING LOCATION
- ▲ FOUNDATION EXCAVATION SOIL SAMPLE LOCATION
- ◆ EXCAVATION SOIL SAMPLE
- ⊕ WELL

SCALE IN FEET (APPROX)



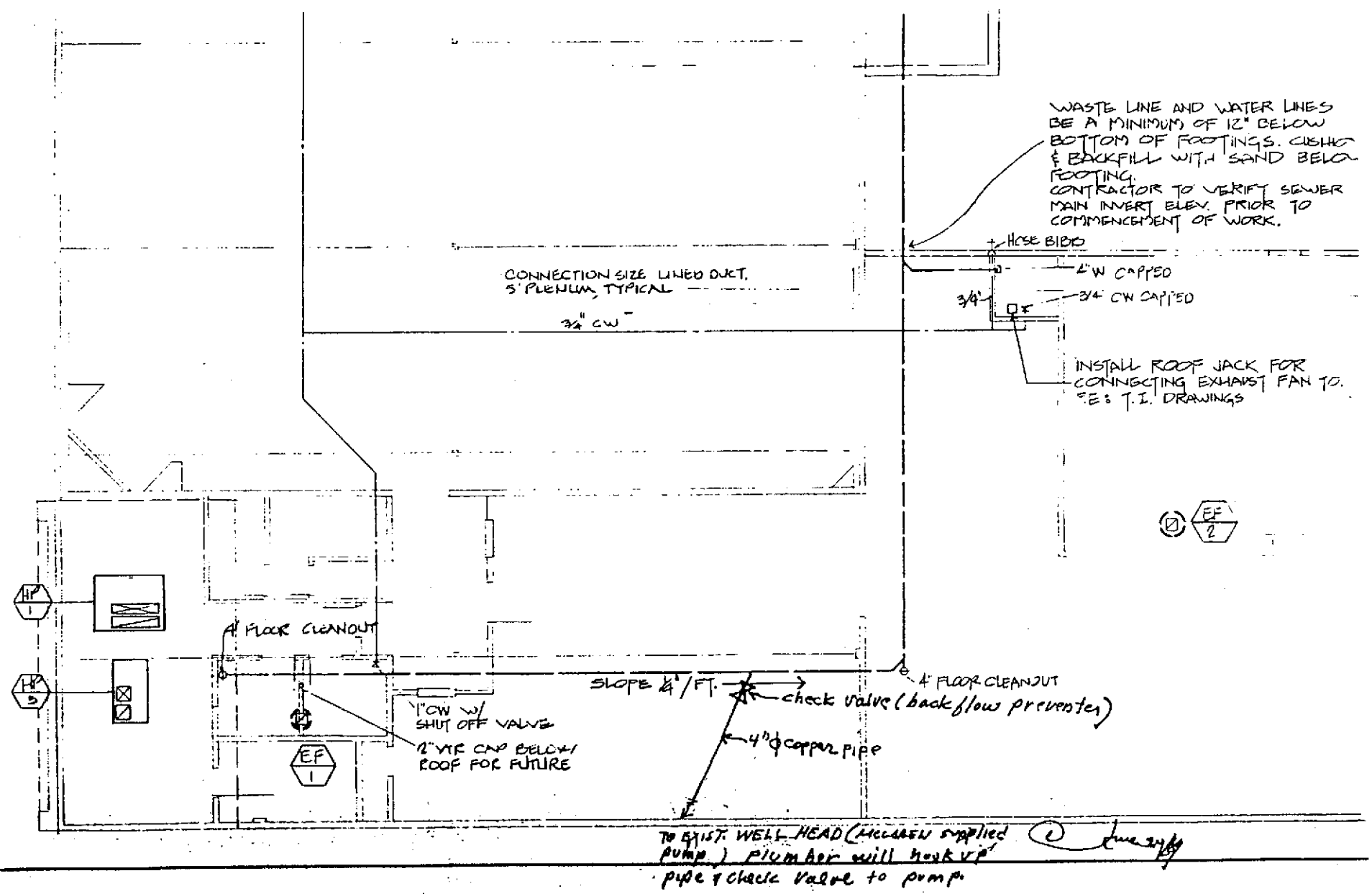


FIGURE 2