Judy Peters

Cynthia -

Here is a copy of the Dames + Moore report for Oakland. Some of the Tables are missing and in some cases the tables and the data do not agree.

Judy

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FINAL REPORT
PHASE 1 ENVIRONMENTAL SITE INVESTIGATION
AMERICAN NATIONAL CAN COMPANY
Oakland, California

Dames & Moore

February 1990
Job No. 17693-003-043

DAMES & MOORE A PROFESSIONAL LIMITED PARTNERSHIP

February 16, 1990

Derby, Cook, Quinby, & Tweedt
333 Market Street, 28th Floor
San Francisco, CA 94105

Attention: Ms. Cynthia Tasker

Report
Phase I Environmental Site
Investigation
American National Can Facility
Oakland, California

Dear Ms. Tasker:

Dames & Moore is pleased to present this report presenting the findings of a Phase I Environmental Site Investigation conducted at the American National Can Company facility in Oakland, California.

Should you have any questions concerning the contents of this report, please contact us at (415) 896-5858.

Very truly yours,

DAMES & MOORE

for Allen Kaddis

David Klimberg
Associate

A. Kopania

Andrew A. Kopania
Project Manager

DMK/AAK/tv
Enclosure

FINAL REPORT
PHASE 1 ENVIRONMENTAL SITE INVESTIGATION
AMERICAN NATIONAL CAN COMPANY
OAKLAND, CALIFORNIA

TABLE OF CONTENTS

LIST OF FIGURES

APPENDICES

1.0 INTRODUCTION

This report presents the results of a Phase I Environmental Site Investigation conducted by Dames & Moore at the American National Can Company, Oakland Facility, Oakland, California. This work has been performed in general accordance with the agreement between Dames & Moore and American National Can Company, dated July 11, 1989.

1.1 BACKGROUND

The property located at 3801 East 8th Street in Oakland, California (Figure 1) is owned by American National Can Company. The facility has been used for manufacturing steel cans since the early part of the century. American National Can ceased manufacturing operations at the Oakland plant in 1988.

Directly adjoining the American National Can Company property to the south is a closed waste oil recovery and recycling facility. It is currently referred to as the Ekotek-Lube site (Figure 2). This one-acre plant has been in existence since 1925 but has been inactive since 1982. This site is currently on the State of California "Superfund" list as a result of apparent uncontrolled releases of waste oils and solvents over the life of the facility. Intracoastal Oil Company, the current owner of the Ekoteck Lube site, has proposed to conduct a soil and groundwater contamination investigation at the site. However, this investigation has not yet been conducted, so information regarding the nature and extent of site contamination is not available at this time.

1.2 OBJECTIVES

Based on discussions with American National Can Company and review of the existing data, the primary objectives of this Phase I environmental site investigation are the following:

- Evaluate the potential for migration of contaminants from off-site sources onto the American National Can Company property, with particular emphasis on the adjacent Ekotek-Lube site; and,

- Investigate on-site areas of potential environmental concern.

1.3 SCOPE OF WORK

The scope of this investigation, as described in our July 11, 1989 revised proposal, included the following tasks:

- Review of existing data, including prior environmental site investigations, pertaining to the American National Can Company, Oakland Facility, and the Ekotek-Lube site.

- Installation of five groundwater monitoring wells at the locations shown on Figure 2.

- Measurement of the static water level in each well to the nearest 0.01 foot using an electric water level probe.

- Collection and chemical analysis of groundwater samples from the five new wells and one existing well.

- Collection and chemical analysis of selected soil samples from each of the five borings for the groundwater monitoring wells and at potential on-site source areas.

- Preparation of this report presenting the results of the field investigation.

The actual field program deviated from the proposed scope of our July 11, 1989 revised proposal in the following ways:

- Three soil samples from well GW-1 and two from GW-2 were analyzed, instead of just one each. This was done because of the apparent high levels of contamination in the soil from these two borings adjacent to the Ekotek-Lube site. In addition, one sample from both borings was analyzed for Polychlorinated Biphenyls (PCBs).

- Three soil samples, instead of two, were drilled along the railroad drainage area to better characterize this locality.

- Only one boring, instead of three, was drilled adjacent to the underground gasoline storage tank. This was because:

  1) The exact location of the tank was determined prior to conducting the soil boring program;

  2) The existence of several buried utilities (water, sewer, telephone, fire, water) in the area of the tank; and

  3) The tank is located under the 37th Avenue sidewalk, and drilling through the public sidewalk or street was determined to be undesirable at this time.

All other work was performed as described in our Revised Proposal.

2.0 HYDROGEOLOGY AND GROUNDWATER QUALITY

2.1 HYDROGEOLOGY

2.1.1 Regional Setting

The American National Can Company, Oakland facility, is located on the flat coastal plain adjacent to San Leandro Bay (see Figure 1). This area forms a transition zone between fluvial deposits which were sourced from the east, the Merritt Sand, which is a beach deposit, and the Bay Mud, which underlies most of San Francisco Bay (Hickenbottom and Muir, 1988). The fluvial deposits and, possibly, the Bay Mud directly underlie the American National Can facility. The fluvial deposits consist of sandy and gravelly stream channels and silty to clayey units between channels. The Bay Mud consists of stiff marine clays and silts.

The regional hydraulic gradient is to the west and southwest in this area and averages five to ten feet per mile. The main aquifers in the area are in older alluvial deposits below a depth of 200 feet. Other shallow aquifers are present between 30 and 200 feet in the region. Water bearing units shallower than 30 feet are not considered to be important sources of groundwater in this area and may be susceptible to large seasonal water level fluctuations and complete de-watering during dry periods.

2.1.2 Site Specific Setting

Five groundwater monitoring wells, designated GW-1 through GW-5, were installed on the site. Well installation and development details are provided in Section 3.2 and Appendix A. In addition, a pre-existing well, GW-6, exists at the facility. The locations of these monitoring wells are shown on Figure 2.

The shallowest water-bearing unit encountered at the site was a clayey to sandy gravel. This deposit grades to a clayey sand in well GW-2 (see Appendix A, Plates A-1 through A-5) and appears to be absent in GW-4. It varies in depth from eight feet in GW-5 to 15 feet in GW-1. This unit is overlain by clays and silty clays. These units are most likely part of the fluvial deposits discussed in the previous section. The western part of the site appears to consist of finer grained deposits and an area of Bay Mud may also be present around the steam cleaning area (see boring logs for GW-4, SC-1, and SC-2 on Plates A4, A8, and A9).

The depth of water was measured in the five newly installed wells approximately four weeks after they were developed so that the water levels would have an adequate time to stabilize. Existing well GW-6 was also measured at the same time. A hydrocarbon liquid was found floating on groundwater in well GW-6. A gauging paste was used to determine the thickness of the liquid and depth to water. The results of the water level measurements are shown in Table 1. The maximum water table elevations occurs in well GW-5 and is 7.99 feet above mean sea level. The lowest water table elevation occurs in well GW-3 and is 1.45 feet above mean sea level. Water table elevations measured on October 6, 1989 were used to construct the water table elevation contour map and groundwater surface plot presented in Figure 3 and depicted in Figure 4, respectively. These data indicate that the direction of groundwater flow beneath the site is south toward Alameda Avenue and San Leandro Bay. It may be of some significance to note that the groundwater gradient is relatively steep on the northern half of the site, but becomes quite flat near Alameda Avenue. It is anticipated that the water table is at sea level 1,000 to 1,500 feet to the southwest at the San Leandro Bay tidal channel.

2.2 GROUNDWATER QUALITY

2.2.1 Monitoring Well Installation

Five soil borings were drilled by All-Terrain Drilling Company between August 21 and August 24, 1989, using hollow stem auger drilling equipment. These borings were completed as 4-inch diameter PVC groundwater monitoring wells at the locations shown on Figure 2. The wells were installed to facilitate the evaluation of groundwater quality in the first water-bearing zone beneath the site and to allow the evaluation of the hydraulic gradient in that zone. Wells GW-1 and GW-2 are located on the southern perimeter of the property near the former Ekotek-Lube waste oil recycling plant. Well GW-3 is located on the southern edge of the property near Alameda Avenue, in the area of the former solvent underground storage tank farm. Well GW-4 is also near Alameda Avenue in the vicinity of the former drum storage area. Well GW-5 is located on the upgradient side of the property in the front parking lot on the northern corner of the property. Following installation, all five wells were developed by pumping until relatively sediment-free water was produced. Well construction and installation details are presented in Appendix A of this report and on Plates A1 through A5.

2.2.2 Groundwater Quality Sampling and Analysis

Groundwater samples were collected from the newly installed wells GW-1 through GW-5 on August 29, 1989. Samples were collected in laboratory provided containers, stored on ice, and shipped to ACCULAB Environmental Services of Petaluma for chemical analysis. The samples were accompanied by a completed chain-of-custody form. Additionally, one duplicate sample and one trip blank were submitted for analysis. A water sample from GW-6 was not collected because of the presence of free floating product.

All groundwater samples were analyzed for volatile organic compounds, including MEK, MIBK, and xylenes (EPA Method 624), semi-volatile organic compounds (EPA Method 625), 17 CAM metals, (EPA 6010 and 7000 series), and TPH as gasoline and diesel (EPA Method 8015, modified). Groundwater sampling procedures are detailed in Appendix A.

2.2.3 Analytical Results

Analytical results for metals, volatile organic compounds, semi-volatile organic compounds and total petroleum hydrocarbons are summarized in Tables 2, 3, 4, and 5, respectively. Tables 3, 4, and 5 only show the results for compounds which were detected in at least one sample above the laboratory reporting limit. Appendix B contains the complete laboratory data reports. A duplicate sample from well GW-2 (designated GW-7 in Appendix B) was collected and analyzed for quality assurance/quality control purposes.

The measured concentrations of metals, volatile organics, and semi-volatile organics can be compared to California Applied Action Levels (AALs) for drinking water to evaluate the significance of observed concentration levels. However, because the shallowest water-bearing unit is not a source of drinking water, AALs may not be the regulatory standard which could be applied to the groundwater beneath the Oakland facility.

Well GW-5 is located at the upgradient edge of the site. Water quality parameters measured in this well likely represent the background chemistry of shallow groundwater in this area.

Copper was present in the sample from GW-5 at a concentration greater than the AAL. This may indicate that copper has a high background level in the groundwater. It is also important to note that the detection limit for copper is 2.5 times greater than the AAL. Chloroform was the only volatile organic compound detected in GW-5. The concentration is below the AAL, though, and it was not detected in any of the groundwater

samples from the other wells on-site. Semi-volatile organic compounds and petroleum hydrocarbons were not detected in the sample from GW-5.

Well GW-4 is located along the western downgradient edge of the site. Copper was the only metal present above the AAL in this well and the concentration is lower than the assumed background level measured in GW-5. Volatile organics, semi-volatile organics, and petroleum hydrocarbons were not detected in well GW-4.

Well GW-3 is downgradient from the central area of the facility and is located in the former underground tank farm area. Barium, cadmium, chromium, and copper were detected in the sample from this well at levels exceeding their respective AALs. Xylenes, the only volatile organic compounds detected in this well, are present at a concentration in excess of the AAL. Several semi-volatile organic compounds were detected in the groundwater sample at this location, including four polynuclear aromatic hydrocarbons (PNAs). PNA concentrations are all below their respective AALs, although, phenanthrene, was detected at a concentration just below its AAL (18 ppb versus 19 ppb). Total petroleum hydrocarbons as gasoline were measured at 39 ppm.

Wells GW-1 and GW-2 are located along the southeastern edge of the site, adjacent to Ekotek-Lube. The sample from GW-1 contained levels of arsenic, barium, cadmium, chromium, copper and nickel which exceed their respective AALs. In both the primary and duplicate samples collected from GW-2 only barium and copper were present above their AALs. Volatile organic compounds detected in GW-2 which exceed their AALs are benzene, 1,1-dichloroethane and vinyl chloride. Benzene, toluene, vinyl chloride, and xylenes exceed their respective AALs in the sample from GW-1. 2,4-dimethylphenol was detected in GW-1 at a concentration 50 times higher than the AAL. A higher level of 4-methylphenol was also present in GW-1; however, an AAL for this compound has not been established. Petroleum hydrocarbons were detected in groundwater samples collected from both wells GW-1 and GW-2. Petroleum hydrocarbons as diesel were reported in well GW-1 at a concentration of 40 ppm, and GW-2 at 11 ppm.

3.0 SOIL SAMPLING AND ANALYSIS PROGRAM

3.1 SOIL SAMPLING

In addition to monitoring wells, several soil borings were advanced for the purpose of collecting soil samples for chemical analysis. All boring locations are shown on Figure 2. Prior to drilling, an underground utility survey was conducted. During this survey, the location of an underground gasoline storage tank was identified under the sidewalk next to 37th Avenue. The location of the tank is depicted on Figure 2. The base of the tank was measured at 80 inches beneath the sidewalk. The filler neck to the tank is 38 inches long, implying the tank diameter is 42 inches. Thirty inches of liquid with a gasoline odor was measured in the tank. Boring GT-1 is located in the north parking lot adjacent to this tank.

Boring RT-1 is located along East 8th Street in the area of the former 4,000 gallon resin tank. This boring is drilled to evaluate whether previous closure and removal of the resin tank succeeded in eliminating or minimizing the impact of any potential leakage from the tank. Borings SC-1 and SC-2 were drilled to evaluate stained soil in the former steam-cleaning area.

In addition to these borings, surface soil samples from a maximum depth of 2.5 feet were collected from three other areas of potential concern:

- Samples RR-1 through RR-3 were collected along the railroad drainage area;
- Samples DS-1 through DS-3 were collected in the former drum storage area; and

- Samples SP-1 through SP-5 were collected along the former solvent pipeline which runs between the lithography building and the former underground tank farm.

During advancement of boreholes GW-1 through GW-5, GT-1, and RT-1, relatively undisturbed soil samples were collected every 5 feet from near the surface to the maximum depth of each boring. At borings SC-1 and SC-2, samples were taken continuously from the surface to the total depth of the borings. Surface samples were taken from immediately below pavement, if present. Upon collection, soil samples were screened by the field geologist with either an Organic Vapor Monitor (OVM) or an Organic Vapor Analyzer (OVA) to investigate the presence of organic vapors. Soils collected from boring GW-1 exhibited OVA readings ranging from 12 to 70 ppm. Soils collected from GW-2 had OVM readings ranging from 21.6 to 71.6 ppm. One soil sample from GW-3 had an OVM reading of greater than 1,000 ppm. Organic vapors were not detected by field screening in borings GW-4, GW-5, and RT-1. Failure of the OVM in the field precluded screening samples from GT-1.

3.2 ANALYTICAL RESULTS

Based on field screening, selected soil samples were chemically analyzed by ACCULAB Environmental Services of Petaluma, California. Sample locations, sample depths, and analyses performed are shown on Table 6. Tables 7 through 9 summarize the results of compounds which were detected above the reporting limit in at least one sample. Appendix B contains the complete laboratory data reports.

Soil samples collected from the five borings for the groundwater monitoring wells were analyzed for volatile organic compounds and petroleum hydrocarbons. Samples collected from wellbores GW-4 and GW-5 did not contain detectable levels of volatile organics or petroleum hydrocarbons. A sample collected from wellbore GW-3 at a depth of 9 feet contained ethyl benzene and xylenes at concentrations of 370 ppb and 390

ppb, respectively, but no detectable levels of petroleum hydrocarbons. GW-2 contained 9 ppb benzene and 4.7 ppb xylene in the sample collected from 5.25 feet deep, but no detections of volatile organics in the sample from 10.25 feet. A sample collected from wellbore GW-1 at 5.25 feet contained benzene, toluene, trichloroethylene, and xylenes at concentrations of 13 ppb, 13 ppb, 120 ppb, and 110 ppb, respectively. The sample from 10.25 feet from the same wellbore contained no detectable levels of these volatile compounds. The 15.25-foot sample from GW-1 contained 650 ppb of xylenes. Petroleum hydrocarbons were detected in all samples from GW-1 and GW-2 at levels ranging from 130 ppb to 1,560 ppm.

Samples collected from a depth of 5.25 feet in wellbores GW-1 and GW-2 were also analyzed for PCBs. Trace levels (<1 ppm) were detected in the samples analyzed from both borings (Table 9).

A sample collected from a depth of 10.25 feet from boring GT-1, located adjacent to the underground gasoline storage tank, was analyzed for volatile organics, total petroleum hydrocarbons as gasoline, and organic lead (a gasoline additive). Although samples from this boring had a slight hydrocarbon odor (Plate A-6), volatiles, petroleum hydrocarbons, and organic lead were not detected in the soil sample analyzed.

A single sample from boring RT-1, drilled at the site of the former resin tank, was analyzed for volatile organic compounds. Detectable concentrations of these compounds were not present in the sample.

Two samples from each of the two borings drilled in the steam-cleaning area were collected and analyzed for volatile organic compounds and total petroleum hydrocarbons. Toluene was present at less than 10 ppb in the deeper samples (3.75 feet deep) from both borings. Xylene was also detected at a concentration of 3.0 ppb in the 3.75-foot sample from boring SC-2. This sample also contained total petroleum hydrocarbons at a concentration of 3,200 ppm.

Surface soil samples collected along the railroad drainage area were analyzed for CAM metals and volatile organic compounds. The metal concentrations were compared to the California Total Threshold Limit Concentration (CA TTLC). The TTLC values are used to evaluate whether a material could be classified as a hazardous. They form a useful basis for comparison, but may not be regulatory standards applied to soils at this site. All of the metals detected in soil samples from the railroad drainage area are present at concentrations well below their respective TTLCs. Volatile organic compounds were not detected in any of the samples analyzed.

Near surface (2.25 feet), soil samples from the former drum storage area were analyzed for CAM metals and volatile organic compounds. All of the metals detected in these samples were below their respective TTLCs. Volatile organics were not detected in the sample collected at location DS-1. Xylenes and ethylbenzene were detected at location DS-3 but at concentrations less than 20 ppb. Sample DS-2-1C had a moderate level of ethyl benzene (320 ppb) and a high level (4,300 ppb) of xylenes.

Five near surface (2.25 feet) soil samples collected along the length of the solvent pipeline were analyzed for volatile organic compounds. Sample location SP-1, closest to the former underground tank farm, contained ethylbenzene and xylenes at 180 and 86 ppb, respectively. Sample location SP-5, closest to the lithography building, had only a very low level of xylenes, (10 ppb). The other three sample locations (SP-2, SP-3, and SP-4) collected along the central portion of the pipeline were reported to contain up to 2,500 ppb of ethylbenzene and 5,100 ppb of xylenes.

REFERENCES

Hickenbottom, Kelvon and Kenneth Muir, 1988, Geohydrology and Groundwater Quality Overview of the East Bay Plain Area, Alameda County, California: Alameda County Flood Control and Water Conservation District, 205 (J) Report.

TABLE 1
RESULTS OF WATER LEVEL MEASUREMENTS FROM OCTOBER 6, 1989

WELL	ELEV. (Top of Casing)(1)	DEPTH TO WATER	WATER TABLE ELEVATION(1)
GW-1	15.39	9.79	7.99
GW-2	13.17	10.05	1.65
GW-3	11.63	10.18	1.45
GW-4	11.70	11.70 ?	-1.47
GW-5	17.78	13.12	2.27
GW-6	19.82	15.39(2)	4.43

(1) All elevations are reported as feet above mean sea level.

(2) Floating product encountered at a depth of 14'11", measured thickness of 4'4". Assuming a specific gravity of 0.89, this is equivalent to 3.86' of water, thus the corrected depth to water is 15.39'.

All depths are reported in feet.
Source: October 6, 1989 reprot of Aqua Terra Technologies.

TABLE 2

RESULTS OF METALS ANALYSES OF GROUNDWATER SAMPLES

METAL	GW-1	GW-2	GW-2 (dup)	GW-3	GW-4	GW-5	DET LIMIT	AAL
Arsenic	0.0913	0.034	ND	0.017	0.016	ND	0.0050	0.074
Selenium	0.008	ND	ND	ND	ND	ND	0.0050	0.01
Mercury	0.00104	0.00044	0.00025	ND	ND	ND	0.00010	0.002
Silver	ND	ND	ND	ND	ND	ND	0.010	0.05
Barium	1.16	0.547	0.579	0.46	0.119	0.199	0.010	0.350
Beryllium	ND	ND	ND	ND	ND	ND	0.010	NA
Cadmium	0.0088	ND	ND	0.005	ND	ND	0.0050	0.005
Cobalt	0.063	ND	ND	0.034	ND	ND	0.020	NA
Chromium	0.279	ND	ND	0.095	0.035	0.029	0.020	0.051
Copper	0.168	ND	0.018	0.056	0.017	0.095	0.010	0.0043
Molybdenum	0.038	0.026	ND	ND	0.028	ND	0.020	NA
Nickel	0.558	ND	ND	0.26	0.098	0.07	0.050	0.4
Lead	ND	ND	ND	ND	ND	ND	0.050	0.012
Antimony	ND	ND	ND	ND	ND	ND	0.50	NA
Thallium	ND	ND	ND	ND	ND	ND	0.20	NA
Vandium	0.214	ND	ND	0.077	0.029	ND	0.020	NA
Zinc	0.274	0.033	0.034	0.127	0.033	0.076	0.010	NA

ND = Not detected.
NA = Not applicable.
AAL = California Applied Action Level.
Concentration of all samples µg/L.

TABLE 4

DETECTION OF SEMI-VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER SAMPLES

COMPOUND	GW-1	GW-2	GW-2 (dup)	GW-3	GW-4	GW-5	DET LIMIT	AAL
2,4-Dimethylphenol	9000	ND	ND	7.0	ND	ND	4.0	400
Acenaphthene	ND	ND	ND	5.3	ND	ND	4.0	19
Anthracene	ND	ND	ND	4.7	ND	ND	4.0	19
1,2-Dichlorobenzene	ND	ND	5.0	ND	ND	ND	4.0	130
Phenanthrene	ND	ND	18.0	ND	ND	ND	4.0	19
Pyrene	ND	ND	6.5	ND	ND	ND	4.0	19
4-Methyl-Phenol	2600	ND	ND	ND	ND	ND	20.0	N/A

ND = Not detected.
NA = Not applicable.
AAL = California Applied Action Level.
Concentration of all samples µg/L.

SAC02.069

TABLE 5

RESULTS OF TOTAL PETROLEUM HYDROCARBON ANALYSES OF GROUNDWATER

WELL	AS DIESEL		AS GASOLINE	
	RESULT	DETECTION LIMIT	RESULT	DETECTION LIMIT
GW-1	40.0	0.075	11.0	0.50
GW-2	3.3	0.075	1.6	0.50
GW-2 (dup)	9.1	0.075	2.1	0.50
GW-3	0.3	0.075	39.0	.25
GW-4	ND	0.075	ND	0.05
GW-5	ND	0.075	ND	0.05

Concentration of all samples mg/L (ppm)

TABLE 6

SUMMARY OF SOIL SAMPLING AND ANALYSIS PROGRAM

SAMPLE NO.	DEPTH (IN FEET)	ANALYSES PERFORMED
Groundwater Monitoring Well Borings		
GW-1-2C	5.25	TPH, VOLATILE ORGANICS, PCBs
GW-1-3C	10.25	TPH, VOLATILE ORGANICS
GW-1-4C	15.25	TPH, VOLATILE ORGANICS
GW-2-2C	5.25	TPH, VOLATILE ORGANICS, PCBs
GW-2-3C	10.25	TPH, VOLATILE ORGANICS
GW-3-1C	9.25	TPH, VOLATILE ORGANICS
GW-4-2C	5.25	TPH, VOLATILE ORGANICS
GW-5-1C	2.25	NA
GW-5-2C	5.25	TPH, VOLATILE ORGANICS
Underground Gasoline Storage Tank		
GT-1-2C	5.25	NA
GT-1-3C	10.25	TPH AS GASOLINE, BTEX, ORGANOLEAD
GT-1-4B	15.0	NA
Former Resin Tank		
RT-1-1C	15.25	VOLATILE ORGANICS
Steam Cleaning Area		
SC-1-1C	2.25	TPH, VOLATILE ORGANICS
SC-1-2C	3.75	TPH, VOLATILE ORGANICS
SC-1-3C	5.25	NA
SC-2-1C	2.25	TPH, VOLATILE ORGANICS
SC-2-2C	3.75	TPH, VOLATILE ORGANICS
SC-2-3C	5.25	NA
Railroad Drainage Area		
RD-1-1C	1.75	VOLATILE ORGANICS, CAM METALS
RD-2-1C	1.75	VOLATILE ORGANICS, CAM METALS
RD-3-1C	1.75	VOLATILE ORGANICS, CAM METALS
Drum Storage Area		
DS-1-1C	2.25	VOLATILE ORGANICS, CAM METALS
DS-2-1C	2.25	VOLATILE ORGANICS, CAM METALS
DS-3-1C	2.25	VOLATILE ORGANICS, CAM METALS
Solvent Pipeline Area		
SP-1-1C	2.25	VOLATILE ORGANICS
SP-2-1C	2.25	VOLATILE ORGANICS
SP-3-1C	2.25	VOLATILE ORGANICS
SP-4-1C	2.25	VOLATILE ORGANICS
SP-5-1C	2.25	VOLATILE ORGANICS

NA = NOT ANALYZED
TPH = TOTAL PETROLEUM HYDROCARBONS
BTEX = BENZENE, TOLUENE, ETHYL BENZENE, TOTAL XYLENE

TABLE 7

RESULTS OF METALS ANALYSES OF SOIL SAMPLES

METAL	RD-1-1C	RD-2-1C	RD-3-1C	DS-1-1C	DS-2-1C	DS-3-1C	CA TTLC	DET LIMIT
Arsenic	10.0	7.82	9.12	10.0	10.0	9.68	500	0.60
Selenium	ND	ND	ND	ND	ND	ND	100	0.60
Mercury	0.076	0.10	0.34	0.14	0.20	0.25	20	0.040
Silver	ND	ND	ND	ND	ND	ND	500	0.20
Barium	176	121	111	813	412	394	10000	0.20
Beryllium	0.24	0.25	ND	0.31	0.35	0.34	75	0.20
Cadmium	2.34	2.51	2.18	3.29	3.29	2.81	100	0.098
Cobalt	11.8	15.9	10.8	10.1	13.2	15.1	8000	0.40
Chromium	58.9	74.6	85.2	68.8	71.1	78.0	2500	0.40
Copper	17.9	428	21.8	31.5	126	36.7	2500	0.20
Molybdenum	ND	ND	ND	ND	ND	ND	3500	0.40
Nickel	80.6	142	163	108	110	143	2000	0.99
Lead	7.5	ND	ND	142	950	109	1000	0.99
Antimony	ND	ND	ND	ND	ND	ND	500	9.8
Thallium	ND	ND	ND	ND	ND	ND	700	4.0
Vandium	42.3	41.8	36.2	39.3	40.1	41.2	2400	0.40
Zinc	34.7	212	38	136	484	1130	5000	0.20

ND = Not detected.
CA TTLC = California Total Threshold Limit Concentration.
Concentration of all samples mg/kg (ppm)

TABLE 8

DETECTION OF VOLATILE ORGANIC COMPOUNDS IN SOIL SAMPLES

BORING	BENZENE	ETHYL BENZENE	TOLUENE	TRICHLOROETHENE	XYLENES
GW-1-2C	13	ND	13	120	110
GW-1-3C	ND	ND	ND	ND	ND
GW-1-4C	ND	ND	ND	ND	650
GW-2-2C	9.0	ND	ND	ND	4.7
GW-2-3C	ND	ND	ND	ND	ND
GW-3-1C	ND	370	ND	ND	390
GW-4-2C	ND	ND	ND	ND	ND
GW-5-2C	ND	ND	ND	ND	ND
RT-1-1C	ND	ND	ND	ND	ND
SC-1-1C	ND	ND	ND	ND	ND
SC-1-2C	ND	ND	6.4	ND	ND
SC-2-1C	ND	ND	ND	ND	ND
SC-2-2C	ND	ND	7.4	ND	3.0
GT-1-2C	ND	ND	ND	ND	ND
RD-1-1C	ND	ND	ND	ND	ND
RD-2-1C	ND	ND	ND	ND	ND
RD-3-1C	ND	ND	ND	ND	ND
DS-1-1C	ND	ND	ND	ND	ND
DS-2-1C	ND	320	ND	ND	4300
DS-3-1C	ND	2.8	ND	ND	19.0
SP-1-1C	ND	180	ND	ND	86
SP-2-1C	ND	1800	ND	ND	3500
SP-3-1C	ND	560	ND	ND	2800
SP-4-1C	ND	2500	ND	ND	5100
SP-5-1C	ND	ND	ND	ND	10.0
DET LIMIT	2.5	2.5	2.5	2.5	2.5

ND = Not detected.
Concentration of all samples µg/kg (ppb).

TABLE 9

DETECTION OF TOTAL PETROLEUM HYDROCARBONS AND PCBs IN SOIL SAMPLES

BORING	TOTAL PETROLEUM HYDROCARBONS (mg/kg)	DETECTION LIMIT (mg/kg)	PCBs (mg/kg)	CATTLC (mg/kg)	DETECTION LIMIT (mg/kg)
GW-1-2C	130	6	0.43 AROCHLOR 1242	50	0.029
GW-1-3C	138	6	ND	-	ND
GW-1-4C	464	6	ND	-	ND
GW-2-2C	289	6	0.38 AROCHLOR 1242	50	0.030
GW-2-3C	1,560	30	ND	-	ND
SC-2-2C	3,200	60	NA	-	NA

ND = NOT DETECTED
NA = NOT ANALYZED
CATTLC = CALIFORNIA TOTAL THRESHOLD LIMIT CONCENTRATION

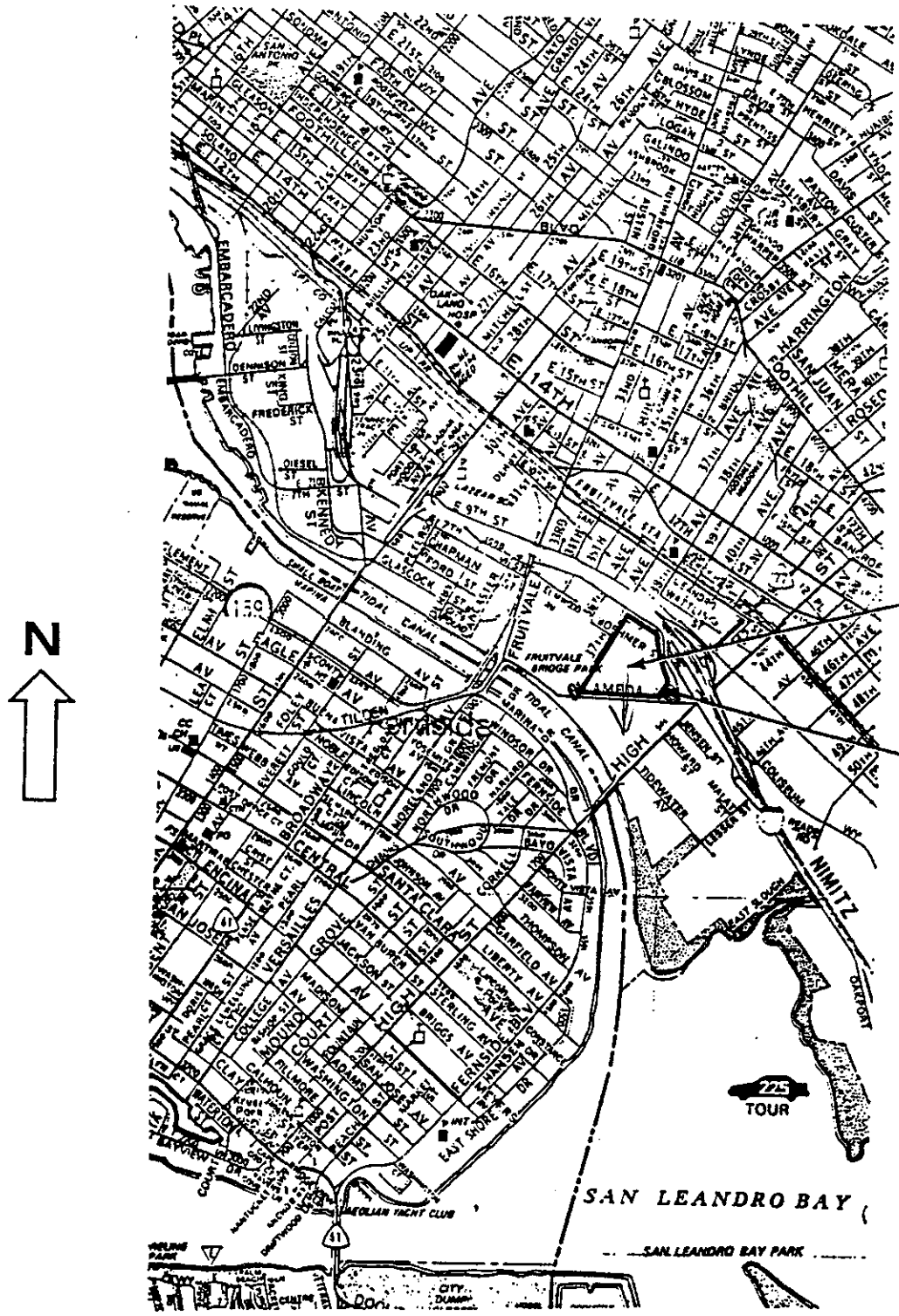


FIGURE 1

American National Can Co.
Oakland Facility
Site Location

October 18, 1989 **Dames & Moore**

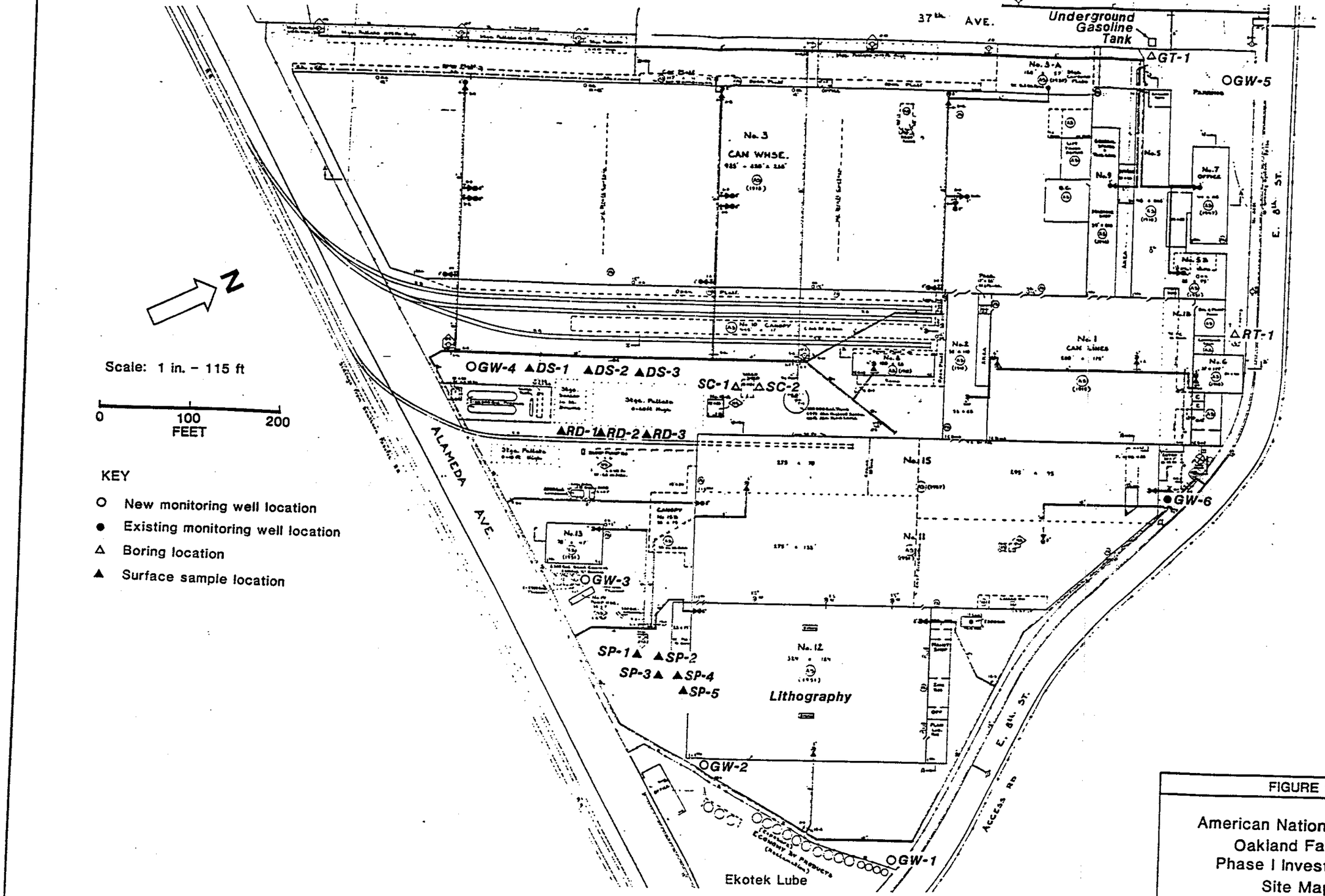


FIGURE 2

American National Can Co.
Oakland Facility
Phase I Investigation
Site Map

October 18, 1989 Dames & Moore

DATE October 18, 1989
BY
NO. 11693-003-043

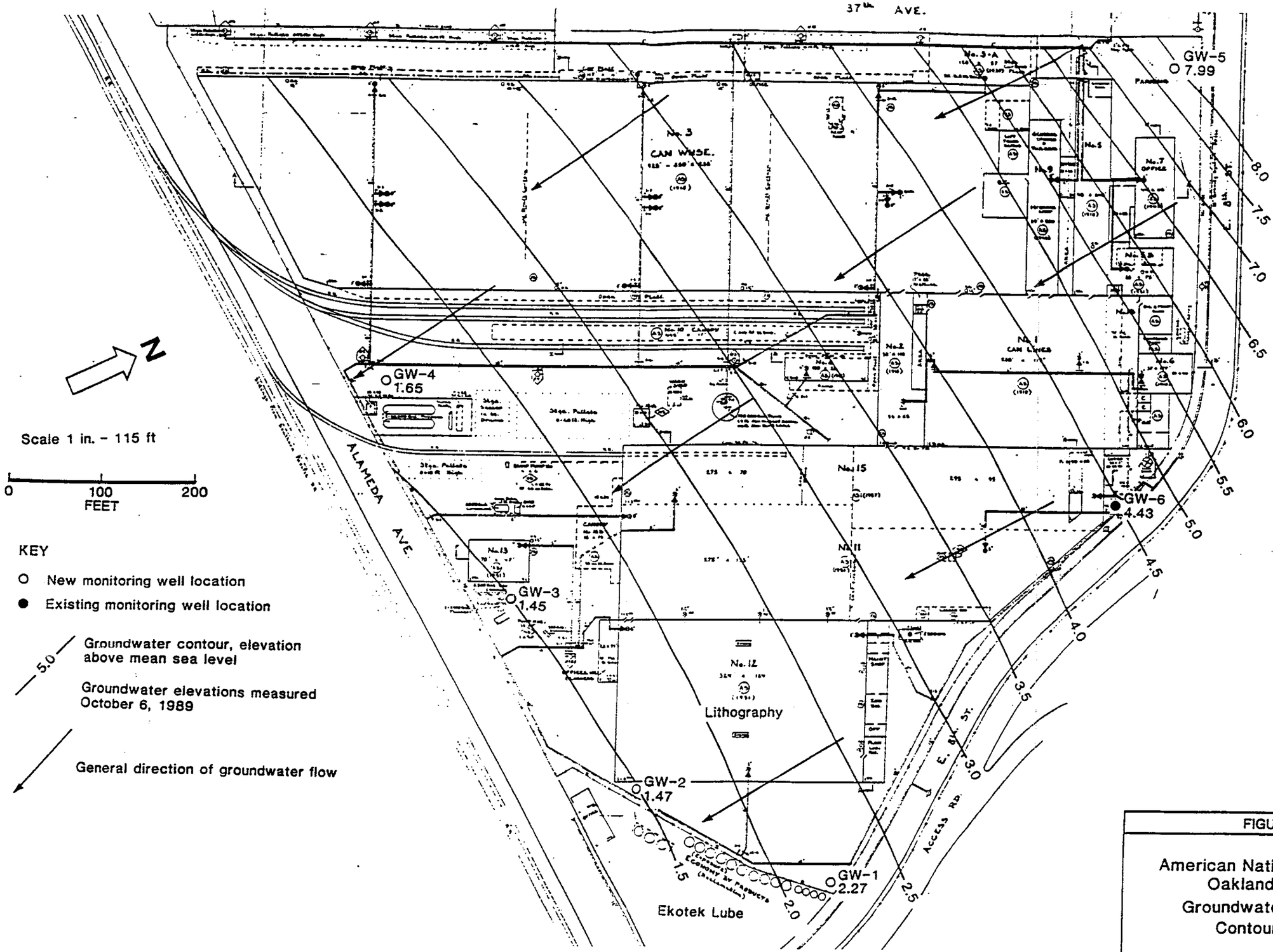


FIGURE 3

American National Can Co.
Oakland Facility
Groundwater Surface
Contour Map

October 18, 1989 **Dames & Moore**

Job No. 17693-003-043 DATE October 18, 1989 BY

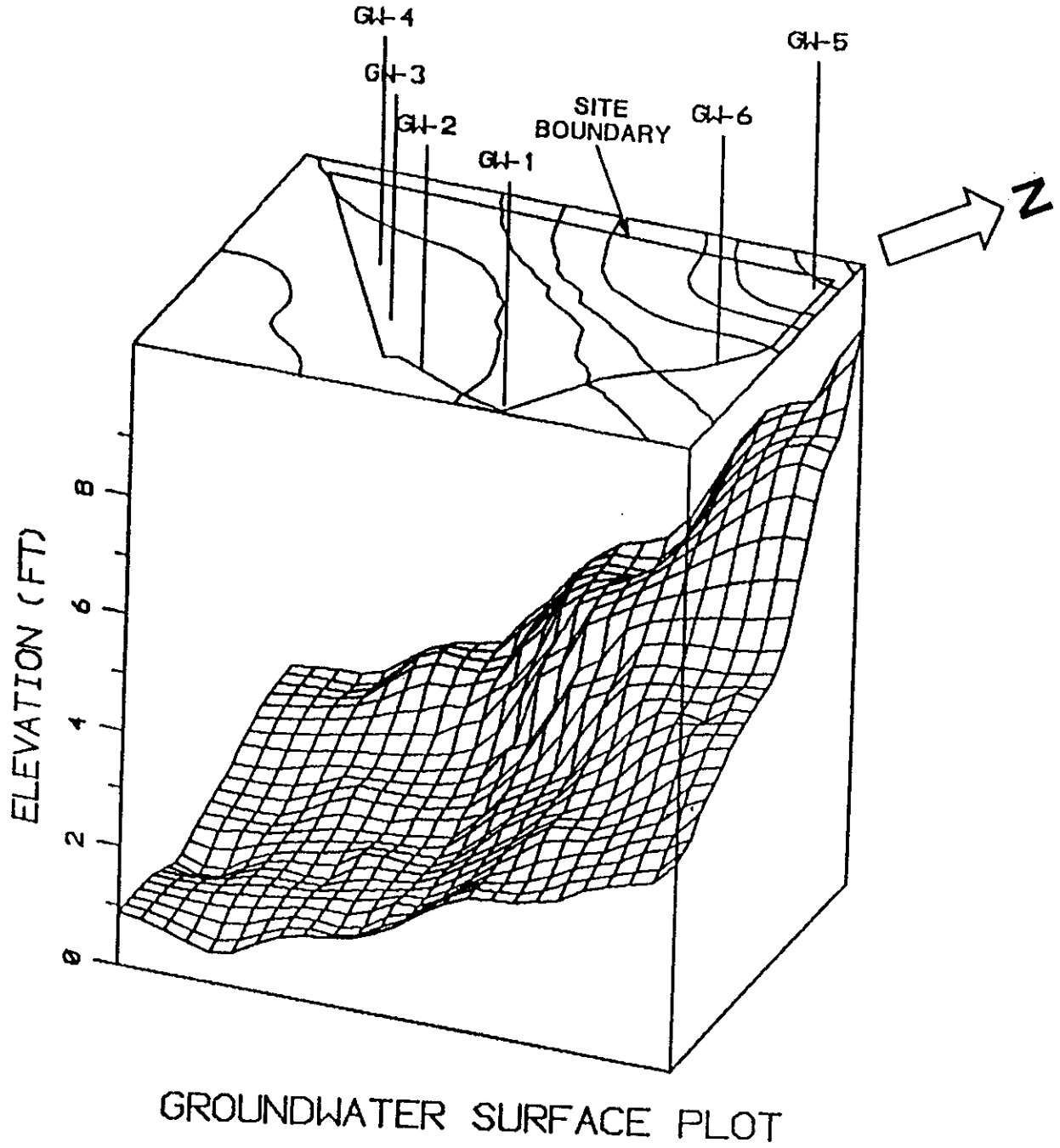


Figure 4. Groundwater Surface Plot, view from Ekotek Lube site toward the northwest

APPENDIX A

FIELD PROCEDURES

APPENDIX A

FIELD PROCEDURES

A field exploration program consisting of installation and development of five monitoring wells, advancement of four soil borings, and collection of eleven sub-surface samples, followed by water quality sampling, was performed at the American National Can Company site between August 21 and August 29, 1989. All field operations were conducted by, or directly supervised by, a Dames & Moore geologist or engineer. The locations of the monitoring wells are shown on Plate 1 in the main body of this report. Logs of borings are presented in Plates A-1 through A-9. Soils were classified according to the Unified Soil Classification System, shown on Plate A-10.

Five monitoring well borings were drilled by All-Terrain Drilling and Pump Company of Roseville, California, using a tractor-mounted CME-450 drill rig. The borings were advanced with 12-inch O.D. hollow stem augers and ranged in depth from 7.0 to 30.0 feet. Relatively undisturbed soil samples were collected at each boring using a Dames & Moore U-type sampler. Samples were collected every 5 feet beginning at or near the surface for all borings except SC-1 and SC-2, where sampling was continuous.

The sampler was driven with a 140-lb. hammer falling 30 inches. Soil samples were collected in clean 3-inch long stainless steel tubes. Between each sample depth, the sampler was cleaned in a dilute solution of trisodium phosphate and rinsed twice in deionized water. In addition, all drilling and sampling equipment was steam-cleaned between borings.

Upon retrieval from the borehole, the sampler was disassembled and the sample was first screened for organic vapors with an Organic Vapor Analyzer (OVA) or Organic Vapor Monitor (OVM). The samples were then visually logged and classified as to soil type, color, moisture content, and visible evidence of contamination. The exposed ends of each brass sample tube were then covered with 2 mil Teflon sheeting, fitted with plastic end caps, sealed with tape and labeled.

Three sample tubes were typically recovered from each interval sampled. One or two of the sample tubes were placed in an ice chest for shipment to the analytical laboratory. The remaining soil samples were sent to the Dames & moore soils laboratory in San Francisco. Procedures for selecting samples for chemical analysis are discussed in Section 4.1 of this report.

The five shallow borings, GW-1 through GW-5, were completed as 4-inch diameter ground water monitoring wells using the following procedures:

- Following drilling and sampling, steam cleaned, flush threaded, capped, 4-inch diameter Schedule 40 PVC casing and well screen was installed in the boring through the hollow stem augers. The wells were completed with ten feet of 0.020-inch machine slotted screen and ten to fifteen feet of blank casing;

- Filter pack sand was deposited in the annular space between the wall of the borehole and the casing to a height of one to two feet above the top of the slotted section;

- Bentonite pellets were deposited on top of the filter pack sand to form a one- to two-foot thick seal;

- A bentonite-cement mixture was poured into the remaining annular space from the top of the bentonite layer to ground surface. A locked steel casing was placed over the capped well and was completed slightly above grade with a traffic-rated Christy box.

Monitoring Well Development Procedures

Following the installation of the five monitoring wells, each well was developed. Well development was conducted on August 28, 1989, by a Dames & Moore geologist or engineer. Wells were developed by a combination of surging and pumping until the water became relatively sediment free or at least ten casing volumes were removed.

Ground Water Sampling Procedures

Ground water samples were collected from each of the five newly installed wells on August 29, 1989. Prior to sampling, each well was purged until the measured temperature, pH, and conductivity attained stable values to assure that fresh formation water was entering the well. Wells were purged until three to five casing volumes of water were removed or until the well dewatered.

All five wells were purged using a suction pump with dedicated hose. Ground water samples were collected using dedicated disposable polypropylene bailers.

The ground water samples collected were submitted to Acculab Laboratory, Petaluma, California, for chemical analysis. Upon collection, the samples were labeled and stored on ice for same day courier pick-up and delivery to the laboratory. Proper chain-of-custody records were maintained for each samples. Section 3.2.2 in the main body of this report discusses ground water sampling and analysis.

Equipment Cleaning Procedures

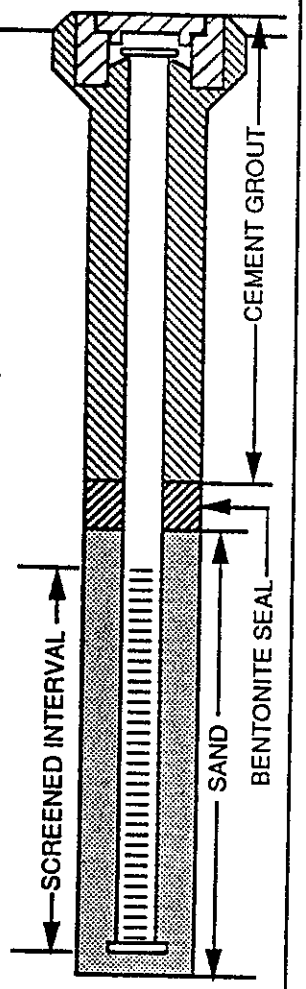
All drilling, soil sampling, and water sampling equipment was steam cleaned between drilling or sampling of each boring. The sampling equipment was also washed in a dilute TSP solution, rinsed in potable water, and then rinsed in distilled water. The waste wash and rinse water was then stored on-site in DOT-approved 55-gallon drums. Soil and fluid wastes generated during drilling and sampling activities were also stored on-site in 55-gallon drums until chemical analytical results are completed.

GW-1

DATE DRILLED: 8/22/89

ELEVATION: 15.39 Feet

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
0	U	31		CL	MOTTLED BLACK & OLIVE -GRAY SANDY GRAVELLY CLAY with fragments of red brick; poorly sorted (moist) (very stiff) [FILL]
5	U	44		OL	BLACK CLAY with pockets of greenish gray sandy gravel and red brick fragments (moist)
10	U	26		CL	MOTTLED GREENISH GRAY & BROWN SILTY CLAY with pockets of fine to medium subrounded sand; hydrocarbon odor (moist) (very stiff) [
15	U	51		SM	GREENISH GRAY SILTY SAND, very fine (moist) (dense)
				GP	GREENISH GRAY SANDY GRAVEL, coarse, well sorted, up to 1cm in diameter; subangular to subrounded; hydrocarbon odor (moist to wet) (dense)
20	U	40			
25	U	53			Grades dry to moist, very stiff
30					
35					



NOTES:

1. Boring completed at a depth of 25.5 feet on 8/22/89.
2. 4-inch PVC observation well installed to a depth of 24.5 feet; screened interval from 14.0 to 24.0 feet.
3. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
4. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
5. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-10.

LOG OF BORING

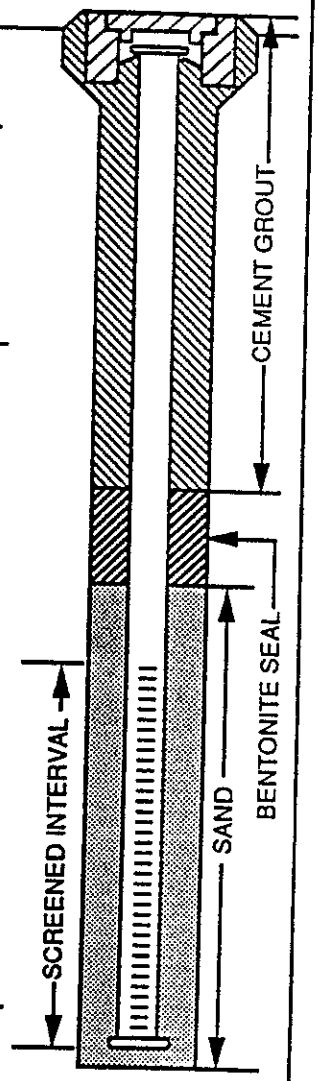
Dames & Moore

GW-2

DATE DRILLED: 8/24/89

ELEVATION: 13.17 Feet

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
0	U	19		SP	BLACK SAND, fine, well sorted, with strong hydrocarbon odor (moist)
5	U	34		OH	BLACK SILTY CLAY, hard, with strong hydrocarbon odor (moist)
10	U	30		SC	OLIVE GRAY CLAYEY SAND, fine, with pockets of gravel (moist) (dense)
15	U	19			Grades mottled gray-brown with some silt; strong odor (medium dense)
20	U	42			Grades without silt (wet) (dense)
25	U	31		CL	MOTTLED GRAY-BROWN SILTY CLAY with gravel (wet) (stiff)
30					
35					



NOTES:

1. Boring completed at a depth of 25.5 feet on 8/22/89.
2. 4-inch PVC observation well installed to a depth of 24.5 feet; screened interval from 14.0 to 24.0 feet.
3. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
4. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
5. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-10.

LOG OF BORING

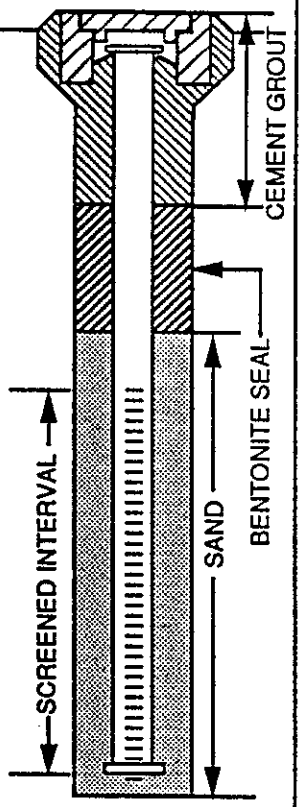
Dames & Moore

GW-3

DATE DRILLED: 8/22/89

ELEVATION: 11.63 Feet

DEPTH IN FEET	SAMPLES	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SYMBOLS	DESCRIPTION
0		U	—	GM	BROWN GRAVEL up to 2cm in diameter, angular (dry) [FILL]
				SM	GRAY SAND, clean, fine [FILL]
5					
		U	14	CL	MOTTLED OLIVE-GRAY & BLACK SANDY CLAY (moist) (stiff)
10				OL	BLACK SILTY CLAY with strong hydrocarbon odor (moist) (stiff)
				GP	GREENISH GRAY GRAVEL, up to 1 cm in diameter, well sorted, subangular (wet) (dense)
15		U	32	SW	BROWN GRAVELLY SAND, medium to coarse; no hydrocarbon odor (wet) (dense)
		U	26	CL	BROWN SILTY CLAY with small spherical rust nodules (wet)
20					
		U	20	SM/SW	GREENISH GRAY SILTY SAND TO GRAVELLY SAND (medium dense)
25					
30					
35					



NOTES:

1. Boring completed at a depth of 25.5 feet on 8/22/89.
2. 4-inch PVC observation well installed to a depth of 20.0 feet; screened interval from 9.5 to 19.5 feet.
3. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
4. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
5. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-10.

LOG OF BORING

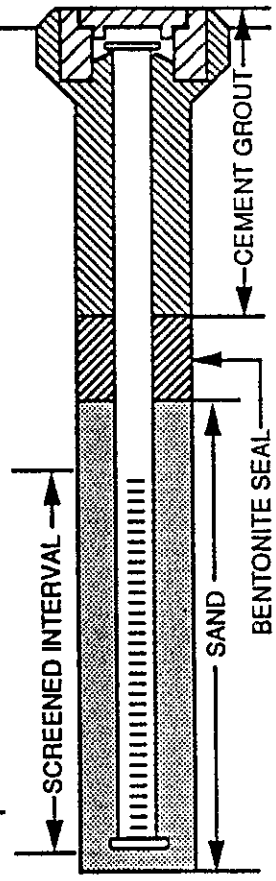
Dames & Moore

GW-4

DATE DRILLED: 8/23/89

ELEVATION: 11.70 Feet

DEPTH IN FEET	SAMPLES	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SYMBOLS	DESCRIPTION
0		U	29	OH	BROWN GRAVEL up to 2cm in diameter, angular (dry) [FILL]
5		U	36	GC	MOTTLED BLACK & OLIVE-GRAY CLAY with pockets of gravel (moist) (stiff)
10		U	70	CH	BROWN CLAY with small round black and rust colored inclusions (moist) (very stiff)
15		U	35		Grades wet
20		U	22	CL	SANDY BROWN CLAY, fine (wet) (very stiff)
25					
30					
35					



NOTES:

1. Boring completed at a depth of 20.5 feet on 8/23/89.
2. 4-inch PVC observation well installed to a depth of 22.0 feet; screened interval from 11.5 to 21.5 feet.
3. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
4. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
5. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-10.

LOG OF BORING

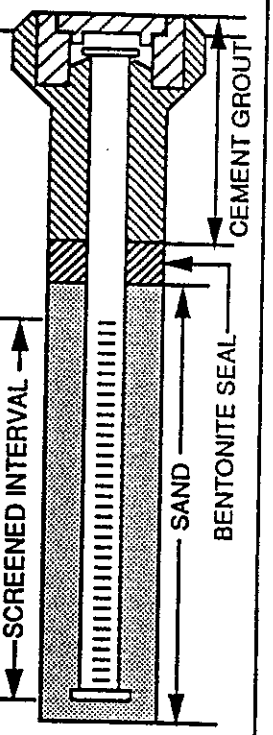
Dames & Moore

GW-5

DATE DRILLED: 8/21/89

ELEVATION: 17.78 Feet

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
0	U	21		GC	BROWNISH YELLOW GRAVELLY CLAY [FILL]
				CL	MOTTLED BLACK & OLIVE-GRAY CLAY with pockets of gravel (moist) (stiff)
5	U	31		CL	BROWN CLAY with small round black and rust colored inclusions (moist) (very stiff)
	U	51		GW	BROWNISH YELLOW SILTY SANDY GRAVEL, very coarse, poorly sorted (wet)
10					
15	U	51			Grades without silt, gravels subrounded up to 2cm
20					
25					
30					
35					



NOTES:

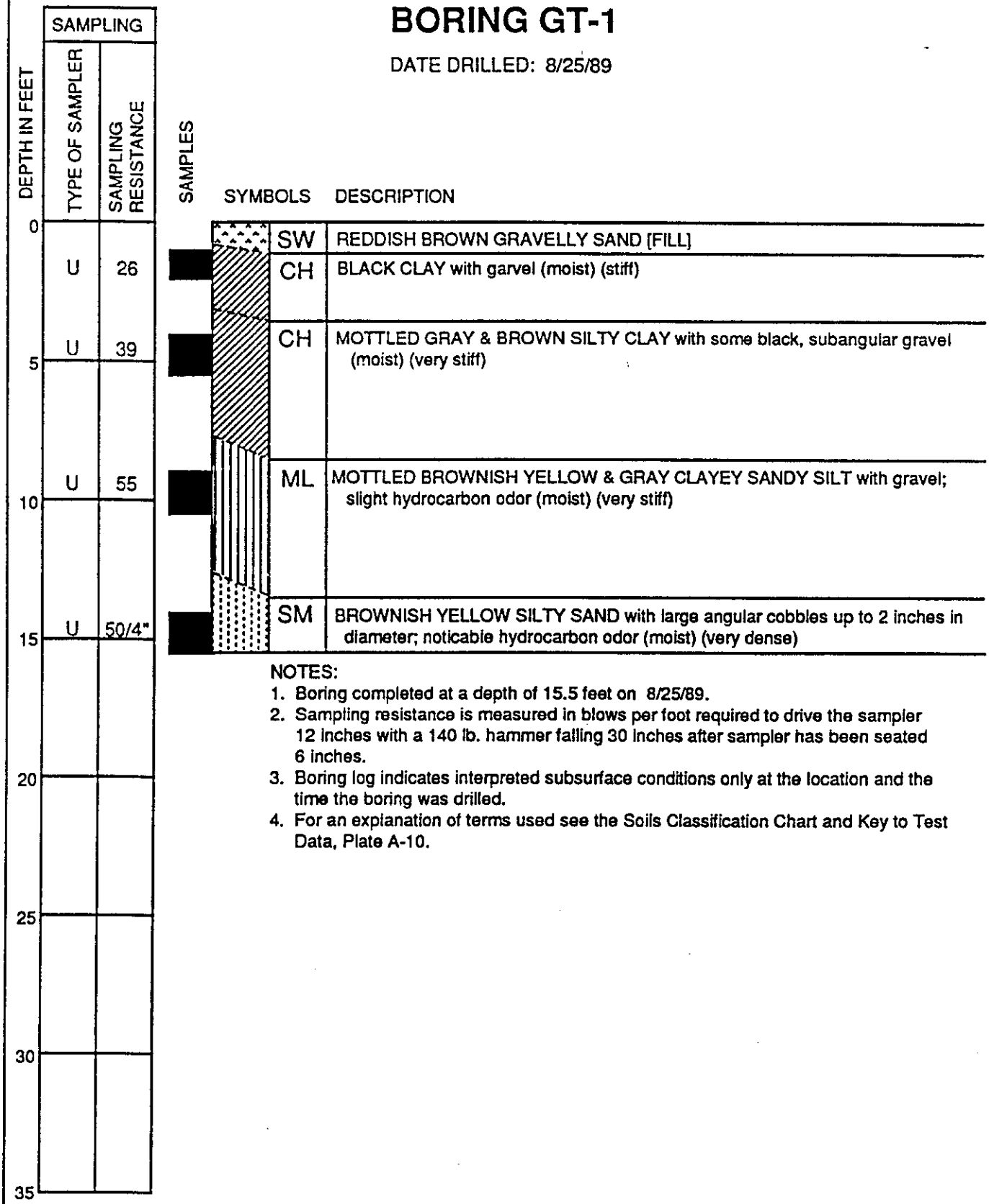
1. Boring completed at a depth of 18.0 feet on 8/21/89.
2. 4-inch PVC observation well installed to a depth of 18.0 feet; screened interval from 7.5 to 17.5 feet.
3. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
4. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
5. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-10.

LOG OF BORING

Dames & Moore

BORING GT-1

DATE DRILLED: 8/25/89



NOTES:

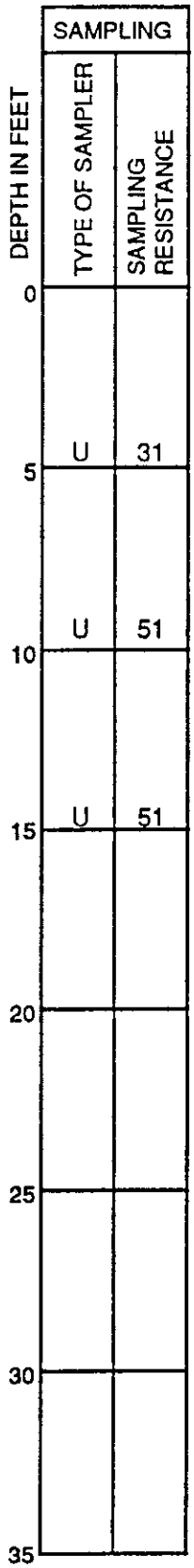
1. Boring completed at a depth of 15.5 feet on 8/25/89.
2. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
3. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
4. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-10.

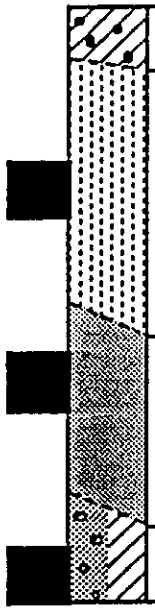
LOG OF BORING

Dames & Moore

BORING RT-1

DATE DRILLED: 8/24/89





SYMBOLS	DESCRIPTION
GC	BROWNISH YELLOW GRAVELLY CLAY [FILL]
SM	BROWN & BLACK SAND, fine, with clay (mosit) (medium dense)
GP	GRAY & BROWN SANDY GRAVEL TO GRAVELLY SAND, poorly sorted (moist)
GW / CL	BROWN SILTY GRAVEL TO BROWN CLAY, coarse, poorly graded (wet) (dense to stiff)

NOTES:

1. Boring completed at a depth of 18.0 feet on 8/21/89.
2. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
3. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
4. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-10.

LOG OF BORING

Dames & Moore

BORING SC-2

DATE DRILLED: 8/25/89

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
0	U	31		OL	MOTTLED BROWN & DARK GRAY SILTY CLAY (wet) (stiff)
	U	30			Grades with gravel, gray and black mottling
	U	41			Grades black (very stiff) [BAY MUD]
5	U	99			Grades gray to brown with subangular gravel up to 5cm in diameter (hard)
10					
15					
20					
25					
30					
35					

NOTES:

1. Boring completed at a depth of 7.0 feet on 8/25/89.
2. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
3. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
4. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-10.

LOG OF BORING

Dames & Moore

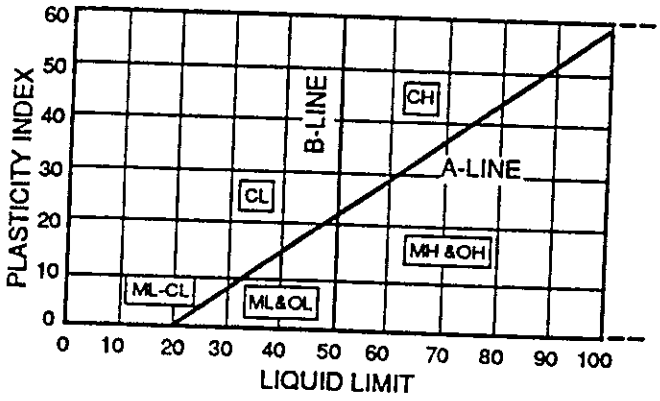
17693-003-043

PLATE A-9

UNIFIED SOIL CLASSIFICATION CHART

SYMBOL	LETTER	DESCRIPTION	MAJOR DIVISIONS			
	GW	WELL-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	CLEAN GRAVELS (LITTLE OR NO FINES)	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO.4 SIEVE SIZE	FOR VISUAL CLASSIFICATION, THE 1/4" SIZE MAY BE USED AS EQUIVALENT TO THE NO.4 SIEVE SIZE	COARSE-GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN NO.200 SIEVE SIZE
	GP	POORLY-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES				
	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)			
	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES				
	SW	WELL-GRADED SAND OR GRAVELLY SANDS, LITTLE OR NO FINES	CLEAN SANDS (LITTLE OR NO FINES)	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO.4 SIEVE SIZE		
	SP	POORLY-GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES				
	SM	SILTY SANDS, SAND-SILT MIXTURES	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)			
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES				
	ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	SILTS & CLAYS LIQUID LIMIT LESS THAN 50			FINE-GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO.200 SIEVE SIZE THE NO.200 U.S. STANDARD SIEVE IS ABOUT THE SMALLEST PARTICLE VISIBLE TO THE NAKED EYE
	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS				
	OL	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF LOW PLASTICITY				
	MH	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF LOW PLASTICITY	SILTS & CLAYS LIQUID LIMIT GREATER THAN 50			
	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS				
	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS				
	PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	HIGHLY ORGANIC SOILS			

PLASTICITY CHART



KEY TO SAMPLES

- INDICATES UNDISTURBED SAMPLES
- INDICATES DISTURBED SAMPLE
- INDICATES NO RECOVERY IN SAMPLE

KEY TO TEST DATA

- LV - LABORATORY VANE SHEAR TEST
- TV - TORVANE (PERFORMED IN FIELD)
- PP - POCKET PENETROMETER
- TXUU - TRIAXIAL COMPRESSION-UNCONSOLIDATED UNDRAINED
- DSCU - DIRECT SHEAR-CONSOLIDATED UNDRAINED
- AL - ATTERBERG LIMITS
- GSA - GRAIN SIZE ANALYSES
- C - CONSOLIDATION TEST

TYPES OF SOIL SAMPLERS

U - DAMES & MOORE TYPE "U" SAMPLER

SOIL CLASSIFICATION CHART AND KEY TO TEST DATA

Dames & Moore

Dames & Moore
FIELD RECORD OF WATER SAMPLING

WELL NO. GW-1 JOB NUMBER 17693-003-43

DEPTH OF WELL 24.5 CLIENT American Can Co.

CASING TYPE/DIAMETER 4" PVC LOCATION Oakland

BOREHOLE DIAMETER 12" SAMPLED BY: DEO

SCREENED INTERVAL 24 TO 14 SAND PACK INTERVAL 24.5 TO 13

REF. POINT ______ ELEVATION ______ DATUM ______

PURGING PRIOR TO SAMPLING

PURGING METHOD Bailer (PVC)

PUMP FLOW RATE ______

INITIAL WATER LEVEL 14.35 ONE CASING/BOREHOLE VOLUME (Gallons) ______

DATE	TIME	TEMP (°)	SPEC. COND.	pH	GALLONS REMOVED	EQUIVALENT CASING VOL.	COMMENTS (appearance of water, odor, etc.)
8/29	800	—	—	—	15		Strong HC odor – well dewatered
	1300	18	250	6.89	1		Strong HC odor
		16.5	305	7.02	6		
		20.0	340	7.10	8		
		19.5	345	7.22	10		
		20.0	34[illegible]	7.23	11		
							Well Dewatered again

RECORD OF SAMPLING

SAMPLING METHOD disposable bailer

DATE OF SAMPLE 8/29 TIME 1430 DEPTH OF SAMPLE ______

SAMPLE NO.	CONTAINER TYPES	ANALYSIS
GW-1	3 × VOAs	624 8015 gas
	1 × 1qt plastic	metals
	1 × 25 l amber	625 8015 diesel

TEMP. ______

SPEC. COND. ______

pH ______

COMMENTS: ______

Dames & Moore
FIELD RECORD OF WATER SAMPLING

WELL NO. GW-2 JOB NUMBER 17693.072.043

DEPTH OF WELL 27' CLIENT American Can

CASING TYPE/DIAMETER 4" PVC LOCATION Oakland

BOREHOLE DIAMETER 12" SAMPLED BY: Dave O'Rourke

SCREENED INTERVAL 26.5 TO 16.5 SAND PACK INTERVAL 27 TO 14.5

REF. POINT _____ ELEVATION _____ DATUM _____

PURGING PRIOR TO SAMPLING

PURGING METHOD Bailer Pump

PUMP FLOW RATE ~3 gpm

INITIAL WATER LEVEL 11.46 ONE CASING/BOREHOLE VOLUME (Gallons) 9

DATE	TIME	TEMP (°)	SPEC. COND.	pH	GALLONS REMOVED	EQUIVALENT CASING VOL.	COMMENTS (appearance of water, odor, etc.)
8/29	1110	20.0	225	7.07	1		Strong HC odor
		18	265	6.93	9		slight o.l. sheen
		20.0	270	6.92	14		grey/clear
		20.5	280	6.93	18		
Samples		20.5	255	6.93	27		

RECORD OF SAMPLING

SAMPLING METHOD Disposable bailer

DATE OF SAMPLE 8/29 TIME 1140 DEPTH OF SAMPLE _____

SAMPLE NO.	CONTAINER TYPES	ANALYSIS
GW-2	3 x VOA	624 soil gas
	1 x 2.5 liter amber	625 soil gas
	1 liter plastic	metals

TEMP. _____

SPEC. COND. _____

pH _____

COMMENTS: Took triplicate samples of GW-2 Filled —

Dames & Moore
FIELD RECORD OF WATER SAMPLING

WELL NO. GW-3 JOB NUMBER 17693.003 SP

DEPTH OF WELL 19'5" CLIENT American Can. Co

CASING TYPE/DIAMETER 4" PVC LOCATION Oakland

BOREHOLE DIAMETER 12" SAMPLED BY: Dave O'Rourke

SCREENED INTERVAL 19.5 TO 9.5' SAND PACK INTERVAL 19.5 TO 7'

REF. POINT ELEVATION DATUM

PURGING PRIOR TO SAMPLING

PURGING METHOD Bailer Pump

PUMP FLOW RATE ~~4 GPD~~

INITIAL WATER LEVEL 9.90' ONE CASING/BOREHOLE VOLUME (Gallons) 6.5

DATE	TIME	TEMP (°)	SPEC. COND.	pH	GALLONS REMOVED	EQUIVALENT CASING VOL.	COMMENTS (appearance of water, odor, etc.)
8/29	1022	19.5	150	7.13	1		Brown, no odor
		20.5	165	7.04	6		
		21.0	168	7.05	13		↓ Clearing
Sample		21.0	160	7.03	19		
	1						

RECORD OF SAMPLING

SAMPLING METHOD Disposable Bailer

DATE OF SAMPLE 8/29 TIME 1040 DEPTH OF SAMPLE

SAMPLE NO.	CONTAINER TYPES	ANALYSIS
GW-3	3 x VOAs	1,2 8015 gas
	1 Nitric Acidified	metals 11
	2.5 L amber	625 8015 diesel

TEMP.

SPEC. COND.

pH

COMMENTS:

Dames & Moore
FIELD RECORD OF WATER SAMPLING

WELL NO. GW-4 JOB NUMBER 17693.003.43

DEPTH OF WELL 22' CLIENT American Can Co.

CASING TYPE/DIAMETER 4" PVC LOCATION Oakland

BOREHOLE DIAMETER 12" SAMPLED BY: Dave Kouble

SCREENED INTERVAL 21.5 TO 11.5 SAND PACK INTERVAL 22 TO 9.5

REF. POINT _____ ELEVATION _____ DATUM _____

PURGING PRIOR TO SAMPLING

PURGING METHOD ~~Bailer~~ PVC Bailer

PUMP FLOW RATE —

INITIAL WATER LEVEL 10.20' ONE CASING/BOREHOLE VOLUME (Gallons) _____

DATE	TIME	TEMP (°)	SPEC. COND.	pH	GALLONS REMOVED	EQUIVALENT CASING VOL.	COMMENTS (appearance of water, odor, etc.)
8/29	1207	20.0	140	8.20	1		
		19.8	120	8.09	4		
		20.0	120	7.84	7		
		20.0	120	8.13	10		
		20	120	8.19	14		
		20.0	128	8.20	17		
	well	dewatered	@ 1230				

RECORD OF SAMPLING

SAMPLING METHOD disposable bailer

DATE OF SAMPLE 8/29/89 TIME 1240 DEPTH OF SAMPLE _____

SAMPLE NO.	CONTAINER TYPES	ANALYSIS
GW-4		

TEMP. _____

SPEC. COND. _____

pH _____

COMMENTS: _____

APPENDIX B

Dames & Moore
FIELD RECORD OF WATER SAMPLING

WELL NO. GW-5 JOB NUMBER 17693-003-43

DEPTH OF WELL 17.5' (from top of PVC CLIENT American Can Co.

CASING TYPE/DIAMETER 4" PVC LOCATION Oakland

BOREHOLE DIAMETER 12" SAMPLED BY: Dave O'Rourke

SCREENED INTERVAL 7' TO 17' SAND PACK INTERVAL 17.5 TO 5

REF. POINT _____ ELEVATION _____ DATUM _____

PURGING PRIOR TO SAMPLING

PURGING METHOD Ranjo Pump

PUMP FLOW RATE 4-5 gpm

INITIAL WATER LEVEL 9.32' ONE CASING/BOREHOLE VOLUME (Gallons) 5.3

DATE	TIME	TEMP (°)	SPEC. COND.	pH	GALLONS REMOVED	EQUIVALENT CASING VOL.	COMMENTS (appearance of water, odor, etc.)
8/29	905	17.5	40	6.45	1		light brown no odor
		19.0	90	6.93	4		↓
		19.0	100	6.85	8		↓ clearing up
		20.0	110	6.90	12		
		20.5	125	7.03	17		
Sample		20.5	130	17.04	18		

RECORD OF SAMPLING

SAMPLING METHOD Disposable bailer

DATE OF SAMPLE 8/29/89 TIME 945 DEPTH OF SAMPLE _____

SAMPLE NO.	CONTAINER TYPES	ANALYSIS
GW-5	1x2.5 liter amber	
	3x VOA	
	1 plastic	metals

TEMP. _____

SPEC. COND. _____

pH _____

COMMENTS: _____

APPENDIX E

APPENDIX B
LABORATORY DATA REPORTS

Dames & Moore
CHAIN OF CUSTODY RECORD
S.F. CA

JOB NO. 17693.023.043

PROJECT NAME: American Can Co

LOCATION: Oakland

SAMPLERS: (Signature) Dave Rourke

Phone Contact: B. Scarbrough
Dames & Moore: (415) 896-5858

DATE	TIME	SOIL OR WATER	COMP.	SINGLE	SAMPLE NO.	SOIL SAMPLES DEPTH (feet)	SOIL SAMPLES BORING NO.	NUMBER OF CONTAINERS	ANALYSES: EPA 8240 (include MEK & MIBK) + xylene	EPA 418.1	CAM metals					REMARKS
8/22	1500	S		X	1C	9'3"	GW-3	1	X	X						
8/23	1500	S		X	2C	5'3"	GW-4	1	X	X						
8/23	1400	S		X	2C	5'3"	GW-2	1	X	X						
8/23	1400	S		X	3C	10'3"	GW-2	1	X	X						
8/24	1200	S		X	1C	1'9"	RD-1	1	X		X					
8/24	1200	S		X	1C	1'9"	RD-2	1	X		X					
8/24	1200	S		X	1C	1'9"	RD-3	1	X		X					
8/23	1200	S		X	1C	2'3"	DS-1	1	X		X					
8/23	1200	S		X	1C	2'3"	DS-2	1	X		X					
8/23	1200	S		X	1C	2'3"	DS-3	1	X		X					
8/24	1500	S		X	1C	15'3"	RT-1	1	X							
8/24	1100	S		X	1C	2'3"	SP-1	1	X							
8/24	1100	S		X	1C	2'3"	SP-2	1	X							
8/24	1100	S		X	1C	2'3"	SP-3	1	X							
8/24	1100	S		X	1C	2'3"	SP-4	1	X							

B

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bill Scarbrough	8/24 18:25	Pat Burke			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks	

Dames & Moore
CHAIN OF CUSTODY RECORD (include MEK + Xylene)

JOB NO. 17693-003 04

PROJECT NAME: American Can Co

LOCATION: Oakland

SAMPLERS: (Signature) Dave [signature]

ANALYSES: EPA 8240

Phone Contact: Bruce Scarbrough
Dames & Moore: (415) 896-5858

DATE	TIME	SOIL OR WATER	COMP.	SINGLE	SAMPLE NO.	SOIL SAMPLES DEPTH (feet)	SOIL SAMPLES BORING NO.	NUMBER OF CONTAINERS	EPA 8240						REMARKS
8/24	1100	S		X	1C	2'3"	SP-5	1	X						

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bruce Scarbrough	8/24 18:25	Pat [signature]			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks	

Dames & Moore
CHAIN OF CUSTODY RECORD

JOB NO.

PROJECT NAME:

LOCATION: American Can Co. Oakland

SAMPLERS: (Signature) [signature]

Phone Contact: Bruce Scarbrough
Dames & Moore: (415) 896-5858

DATE	TIME	SOIL OR WATER	COMP.	SINGLE	SAMPLE NO.	SOIL SAMPLES DEPTH (feet)	SOIL SAMPLES BORING NO.	NUMBER OF CONTAINERS	EPA 8240 (include MEK & MIBK)	EPA 418.1					REMARKS
8/21/89	1100	S		X	1C	2'3"	GW-5	1							
"	1100	S		X	2C	5'3"	GW-5	1	X	X					(HOLD)
8/21/89	1500	S		X	2C	5'3"	GW-1	1	X	X					
	1500	S		X	3C	10'3"	GW-1	1	X	X					
	1500	S		X	4C	15'3"	GW-1	1	X	X					

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	8/22 450PM				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks	

Dames & Moore
CHAIN OF CUSTODY RECORD

JOB NO. 7693.023.43

PROJECT NAME: American Can Co.

LOCATION: Oakland

SAMPLERS: (Signature) Dave Dowle

Phone Contact: Bruce Scarbrough
Dames & Moore : (415) 896-5858

DATE	TIME	SOIL OR WATER	COMP.	SINGLE	SAMPLE NO.	SOIL SAMPLES DEPTH (feet)	SOIL SAMPLES BORING NO.	NUMBER OF CONTAINERS	ANALYSES: EPA Method 8015 mod. Gas (Gasoline + BTEX)	EPA Method 8020	organo lead (DHS Method)	EPA 5240 (plus 4 Xylenes) (MEK, MIBK)	EPA 418.1	REMARKS
8/25	1100	S		X	2C	5'3"	GT-1	1	X	X	X			HOLD
"	"	S		X	3C	10'3"	GT-1	1	X	X	X			
"	"	S		X	4B	15'0"	GT-1	1	X	X	X			HOLD
8/25	1000	S		X	2C	3'9"	SC-1	1				X	X	
"	"	S		X	3C	5'3"	SC-1	1				X	X	(HOLD)
8/25	900	S		X	2C	3'9"	SC-2	1				X	X	
"	"	S		X	3C	5'3"	SC-2	1				X	X	(HOLD)

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Dave Dowle	1450 8/25/89				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks	

Dames & Moore SF
CHAIN OF CUSTODY RECORD

NO.	PROJECT NAME: American Can Co.
93-023-43	LOCATION: Oakland

PLERS: (Signature) [signature]

Phone Contact: Bruce Scarbrough
Dames & Moore: (415) 896-5858

DATE	TIME	SOIL OR WATER	COMP.	SINGLE	SAMPLE NO.	SOIL SAMPLES DEPTH (feet)	SOIL SAMPLES BORING NO.	NUMBER OF CONTAINERS	ANALYSES: EPA 8240 (plus xylenes, MEK, MIBK)	EPA 418.1					REMARKS
/25	900	S		X	1C	2'3"	SC-1	1	X	X					
/25	1000	S		X	1C	2'3"	SC-2	1	X	X					

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	8/28/89 1000	Barbara Arant 8/29/89			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks

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Telephone: (707) 763-8245 FAX: (707) 763-4065

Bruce Scarborough
Dames & Moore
221 Main Street, Ste. 600
San Francisco, CA 94105

Client Code: DAME28
Survey # AM.CAN CO.
Project/Release # 17693-003-043

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962
Date Collected: 08/22/89
Date Received: 08/25/89
Date Analyzed: 09/06/89
Date Reported: 09/13/89

TOTAL PETROLEUM HYDROCARBONS(EPA 418.1)

MATRIX:SOIL

LABNO	SMPLNO	COMPOUND	FOUND mg/kg	DET.LIM. mg/kg
49445	GW3-1C	TPH	ND	6
49446	GW4-2C	TPH	ND	6
49447	GW2-2C	TPH	289	6
49448	GW2-3C	TPH	1,560	30

ANALYST:JAN TOISTER

THIS REPORT HAS BEEN REVIEWED
AND APPROVED FOR RELEASE

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962
Date Collected: 08/22/89
Date Received: 08/25/89
Date Analyzed: 09/05/89
Date Reported: 09/13/89

ARSENIC IN WASTE BY AA-GF 7060)
SELENIUM IN WASTE BY AA-G 7740)
MERCURY (AA FLAMELESS EPA 7470)

MATRIX:SOIL ,ACID DIGEST

LABNO	SMPLNO	COMPOUND	FOUND mg/kg	CA TTLC	DET.LIM. mg/kg
49449	RD-1-1C	AS	10.0	500	0.60
		SE	ND	100	0.60
		HG	0.076	20	0.040
49450	RD-2-1C	AS	7.82	500	0.60
		SE	ND	100	0.60
		HG	0.10	20	0.040
49451	RD-3-1C	AS	9.12	500	0.60
		SE	ND	100	0.60
		HG	0.34	20	0.040
49452	DS-1-1C	AS	10.0	500	0.60
		SE	ND	100	0.60
		HG	0.14	20	0.040
49453	DS-2-1C	AS	10.0	500	0.60
		SE	ND	100	0.60
		HG	0.20	20	0.040

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

LABNO	SMPLNO	COMPOUND	FOUND mg/kg	CA TTLC	DET.LIM. mg/kg
49454	DS-3-1C	AS	9.68	500	0.60
		SE	ND	100	0.60
		HG	0.25	20	0.040

ANALYST:PRECY ROBINSON

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L A B O R A T O R Y R E S U L T S

Date Collected: 08/22/89
Date Analyzed: 08/29/89

Laboratory Job No.: 893962
Date Received: 08/25/89
Date Reported: 09/13/89

ASSAY:METAL SCAN BY ICP(EPA 6010)

LABNO	SMPLNO-ID	RESULTS		CA TTLC	DET. LIM.	
49449	RD-1-1C SOIL					
	AG	ND		500	0.20	mg/kg
	BA	176	mg/kg	10,000	0.20	mg/kg
	BE	0.24	mg/kg	75	0.20	mg/kg
	CD	2.34	mg/kg	100	0.098	mg/kg
	CO	11.8	mg/kg	8,000	0.39	mg/kg
	CR	58.9	mg/kg	2,500	0.39	mg/kg
	CU	17.9	mg/kg	2,500	0.20	mg/kg
	MO	ND		3,500	0.39	mg/kg
	NI	80.6	mg/kg	2,000	0.98	mg/kg
	PB	7.5	mg/kg	1,000	0.98	mg/kg
	SB	ND		500	9.8	mg/kg
	TL	ND		700	3.9	mg/kg
	V	42.3	mg/kg	2,400	0.39	mg/kg
	ZN	34.7	mg/kg	5,000	0.20	mg/kg

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

LABNO	SMPLNO-ID		RESULTS			DET. LIM.	
49450	RD-2-1C SOIL						
		AG	ND		CA TTLC 500	0.20	mg/kg
		BA	121	mg/kg	10,000	0.20	mg/kg
		BE	0.25	mg/kg	75	0.20	mg/kg
		CD	2.51	mg/kg	100	0.099	mg/kg
		CO	15.9	mg/kg	8,000	0.40	mg/kg
		CR	74.6	mg/kg	2,500	0.40	mg/kg
		CU	428	mg/kg	2,500	0.20	mg/kg
		MO	ND		3,500	0.40	mg/kg
		NI	142	mg/kg	2,000	0.99	mg/kg
		PB	ND		1,000	0.99	mg/kg
		SB	ND		500	9.9	mg/kg
		TL	ND		700	4.0	mg/kg
		V	41.8	mg/kg	2,400	0.40	mg/kg
		ZN	212	mg/kg	5,000	0.20	mg/kg
49451	RD-3-1C SOIL						
		AG	ND		CA TTLC 500	0.20	mg/kg
		BA	111	mg/kg	10,000	0.20	mg/kg
		BE	ND		75	0.20	mg/kg
		CD	2.18	mg/kg	100	0.099	mg/kg
		CO	10.8	mg/kg	8,000	0.40	mg/kg
		CR	85.2	mg/kg	2,500	0.40	mg/kg
		CU	21.8	mg/kg	2,500	0.20	mg/kg
		MO	ND		3,500	0.40	mg/kg
		NI	163	mg/kg	2,000	0.99	mg/kg
		PB	ND		1,000	0.99	mg/kg
		SB	ND		500	9.9	mg/kg
		TL	ND		700	4.0	mg/kg
		V	36.2	mg/kg	2,400	0.40	mg/kg
		ZN	37.7	mg/kg	5,000	0.20	mg/kg

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

LABNO	SMPLNO-ID		RESULTS			DET. LIM.	
49452	DS-1-1C SOIL				CA TTLC		
		AG	ND		500	0.20	mg/kg
		BA	813	mg/kg	10,000	0.20	mg/kg
		BE	0.31	mg/kg	75	0.20	mg/kg
		CD	3.29	mg/kg	100	0.098	mg/kg
		CO	10.1	mg/kg	8,000	0.39	mg/kg
		CR	68.8	mg/kg	2,500	0.39	mg/kg
		CU	31.5	mg/kg	2,500	0.20	mg/kg
		MO	ND		3,500	0.39	mg/kg
		NI	108	mg/kg	2,000	0.98	mg/kg
		PB	142	mg/kg	1,000	0.98	mg/kg
		SB	ND		500	9.8	mg/kg
		TL	ND		700	3.9	mg/kg
		V	39.3	mg/kg	2,400	0.39	mg/kg
		ZN	136	mg/kg	5,000	0.20	mg/kg
49453	DS-2-1C SOIL				CA TTLC		
		AG	ND		500	0.20	mg/kg
		BA	412	mg/kg	10,000	0.20	mg/kg
		BE	0.35	mg/kg	75	0.20	mg/kg
		CD	3.29	mg/kg	100	0.099	mg/kg
		CO	13.2	mg/kg	8,000	0.40	mg/kg
		CR	71.1	mg/kg	2,500	0.40	mg/kg
		CU	126	mg/kg	2,500	0.20	mg/kg
		MO	ND		3,500	0.40	mg/kg
		NI	110	mg/kg	2,000	0.99	mg/kg
		PB	950	mg/kg	1,000	0.99	mg/kg
		SB	ND		500	9.9	mg/kg
		TL	ND		700	4.0	mg/kg
		V	40.1	mg/kg	2,400	0.40	mg/kg
		ZN	484	mg/kg	5,000	0.20	mg/kg

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

LABNO	SMPLNO-ID	RESULTS			DET. LIM.	
49454	DS-3-1C SOIL			CA TTLC		
	AG	ND		500	0.20	mg/kg
	BA	394	mg/kg	10,000	0.20	mg/kg
	BE	0.34	mg/kg	75	0.20	mg/kg
	CD	2.81	mg/kg	100	0.100	mg/kg
	CO	15.1	mg/kg	8,000	0.40	mg/kg
	CR	78.0	mg/kg	2,500	0.40	mg/kg
	CU	36.7	mg/kg	2,500	0.20	mg/kg
	MO	ND		3,500	0.40	mg/kg
	NI	143	mg/kg	2,000	1.00	mg/kg
	PB	109	mg/kg	1,000	1.00	mg/kg
	SB	ND		500	10.0	mg/kg
	TL	ND		700	4.0	mg/kg
	V	41.2	mg/kg	2,400	0.40	mg/kg
	ZN	1,130	mg/kg	5,000	0.20	mg/kg

ND=Not Detected
ANALYST:NANCY S.TESCHE

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L A B O R A T O R Y R E S U L T S

Date Collected: 08/22/89
Date Extracted: 09/08/89
Date Analyzed: 09/08/89

Laboratory Job No.: 893962
Date Received: 08/25/89
Date Reported: 09/13/89

PURGEABLES BY GC/MS(EPA8240)

COMPOUNDS:	LAB#	49445	DET.	49446	DET.	49447	DET.
	SMP#	GW-3-1C	LIM.	GW-4-2C	LIM.	GW-2-2C	LIM.
	dil.	100		1		1	
PURGEABLES		ug/kg		ug/kg		ug/kg	
BENZENE		ND	250.0	ND	2.5	9.0	2.5
BROMODICHLOROMETHANE		ND	250.0	ND	2.5	ND	2.5
BROMOFORM		ND	250.0	ND	2.5	ND	2.5
BROMOMETHANE		ND	250.0	ND	2.5	ND	2.5
CARBON TETRACHLORIDE		ND	250.0	ND	2.5	ND	2.5
CHLOROBENZENE		ND	250.0	ND	2.5	ND	2.5
CHLOROETHANE		ND	250.0	ND	2.5	ND	2.5
2-CHLOROETHYLVINYL ETHER		ND	500.0	ND	5.0	ND	5.0
CHLOROFORM		ND	250.0	ND	2.5	ND	2.5
CHLOROMETHANE		ND	250.0	ND	2.5	ND	2.5
DIBROMOCHLOROMETHANE		ND	250.0	ND	2.5	ND	2.5
1,2-DICHLOROBENZENE		ND	250.0	ND	2.5	ND	2.5
1,3-DICHLOROBENZENE		ND	250.0	ND	2.5	ND	2.5
1,4-DICHLOROBENZENE		ND	250.0	ND	2.5	ND	2.5
1,1-DICHLOROETHANE		ND	250.0	ND	2.5	ND	2.5
1,2-DICHLOROETHANE		ND	250.0	ND	2.5	ND	2.5
1,1-DICHLOROETHENE		ND	250.0	ND	2.5	ND	2.5
TRANS-1,2-DICHLOROETHENE		ND	250.0	ND	2.5	ND	2.5
1,2-DICHLOROPROPANE		ND	250.0	ND	2.5	ND	2.5
CIS-1,3-DICHLOROPROPENE		ND	250.0	ND	2.5	ND	2.5
TRANS-1,3-DICHLOROPROPENE		ND	250.0	ND	2.5	ND	2.5
ETHYL BENZENE		370	250.0	ND	2.5	ND	2.5
METHYLENE CHLORIDE		ND	250.0	ND	2.5	ND	2.5
1,1,2,2-TETRACHLOROETHANE		ND	250.0	ND	2.5	ND	2.5
TETRACHLOROETHENE		ND	250.0	ND	2.5	ND	2.5
TOLUENE		ND	250.0	ND	2.5	ND	2.5
1,1,1-TRICHLOROETHANE		ND	250.0	ND	2.5	ND	2.5
1,1,2-TRICHLOROETHANE		ND	250.0	ND	2.5	ND	2.5

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

COMPOUNDS:	LAB#	49445	DET.	49446	DET.	49447	DET.
	SMP#	GW-3-1C	LIM.	GW-4-2C	LIM.	GW-2-2C	LIM.
	dil.	100		1		1	
PURGEABLES		ug/kg		ug/kg		ug/kg	
TRICHLOROETHENE		ND	250.0	ND	2.5	ND	2.5
TRICHLOROFLUOROMETHANE		ND	250.0	ND	2.5	ND	2.5
VINYL CHLORIDE		ND	500.0	ND	5.0	ND	5.0
XYLENES		390	250.0	ND	2.5	4.7	2.5
ACETONE		ND	5000.0	ND	50.0	ND	50.0
2-BUTANONE		ND	500.0	ND	5.0	ND	5.0
CARBON DISULFIDE		ND	500.0	ND	5.0	ND	5.0
2-HEXANONE		ND	500.0	ND	5.0	ND	5.0
4-METHYL-2-PENTANONE		ND	500.0	ND	5.0	ND	5.0
STYRENE		ND	500.0	ND	5.0	ND	5.0
VINYL ACETATE		ND	500.0	ND	5.0	ND	5.0
SURROGATE RECOVERIES-QC							
1,2-DICHLOROETHANE-D4		115%		109%		84%	
TOLUENE-D8		109%		110%		107%	
4-BROMOFLUOROBENZENE		93%		101%		48%	

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

COMPOUNDS:	LAB#	49448	DET.	49449	DET.	49450	DET.
	SMP#	GW-2-3C	LIM.	RD-1-1C	LIM.	RD-2-1C	LIM.
	dil.	100		1		1	
PURGEABLES		ug/kg		ug/kg		ug/kg	
BENZENE		ND	250.0	ND	2.5	ND	2.5
BROMODICHLOROMETHANE		ND	250.0	ND	2.5	ND	2.5
BROMOFORM		ND	250.0	ND	2.5	ND	2.5
BROMOMETHANE		ND	250.0	ND	2.5	ND	2.5
CARBON TETRACHLORIDE		ND	250.0	ND	2.5	ND	2.5
CHLOROBENZENE		ND	250.0	ND	2.5	ND	2.5
CHLOROETHANE		ND	250.0	ND	2.5	ND	2.5
2-CHLOROETHYLVINYL ETHER		ND	500.0	ND	5.0	ND	5.0
CHLOROFORM		ND	250.0	ND	2.5	ND	2.5
CHLOROMETHANE		ND	250.0	ND	2.5	ND	2.5
DIBROMOCHLOROMETHANE		ND	250.0	ND	2.5	ND	2.5
1,2-DICHLOROBENZENE		ND	250.0	ND	2.5	ND	2.5
1,3-DICHLOROBENZENE		ND	250.0	ND	2.5	ND	2.5
1,4-DICHLOROBENZENE		ND	250.0	ND	2.5	ND	2.5
1,1-DICHLOROETHANE		ND	250.0	ND	2.5	ND	2.5
1,2-DICHLOROETHANE		ND	250.0	ND	2.5	ND	2.5
1,1-DICHLOROETHENE		ND	250.0	ND	2.5	ND	2.5
TRANS-1,2-DICHLOROETHENE		ND	250.0	ND	2.5	ND	2.5
1,2-DICHLOROPROPANE		ND	250.0	ND	2.5	ND	2.5
CIS-1,3-DICHLOROPROPENE		ND	250.0	ND	2.5	ND	2.5
TRANS-1,3-DICHLOROPROPENE		ND	250.0	ND	2.5	ND	2.5
ETHYL BENZENE		ND	250.0	ND	2.5	ND	2.5
METHYLENE CHLORIDE		ND	250.0	ND	2.5	ND	2.5
1,1,2,2-TETRACHLOROETHANE		ND	250.0	ND	2.5	ND	2.5
TETRACHLOROETHENE		ND	250.0	ND	2.5	ND	2.5
TOLUENE		ND	250.0	ND	2.5	ND	2.5
1,1,1-TRICHLOROETHANE		ND	250.0	ND	2.5	ND	2.5
1,1,2-TRICHLOROETHANE		ND	250.0	ND	2.5	ND	2.5
TRICHLOROETHENE		ND	250.0	ND	2.5	ND	2.5
TRICHLOROFLUOROMETHANE		ND	250.0	ND	2.5	ND	2.5
VINYL CHLORIDE		ND	500.0	ND	5.0	ND	5.0
XYLENES		ND	250.0	ND	2.5	ND	2.5
ACETONE		ND	5000.0	ND	50.0	ND	50.0

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

COMPOUNDS:	LAB#	49448	DET.	49449	DET.	49450	DET.
	SMP#	GW-2-3C	LIM.	RD-1-1C	LIM.	RD-2-1C	LIM.
	dil.	100		1		1	
PURGEABLES		ug/kg		ug/kg		ug/kg	
2-BUTANONE		ND	500.0	ND	5.0	ND	5.0
CARBON DISULFIDE		ND	500.0	ND	5.0	ND	5.0
2-HEXANONE		ND	500.0	ND	5.0	ND	5.0
4-METHYL-2-PENTANONE		ND	500.0	ND	5.0	ND	5.0
STYRENE		ND	500.0	ND	5.0	ND	5.0
VINYL ACETATE		ND	500.0	ND	5.0	ND	5.0
SURROGATE RECOVERIES-QC							
1,2-DICHLOROETHANE-D4		116%		133%		128%	
TOLUENE-D8		110%		102%		106%	
4-BROMOFLUOROBENZENE		82%		111%		112%	

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

COMPOUNDS:

PURGEABLES	LAB#	49451	DET.	49452	DET.	49453	DET.
	SMP#	RD-3-1C	LIM.	DS-1-1C	LIM.	DS-2-1C	LIM.
	dil.	1		1		100	
		ug/kg		ug/kg		ug/kg	
BENZENE		ND	2.5	ND	2.5	ND	250.0
BROMODICHLOROMETHANE		ND	2.5	ND	2.5	ND	250.0
BROMOFORM		ND	2.5	ND	2.5	ND	250.0
BROMOMETHANE		ND	2.5	ND	2.5	ND	250.0
CARBON TETRACHLORIDE		ND	2.5	ND	2.5	ND	250.0
CHLOROBENZENE		ND	2.5	ND	2.5	ND	250.0
CHLOROETHANE		ND	2.5	ND	2.5	ND	250.0
2-CHLOROETHYLVINYL ETHER		ND	5.0	ND	5.0	ND	500.0
CHLOROFORM		ND	2.5	ND	2.5	ND	250.0
CHLOROMETHANE		ND	2.5	ND	2.5	ND	250.0
DIBROMOCHLOROMETHANE		ND	2.5	ND	2.5	ND	250.0
1,2-DICHLOROBENZENE		ND	2.5	ND	2.5	ND	250.0
1,3-DICHLOROBENZENE		ND	2.5	ND	2.5	ND	250.0
1,4-DICHLOROBENZENE		ND	2.5	ND	2.5	ND	250.0
1,1-DICHLOROETHANE		ND	2.5	ND	2.5	ND	250.0
1,2-DICHLOROETHANE		ND	2.5	ND	2.5	ND	250.0
1,1-DICHLOROETHENE		ND	2.5	ND	2.5	ND	250.0
TRANS-1,2-DICHLOROETHENE		ND	2.5	ND	2.5	ND	250.0
1,2-DICHLOROPROPANE		ND	2.5	ND	2.5	ND	250.0
CIS-1,3-DICHLOROPROPENE		ND	2.5	ND	2.5	ND	250.0
TRANS-1,3-DICHLOROPROPENE		ND	2.5	ND	2.5	ND	250.0
ETHYL BENZENE		ND	2.5	ND	2.5	ND	250.0
METHYLENE CHLORIDE		ND	2.5	ND	2.5	320	250.0
1,1,2,2-TETRACHLOROETHANE		ND	2.5	ND	2.5	ND	250.0
TETRACHLOROETHENE		ND	2.5	ND	2.5	ND	250.0
TOLUENE		ND	2.5	ND	2.5	ND	250.0
1,1,1-TRICHLOROETHANE		ND	2.5	ND	2.5	ND	250.0
1,1,2-TRICHLOROETHANE		ND	2.5	ND	2.5	ND	250.0
TRICHLOROETHENE		ND	2.5	ND	2.5	ND	250.0
TRICHLOROFLUOROMETHANE		ND	2.5	ND	2.5	ND	250.0
VINYL CHLORIDE		ND	5.0	ND	5.0	ND	500.0
XYLENES		ND	2.5	ND	2.5	4300	250.0
ACETONE		ND	50.0	ND	50.0	ND	5000.0

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

COMPOUNDS:	LAB#	49451	DET.	49452	DET.	49453	DET.
	SMP#	RD-3-1C	LIM.	DS-1-1C	LIM.	DS-2-1C	LIM.
	dil.	1		1		100	
PURGEABLES		ug/kg		ug/kg		ug/kg	
2-BUTANONE		ND	5.0	ND	5.0	ND	500.0
CARBON DISULFIDE		ND	5.0	ND	5.0	ND	500.0
2-HEXANONE		ND	5.0	ND	5.0	ND	500.0
4-METHYL-2-PENTANONE		ND	5.0	ND	5.0	ND	500.0
STYRENE		ND	5.0	ND	5.0	ND	500.0
VINYL ACETATE		ND	5.0	ND	5.0	ND	500.0
SURROGATE RECOVERIES-QC							
1,2-DICHLOROETHANE-D4		131%		81%		113%	
TOLUENE-D8		105%		106%		111%	
4-BROMOFLUOROBENZENE		112%		89%		124%	

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

COMPOUNDS:	LAB#	49454	DET.	49455	DET.	49456	DET.
	SMP#	DS-3-1C	LIM.	RT-1-1C	LIM.	SP-1-1C	LIM.
	dil.	1		1		5	
PURGEABLES		ug/kg		ug/kg		ug/kg	
BENZENE		ND	2.5	ND	2.5	ND	12.5
BROMODICHLOROMETHANE		ND	2.5	ND	2.5	ND	12.5
BROMOFORM		ND	2.5	ND	2.5	ND	12.5
BROMOMETHANE		ND	2.5	ND	2.5	ND	12.5
CARBON TETRACHLORIDE		ND	2.5	ND	2.5	ND	12.5
CHLOROBENZENE		ND	2.5	ND	2.5	ND	12.5
CHLOROETHANE		ND	2.5	ND	2.5	ND	12.5
2-CHLOROETHYLVINYL ETHER		ND	5.0	ND	5.0	ND	25.0
CHLOROFORM		ND	2.5	ND	2.5	ND	12.5
CHLOROMETHANE		ND	2.5	ND	2.5	ND	12.5
DIBROMOCHLOROMETHANE		ND	2.5	ND	2.5	ND	12.5
1,2-DICHLOROBENZENE		ND	2.5	ND	2.5	ND	12.5
1,3-DICHLOROBENZENE		ND	2.5	ND	2.5	ND	12.5
1,4-DICHLOROBENZENE		ND	2.5	ND	2.5	ND	12.5
1,1-DICHLOROETHANE		ND	2.5	ND	2.5	ND	12.5
1,2-DICHLOROETHANE		ND	2.5	ND	2.5	ND	12.5
1,1-DICHLOROETHENE		ND	2.5	ND	2.5	ND	12.5
TRANS-1,2-DICHLOROETHENE		ND	2.5	ND	2.5	ND	12.5
1,2-DICHLOROPROPANE		ND	2.5	ND	2.5	ND	12.5
CIS-1,3-DICHLOROPROPENE		ND	2.5	ND	2.5	ND	12.5
TRANS-1,3-DICHLOROPROPENE		ND	2.5	ND	2.5	ND	12.5
ETHYL BENZENE		2.8	2.5	ND	2.5	180	12.5
METHYLENE CHLORIDE		ND	2.5	ND	2.5	ND	12.5
1,1,2,2-TETRACHLOROETHANE		ND	2.5	ND	2.5	ND	12.5
TETRACHLOROETHENE		ND	2.5	ND	2.5	ND	12.5
TOLUENE		ND	2.5	ND	2.5	ND	12.5
1,1,1-TRICHLOROETHANE		ND	2.5	ND	2.5	ND	12.5
1,1,2-TRICHLOROETHANE		ND	2.5	ND	2.5	ND	12.5
TRICHLOROETHENE		ND	2.5	ND	2.5	ND	12.5
TRICHLOROFLUOROMETHANE		ND	2.5	ND	2.5	ND	12.5
VINYL CHLORIDE		ND	5.0	ND	5.0	ND	25.0
XYLENES		19	2.5	ND	2.5	86	12.5
ACETONE		ND	50.0	ND	50.0	ND	250.0

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

COMPOUNDS:	LAB#	49454	DET.	49455	DET.	49456	DET.
	SMP#	DS-3-1C	LIM.	RT-1-1C	LIM.	SP-1-1C	LIM.
	dil.	1		1		5	
PURGEABLES		ug/kg		ug/kg		ug/kg	
2-BUTANONE		ND	5.0	ND	5.0	ND	25.0
CARBON DISULFIDE		ND	5.0	ND	5.0	ND	25.0
2-HEXANONE		ND	5.0	ND	5.0	ND	25.0
4-METHYL-2-PENTANONE		ND	5.0	ND	5.0	ND	25.0
STYRENE		ND	5.0	ND	5.0	ND	25.0
VINYL ACETATE		ND	5.0	ND	5.0	ND	25.0
SURROGATE RECOVERIES-QC							
1,2-DICHLOROETHANE-D4		134%		132%		92%	
TOLUENE-D8		94%		102%		105%	
4-BROMOFLUOROBENZENE		69%		95%		100%	

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

COMPOUNDS:	LAB#	49457	DET.	49458	DET.	49459	DET.
	SMP#	SP-2-1C	LIM.	SP-3-1C	LIM.	SP-4-1C	LIM.
	dil.	100		100		100	
PURGEABLES		ug/kg		ug/kg		ug/kg	
BENZENE		ND	250.0	ND	250.0	ND	250.0
BROMODICHLOROMETHANE		ND	250.0	ND	250.0	ND	250.0
BROMOFORM		ND	250.0	ND	250.0	ND	250.0
BROMOMETHANE		ND	250.0	ND	250.0	ND	250.0
CARBON TETRACHLORIDE		ND	250.0	ND	250.0	ND	250.0
CHLOROBENZENE		ND	250.0	ND	250.0	ND	250.0
CHLOROETHANE		ND	250.0	ND	250.0	ND	250.0
2-CHLOROETHYLVINYL ETHER		ND	500.0	ND	500.0	ND	500.0
CHLOROFORM		ND	250.0	ND	250.0	ND	250.0
CHLOROMETHANE		ND	250.0	ND	250.0	ND	250.0
DIBROMOCHLOROMETHANE		ND	250.0	ND	250.0	ND	250.0
1,2-DICHLOROBENZENE		ND	250.0	ND	250.0	ND	250.0
1,3-DICHLOROBENZENE		ND	250.0	ND	250.0	ND	250.0
1,4-DICHLOROBENZENE		ND	250.0	ND	250.0	ND	250.0
1,1-DICHLOROETHANE		ND	250.0	ND	250.0	ND	250.0
1,2-DICHLOROETHANE		ND	250.0	ND	250.0	ND	250.0
1,1-DICHLOROETHENE		ND	250.0	ND	250.0	ND	250.0
TRANS-1,2-DICHLOROETHENE		ND	250.0	ND	250.0	ND	250.0
1,2-DICHLOROPROPANE		ND	250.0	ND	250.0	ND	250.0
CIS-1,3-DICHLOROPROPENE		ND	250.0	ND	250.0	ND	250.0
TRANS-1,3-DICHLOROPROPENE		ND	250.0	ND	250.0	ND	250.0
ETHYL BENZENE		1800	250.0	560	250.0	2500	250.0
METHYLENE CHLORIDE		ND	250.0	ND	250.0	ND	250.0
1,1,2,2-TETRACHLOROETHANE		ND	250.0	ND	250.0	ND	250.0
TETRACHLOROETHENE		ND	250.0	ND	250.0	ND	250.0
TOLUENE		ND	250.0	ND	250.0	ND	250.0
1,1,1-TRICHLOROETHANE		ND	250.0	ND	250.0	ND	250.0
1,1,2-TRICHLOROETHANE		ND	250.0	ND	250.0	ND	250.0
TRICHLOROETHENE		ND	250.0	ND	250.0	ND	250.0
TRICHLOROFLUOROMETHANE		ND	250.0	ND	250.0	ND	250.0
VINYL CHLORIDE		ND	500.0	ND	500.0	ND	500.0
XYLENES		3500	250.0	2800	250.0	5100	250.0
ACETONE		ND	5000.0	ND	5000.0	ND	5000.0

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Telephone: (707) 763-8245 FAX: (707) 763-4065

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

COMPOUNDS:	LAB#	49457	DET.	49458	DET.	49459	DET.
	SMP#	SP-2-1C	LIM.	SP-3-1C	LIM.	SP-4-1C	LIM.
	dil.	100		100		100	
PURGEABLES		ug/kg		ug/kg		ug/kg	
2-BUTANONE		ND	500.0	ND	500.0	ND	500.0
CARBON DISULFIDE		ND	500.0	ND	500.0	ND	500.0
2-HEXANONE		ND	500.0	ND	500.0	ND	500.0
4-METHYL-2-PENTANONE		ND	500.0	ND	500.0	ND	500.0
STYRENE		ND	500.0	ND	500.0	ND	500.0
VINYL ACETATE		ND	500.0	ND	500.0	ND	500.0
SURROGATE RECOVERIES-QC							
1,2-DICHLOROETHANE-D4		124%		98%		105%	
TOLUENE-D8		109%		118%		115%	
4-BROMOFLUOROBENZENE		76%		111%		110%	

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

COMPOUNDS:	LAB#	49460	DET.
	SMP#	SP-5-1C	LIM.
	dil.	1	
PURGEABLES		ug/kg	
BENZENE		ND	2.5
BROMODICHLOROMETHANE		ND	2.5
BROMOFORM		ND	2.5
BROMOMETHANE		ND	2.5
CARBON TETRACHLORIDE		ND	2.5
CHLOROBENZENE		ND	2.5
CHLOROETHANE		ND	2.5
2-CHLOROETHYLVINYL ETHER		ND	5.0
CHLOROFORM		ND	2.5
CHLOROMETHANE		ND	2.5
DIBROMOCHLOROMETHANE		ND	2.5
1,2-DICHLOROBENZENE		ND	2.5
1,3-DICHLOROBENZENE		ND	2.5
1,4-DICHLOROBENZENE		ND	2.5
1,1-DICHLOROETHANE		ND	2.5
1,2-DICHLOROETHANE		ND	2.5
1,1-DICHLOROETHENE		ND	2.5
TRANS-1,2-DICHLOROETHENE		ND	2.5
1,2-DICHLOROPROPANE		ND	2.5
CIS-1,3-DICHLOROPROPENE		ND	2.5
TRANS-1,3-DICHLOROPROPENE		ND	2.5
ETHYL BENZENE		ND	2.5
METHYLENE CHLORIDE		ND	2.5
1,1,2,2-TETRACHLOROETHANE		ND	2.5
TETRACHLOROETHENE		ND	2.5
TOLUENE		ND	2.5
1,1,1-TRICHLOROETHANE		ND	2.5
1,1,2-TRICHLOROETHANE		ND	2.5
TRICHLOROETHENE		ND	2.5
TRICHLOROFLUOROMETHANE		ND	2.5
VINYL CHLORIDE		ND	5.0
XYLENES		10	2.5
ACETONE		ND	50.0

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893962

COMPOUNDS:	LAB#	49460	DET.
	SMP#	SP-5-1C	LIM.
	dil.	1	
PURGEABLES		ug/kg	
2-BUTANONE		ND	5.0
CARBON DISULFIDE		ND	5.0
2-HEXANONE		ND	5.0
4-METHYL-2-PENTANONE		ND	5.0
STYRENE		ND	5.0
VINYL ACETATE		ND	5.0
SURROGATE RECOVERIES-QC			
1,2-DICHLOROETHANE-D4		130%	
TOLUENE-D8		99%	
4-BROMOFLUOROBENZENE		88%	

ND: NOT DETECTED.

ANALYST:PAUL MILLS

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Bruce Scarborough
Dames & Moore
221 Main Street, Ste. 600
San Francisco, CA 94105

Client Code: DAME28
Survey # AM.GAS CO.

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893904
Date Received: 08/23/89
Date Reported: 09/11/89

Date Analyzed: 09/06/89

TOTAL PETROLEUM HYDROCARBONS(EPA 418.1)

MATRIX:SOIL

LABNO	SMPLNO	COMPOUND	FOUND mg/kg	DET.LIM. mg/kg
48890	GW5-2C	TPH	ND	6
48891	GW1-2C	TPH	130	6
48892	GW1-3C	TPH	138	6
48893	GW1-4C	TPH	464	6

ANALYST:JAN TOISTER

THIS REPORT HAS BEEN REVIEWED
AND APPROVED FOR RELEASE.

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893904
Date Extracted: 09/04/89
Date Analyzed: 09/05/89
Date Received: 08/23/89
Date Reported: 09/11/89

PURGEABLES BY GC/MS(EPA8240)

COMPOUNDS:	LAB#	48890	DET.	48891	DET.	48892	DET.
	SMP#	GW5-2C	LIM.	GW1-2C	LIM.	GW1-3C	LIM.
	dil.	1		5		100	
PURGEABLES		ug/kg		ug/kg		ug/kg	
BENZENE		ND	2.5	13	12.5	ND	250.0
BROMODICHLOROMETHANE		ND	2.5	ND	12.5	ND	250.0
BROMOFORM		ND	2.5	ND	12.5	ND	250.0
BROMOMETHANE		ND	2.5	ND	12.5	ND	250.0
CARBON TETRACHLORIDE		ND	2.5	ND	12.5	ND	250.0
CHLOROBENZENE		ND	2.5	ND	12.5	ND	250.0
CHLOROETHANE		ND	2.5	ND	12.5	ND	250.0
2-CHLOROETHYLVINYL ETHER		ND	5.0	ND	25.0	ND	500.0
CHLOROFORM		ND	2.5	ND	12.5	ND	250.0
CHLOROMETHANE		ND	2.5	ND	12.5	ND	250.0
DIBROMOCHLOROMETHANE		ND	2.5	ND	12.5	ND	250.0
1,2-DICHLOROBENZENE		ND	2.5	ND	12.5	ND	250.0
1,3-DICHLOROBENZENE		ND	2.5	ND	12.5	ND	250.0
1,4-DICHLOROBENZENE		ND	2.5	ND	12.5	ND	250.0
1,1-DICHLOROETHANE		ND	2.5	ND	12.5	ND	250.0
1,2-DICHLOROETHANE		ND	2.5	ND	12.5	ND	250.0
1,1-DICHLOROETHENE		ND	2.5	ND	12.5	ND	250.0
TRANS-1,2-DICHLOROETHENE		ND	2.5	ND	12.5	ND	250.0
1,2-DICHLOROPROPANE		ND	2.5	ND	12.5	ND	250.0
CIS-1,3-DICHLOROPROPENE		ND	2.5	ND	12.5	ND	250.0
TRANS-1,3-DICHLOROPROPENE		ND	2.5	ND	12.5	ND	250.0
ETHYL BENZENE		ND	2.5	ND	12.5	ND	250.0
METHYLENE CHLORIDE		ND	2.5	ND	12.5	ND	250.0
1,1,2,2-TETRACHLOROETHANE		ND	2.5	ND	12.5	ND	250.0
TETRACHLOROETHENE		ND	2.5	ND	12.5	ND	250.0
TOLUENE		ND	2.5	13	12.5	ND	250.0
1,1,1-TRICHLOROETHANE		ND	2.5	ND	12.5	ND	250.0
1,1,2-TRICHLOROETHANE		ND	2.5	ND	12.5	ND	250.0

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893904

COMPOUNDS:	LAB#	48890	DET.	48891	DET.	48892	DET.
	SMP#	GW5-2C	LIM.	GW1-2C	LIM.	GW1-3C	LIM.
	dil.	1		5		100	
PURGEABLES		ug/kg		ug/kg		ug/kg	
TRICHLOROETHENE		ND	2.5	120	12.5	ND	250.0
TRICHLOROFLUOROMETHANE		ND	2.5	ND	12.5	ND	250.0
VINYL CHLORIDE		ND	5.0	110	25.0	ND	500.0
XYLENES		ND	2.5	ND	12.5	ND	250.0
ACETONE		ND	50.0	ND	250.0	ND	5000.0
2-BUTANONE		ND	5.0	ND	25.0	ND	500.0
CARBON DISULFIDE		ND	5.0	ND	25.0	ND	500.0
2-HEXANONE		ND	5.0	ND	25.0	ND	500.0
4-METHYL-2-PENTANONE		ND	5.0	ND	25.0	ND	500.0
STYRENE		ND	5.0	ND	25.0	ND	500.0
VINYL ACETATE		ND	5.0	ND	25.0	ND	500.0
SURROGATE RECOVERIES-QC							
1,2-DICHLOROETHANE-D4		128%		128%		127%	
TOLUENE-D8		102%		108%		104%	
4-BROMOFLUOROBENZENE		106%		67%		84%	

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893904

COMPOUNDS:	LAB#	48893	DET.
	SMP#	GW1-4C	LIM.
	dil.	100	
PURGEABLES		ug/kg	
BENZENE		ND	250.0
BROMODICHLOROMETHANE		ND	250.0
BROMOFORM		ND	250.0
BROMOMETHANE		ND	250.0
CARBON TETRACHLORIDE		ND	250.0
CHLOROBENZENE		ND	250.0
CHLOROETHANE		ND	250.0
2-CHLOROETHYLVINYL ETHER		ND	500.0
CHLOROFORM		ND	250.0
CHLOROMETHANE		ND	250.0
DIBROMOCHLOROMETHANE		ND	250.0
1,2-DICHLOROBENZENE		ND	250.0
1,3-DICHLOROBENZENE		ND	250.0
1,4-DICHLOROBENZENE		ND	250.0
1,1-DICHLOROETHANE		ND	250.0
1,2-DICHLOROETHANE		ND	250.0
1,1-DICHLOROETHENE		ND	250.0
TRANS-1,2-DICHLOROETHENE		ND	250.0
1,2-DICHLOROPROPANE		ND	250.0
CIS-1,3-DICHLOROPROPENE		ND	250.0
TRANS-1,3-DICHLOROPROPENE		ND	250.0
ETHYL BENZENE		ND	250.0
METHYLENE CHLORIDE		ND	250.0
1,1,2,2-TETRACHLOROETHANE		ND	250.0
TETRACHLOROETHENE		ND	250.0
TOLUENE		ND	250.0
1,1,1-TRICHLOROETHANE		ND	250.0
1,1,2-TRICHLOROETHANE		ND	250.0
TRICHLOROETHENE		ND	250.0
TRICHLOROFLUOROMETHANE		ND	250.0
VINYL CHLORIDE		ND	500.0
XYLENES		650	250.0
ACETONE		ND	5000.0

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893904

COMPOUNDS:	LAB#	48893	DET.
	SMP#	GW1-4C	LIM.
	dil.	100	
PURGEABLES		ug/kg	
2-BUTANONE		ND	500.0
CARBON DISULFIDE		ND	500.0
2-HEXANONE		ND	500.0
4-METHYL-2-PENTANONE		ND	500.0
STYRENE		ND	500.0
VINYL ACETATE		ND	500.0
SURROGATE RECOVERIES-QC			
1,2-DICHLOROETHANE-D4		123%	
TOLUENE-D8		99%	
4-BROMOFLUOROBENZENE		57%	

ND: NOT DETECTED.

NOTE: THE 3RD SURROGATE RECOVERIES ARE LOW DUE TO THE HIGH AMOUNTS OF HYDROCARBONS PRESENT IN THE SAMPLES.

ANALYST:PAUL MILLS

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Bruce Scarborough
Dames & Moore
221 Main Street, Ste. 600
San Francisco, CA 94105

Client Code: DAME28
Survey # AM.CAN CO.
Project/Release # 17693-003-043

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894138
Date Extracted: 09/06/89
Date Received: 09/06/89
Date Analyzed: 09/08/89
Date Reported: 09/11/89

ASSAY:PCBS IN SOIL/WASTE (GC/ECD EPA 8080)
MATRIX:SOIL

LABNO	SMPLNO-ID	RESULTS		DET.LIM
50545	GW1-2C			
ARO42		0.43	ug/gm	0.029 ug/gm
ARO54		ND		0.029 ug/gm
ARO60		ND		0.029 ug/gm
50546	GW2-2C			
ARO42		0.38	ug/gm	0.030 ug/gm
ARO54		ND		0.030 ug/gm
ARO60		ND		0.030 ug/gm

ND=Not Detected
RESULTS FOR AROCHLORS WERE QUANTITATED AROCHLORS 1242,1254,AND 1260.
ANALYST:MARSHA MANIX

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE.

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Bruce Scarborough
Dames & Moore
221 Main Street, Ste. 600
San Francisco, CA 94105

Client Code: DAME28
Survey # AM. CAN CO.
Project/Release # 17693-003-43

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893966
Date Received: 08/25/89
Date Reported: 09/13/89

Date Analyzed: 09/06/89

TOTAL PETROLEUM HYDROCARBONS(EPA 418.1)

MATRIX:SOIL

LABNO	SMPLNO	COMPOUND	FOUND mg/kg	DET.LIM. mg/kg
49495	SC1-2C	TPH	3,200	60
49497	SC2-2C	TPH	ND	6

ANALYST:JAN TOISTER

THIS REPORT HAS BEEN REVIEWED AND APPROVED FOR RELEASE.

ACCUTEST ENVIRONMENTAL SERVICES

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893966
Date Received: 08/25/89
Date Reported: 09/13/89

Date Analyzed: 09/07/89

ORGANIC LEAD(AA-GRAPHITE FURNACE,SDH METHOD,LUFT MANUAL,1988)

MATRIX:SOIL ,XYLENE EXTRACT

LABNO	SMPLNO	COMPOUND	FOUND mg/kg	DET.LIM. mg/kg
49493	GT1-3C	PB	ND	0.010

ANALYST:PRECY ROBINSON

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893966
Date Received: 08/25/89
Date Reported: 09/13/89

Date Analyzed: 09/08/89

PURGEABLES BY GC/MS(EPA8240)

COMPOUNDS:	LAB#	49495	DET.	49497	DET.
	SMP#	SC1-2C	LIM.	SC2-2C	LIM.
PURGEABLES		ug/kg		ug/kg	
BENZENE		ND	2.5	ND	2.5
BROMODICHLOROMETHANE		ND	2.5	ND	2.5
BROMOFORM		ND	2.5	ND	2.5
BROMOMETHANE		ND	2.5	ND	2.5
CARBON TETRACHLORIDE		ND	2.5	ND	2.5
CHLOROBENZENE		ND	2.5	ND	2.5
CHLOROETHANE		ND	2.5	ND	2.5
2-CHLOROETHYLVINYL ETHER		ND	5.0	ND	5.0
CHLOROFORM		ND	2.5	ND	2.5
CHLOROMETHANE		ND	2.5	ND	2.5
DIBROMOCHLOROMETHANE		ND	2.5	ND	2.5
1,2-DICHLOROBENZENE		ND	2.5	ND	2.5
1,3-DICHLOROBENZENE		ND	2.5	ND	2.5
1,4-DICHLOROBENZENE		ND	2.5	ND	2.5
1,1-DICHLOROETHANE		ND	2.5	ND	2.5
1,2-DICHLOROETHANE		ND	2.5	ND	2.5
1,1-DICHLOROETHENE		ND	2.5	ND	2.5
TRANS-1,2-DICHLOROETHENE		ND	2.5	ND	2.5
1,2-DICHLOROPROPANE		ND	2.5	ND	2.5
CIS-1,3-DICHLOROPROPENE		ND	2.5	ND	2.5
TRANS-1,3-DICHLOROPROPENE		ND	2.5	ND	2.5
ETHYL BENZENE		ND	2.5	ND	2.5
METHYLENE CHLORIDE		ND	2.5	ND	2.5
1,1,2,2-TETRACHLOROETHANE		ND	2.5	ND	2.5
TETRACHLOROETHENE		ND	2.5	ND	2.5
TOLUENE		6.4	2.5	7.4	2.5
1,1,1-TRICHLOROETHANE		ND	2.5	ND	2.5
1,1,2-TRICHLOROETHANE		ND	2.5	ND	2.5
TRICHLOROETHENE		ND	2.5	ND	2.5

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893966

COMPOUNDS:	LAB#	49495	DET.	49497	DET.
	SMP#	SC1-2C	LIM.	SC2-2C	LIM.
PURGEABLES		ug/kg		ug/kg	
TRICHLOROFLUOROMETHANE		ND	2.5	ND	2.5
VINYL CHLORIDE		ND	5.0	ND	5.0
XYLENES		ND	2.5	3.0	2.5
ACETONE		ND	50.0	ND	50.0
2-BUTANONE		ND	5.0	ND	5.0
CARBON DISULFIDE		ND	5.0	ND	5.0
2-HEXANONE		ND	5.0	ND	5.0
4-METHYL-2-PENTANONE		ND	5.0	ND	5.0
STYRENE		ND	5.0	ND	5.0
VINYL ACETATE		ND	5.0	ND	5.0
SURROGATE RECOVERIES-QC					
1,2-DICHLOROETHANE-D4		82%		97%	
TOLUENE-D8		113%		111%	
4-BROMOFLUOROBENZENE		112%		100%	

ND: NOT DETECTED.

ANALYST:PAUL MILLS

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893966
Date Extracted: 08/29/89
Date Analyzed: 08/29/89
Date Received: 08/25/89
Date Reported: 09/13/89

ASSAY: TPH/GASOLINE/BTEX (EPA 5020/8015/8020
MATRIX: SOIL

LABNO	SMPLNO-ID	RESULTS	DET.LIM
49493	GT1-3C		
	GASOLINE	ND	1.0 mg/kg

ANALYST:ROBERT REMLINGER

ACCULAB
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Telephone: (707) 763-8245 FAX: (707) 763-4065

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 893966
Date Extracted: 08/29/89
Date Analyzed: 08/29/89
Date Received: 08/25/89
Date Reported: 09/13/89

ASSAY: TPH/GASOLINE/BTEX (EPA 5020/8015/8020)
MATRIX: SOIL

LABNO	SMPLNO-ID	RESULTS	DET.LIM
49493	GT1-3C		
	BENZENE	ND	0.040 mg/kg
	TOLUENE	ND	0.040 mg/kg
	ETHYLBENZENE	ND	0.040 mg/kg
	XYLENE	ND	0.040 mg/kg

ANALYST:ROBERT REMLINGER

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Bruce Scarborough
Dames & Moore
221 Main Street, Ste. 600
San Francisco, CA 94105

Client Code: DAME28
Survey # AM.CAN CO.
Project/Release # 17693-003-43

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894003
Date Received: 08/29/89
Date Reported: 09/13/89

Date Analyzed: 09/06/89

TOTAL PETROLEUM HYDROCARBONS(EPA 418.1)

MATRIX:SOIL

LABNO	SMPLNO	COMPOUND	FOUND mg/kg	DET.LIM. mg/kg
49668	SC-1-1C	TPH	ND	6
49669	SC-2-1C	TPH	ND	6

ANALYST:JAN TOISTER

THIS REPORT HAS BEEN REVIEWED
AND APPROVED FOR RELEASE.

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ENVIRONMENTAL SERVICES

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894003
Date Received: 08/29/89
Date Reported: 09/13/89

Date Analyzed: 09/08/89

PURGEABLES BY GC/MS(EPA8240)

COMPOUNDS: / LAB# / SMP#	49668 SC-1-1C ug/kg	DET. LIM.	49669 SC-2-1C ug/kg	DET. LIM.
PURGEABLES				
BENZENE	ND	2.5	ND	2.5
BROMODICHLOROMETHANE	ND	2.5	ND	2.5
BROMOFORM	ND	2.5	ND	2.5
BROMOMETHANE	ND	2.5	ND	2.5
CARBON TETRACHLORIDE	ND	2.5	ND	2.5
CHLOROBENZENE	ND	2.5	ND	2.5
CHLOROETHANE	ND	2.5	ND	2.5
2-CHLOROETHYLVINYL ETHER	ND	5.0	ND	5.0
CHLOROFORM	ND	2.5	ND	2.5
CHLOROMETHANE	ND	2.5	ND	2.5
DIBROMOCHLOROMETHANE	ND	2.5	ND	2.5
1,2-DICHLOROBENZENE	ND	2.5	ND	2.5
1,3-DICHLOROBENZENE	ND	2.5	ND	2.5
1,4-DICHLOROBENZENE	ND	2.5	ND	2.5
1,1-DICHLOROETHANE	ND	2.5	ND	2.5
1,2-DICHLOROETHANE	ND	2.5	ND	2.5
1,1-DICHLOROETHENE	ND	2.5	ND	2.5
TRANS-1,2-DICHLOROETHENE	ND	2.5	ND	2.5
1,2-DICHLOROPROPANE	ND	2.5	ND	2.5
CIS-1,3-DICHLOROPROPENE	ND	2.5	ND	2.5
TRANS-1,3-DICHLOROPROPENE	ND	2.5	ND	2.5
ETHYL BENZENE	ND	2.5	ND	2.5
METHYLENE CHLORIDE	ND	2.5	ND	2.5
1,1,2,2-TETRACHLOROETHANE	ND	2.5	ND	2.5
TETRACHLOROETHENE	ND	2.5	ND	2.5
TOLUENE	ND	2.5	ND	2.5
1,1,1-TRICHLOROETHANE	ND	2.5	ND	2.5
1,1,2-TRICHLOROETHANE	ND	2.5	ND	2.5
TRICHLOROETHENE	ND	2.5	ND	2.5

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894003

COMPOUNDS:	LAB#	49668	DET.	49669	DET.
	SMP#	SC-1-1C	LIM.	SC-2-1C	LIM.
PURGEABLES		ug/kg		ug/kg	
TRICHLOROFLUOROMETHANE		ND	2.5	ND	2.5
VINYL CHLORIDE		ND	5.0	ND	5.0
XYLENES		ND	2.5	ND	2.5
ACETONE		ND	50.0	ND	50.0
2-BUTANONE		ND	5.0	ND	5.0
CARBON DISULFIDE		ND	5.0	ND	5.0
2-HEXANONE		ND	5.0	ND	5.0
4-METHYL-2-PENTANONE		ND	5.0	ND	5.0
STYRENE		ND	5.0	ND	5.0
VINYL ACETATE		ND	5.0	ND	5.0
SURROGATE RECOVERIES-QC					
1,2-DICHLOROETHANE-D4		92%		94%	
TOLUENE-D8		123%		115%	
4-BROMOFLUOROBENZENE		129%		103%	

ND: NOT DETECTED.

ANALYST:PAUL MILLS

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Bruce Scarbrough
Dames & Moore
221 Main Street, Ste. 600
San Francisco, CA 94105

Client Code: DAME28
Survey #
Project/Release # AMER CAN OAKLAND 17693-003-43

L A B O R A T O R Y R E S U L T S

Date Collected: 08/29/89
Date Analyzed: 09/15/89

Laboratory Job No.: 894044
Date Received: 08/31/89
Date Reported: 10/03/89

ARSENIC BY AA/GF(EPA 7060)
SELENIUM(AA/GF ASSAY EPA 7740)
MERCURY (AA FLAMELESS EPA 7470)

MATRIX:WATER, ACID DIGEST

LABNO SMPLNO	COMPOUND	FOUND mg/L	DET.LIM. mg/L
49942 GW-5	AS	0.016	0.0050
	SE	0.0080	0.0050
	HG	0.00025	0.00010
49943 GW-3	AS	0.017	0.0050
	SE	ND	0.0050
	HG	0.00044	0.00010
49944 GW-2	AS	0.034	0.0050
	SE	ND	0.0050
	HG	ND	0.00010
49945 GW-7	AS	ND	0.0050
	SE	ND	0.0050
	HG	ND	0.00010
49946 GW-4	AS	ND	0.0050
	SE	ND	0.0050
	HG	ND	0.00010

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044

LABNO	SMPLNO	COMPOUND	FOUND mg/L	DET.LIM. mg/L
49947	GW-1	AS	0.0913	0.0050
		SE	ND	0.0050
		HG	0.00104	0.00010

ANALYST:PRECY ROBINSON

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044
Date Collected: 08/29/89
Date Received: 08/31/89
Date Analyzed: 09/01/89
Date Reported: 10/03/89

ASSAY:METAL SCAN BY ICP(EPA 6010)

LABNO	SMPLNO-ID	RESULTS		DET. LIM.	
49942	GW-5 WATER				
	AG	ND		0.010	mg/L
	BA	0.199	mg/L	0.010	mg/L
	BE	ND		0.010	mg/L
	CD	ND		0.0050	mg/L
	CO	ND		0.020	mg/L
	CR	0.029	mg/L	0.020	mg/L
	CU	0.095	mg/L	0.010	mg/L
	MO	ND		0.020	mg/L
	NI	0.070	mg/L	0.050	mg/L
	PB	ND		0.050	mg/L
	SB	ND		0.50	mg/L
	TL	ND		0.20	mg/L
	V	ND		0.020	mg/L
	ZN	0.076	mg/L	0.010	mg/L

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044

LABNO	SMPLNO-ID	RESULTS		DET. LIM.	
49943	GW-3 WATER				
	AG	ND		0.010	mg/L
	BA	0.460	mg/L	0.010	mg/L
	BE	ND		0.010	mg/L
	CD	0.0050	mg/L	0.0050	mg/L
	CO	0.034	mg/L	0.020	mg/L
	CR	0.095	mg/L	0.020	mg/L
	CU	0.056	mg/L	0.010	mg/L
	MO	ND		0.020	mg/L
	NI	0.26	mg/L	0.050	mg/L
	PB	ND		0.050	mg/L
	SB	ND		0.50	mg/L
	TL	ND		0.20	mg/L
	V	0.077	mg/L	0.020	mg/L
	ZN	0.127	mg/L	0.010	mg/L
49944	GW-2 WATER				
	AG	ND		0.010	mg/L
	BA	0.547	mg/L	0.010	mg/L
	BE	ND		0.010	mg/L
	CD	ND		0.0050	mg/L
	CO	ND		0.020	mg/L
	CR	ND		0.020	mg/L
	CU	ND		0.010	mg/L
	MO	0.026	mg/L	0.020	mg/L
	NI	ND		0.050	mg/L
	PB	ND		0.050	mg/L
	SB	ND		0.50	mg/L
	TL	ND		0.20	mg/L
	V	ND		0.020	mg/L
	ZN	0.033	mg/L	0.010	mg/L

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044

LABNO	SMPLNO-ID		RESULTS		DET. LIM.	
49945	GW-7 WATER					
		AG	ND		0.010	mg/L
		BA	0.579	mg/L	0.010	mg/L
		BE	ND		0.010	mg/L
		CD	ND		0.0050	mg/L
		CO	ND		0.020	mg/L
		CR	ND		0.020	mg/L
		CU	0.018	mg/L	0.010	mg/L
		MO	ND		0.020	mg/L
		NI	ND		0.050	mg/L
		PB	ND		0.050	mg/L
		SB	ND		0.50	mg/L
		TL	ND		0.20	mg/L
		V	ND		0.020	mg/L
		ZN	0.034	mg/L	0.010	mg/L
49946	GW-4 WATER					
		AG	ND		0.010	mg/L
		BA	0.119	mg/L	0.010	mg/L
		BE	ND		0.010	mg/L
		CD	ND		0.0050	mg/L
		CO	ND		0.020	mg/L
		CR	0.035	mg/L	0.020	mg/L
		CU	0.017	mg/L	0.010	mg/L
		MO	0.028	mg/L	0.020	mg/L
		NI	0.098	mg/L	0.050	mg/L
		PB	ND		0.050	mg/L
		SB	ND		0.50	mg/L
		TL	ND		0.20	mg/L
		V	0.029	mg/L	0.020	mg/L
		ZN	0.033	mg/L	0.010	mg/L

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044

LABNO	SMPLNO-ID	RESULTS		DET. LIM.	
49947	GW-1 WATER				
	AG	ND		0.010	mg/L
	BA	1.16	mg/L	0.010	mg/L
	BE	ND		0.010	mg/L
	CD	0.0088	mg/L	0.0050	mg/L
	CO	0.063	mg/L	0.020	mg/L
	CR	0.279	mg/L	0.020	mg/L
	CU	0.168	mg/L	0.010	mg/L
	MO	0.038	mg/L	0.020	mg/L
	NI	0.558	mg/L	0.050	mg/L
	PB	ND		0.050	mg/L
	SB	ND		0.50	mg/L
	TL	ND		0.20	mg/L
	V	0.214	mg/L	0.020	mg/L
	ZN	0.274	mg/L	0.010	mg/L

ND=Not Detected

ANALYST:NANCY S.TESCHE

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L A B O R A T O R Y R E S U L T S

Date Collected: 08/29/89
Date Extracted: 09/05/89
Date Analyzed: 10/02/89

Laboratory Job No.: 894044
Date Received: 08/31/89
Date Reported: 10/03/89

SEMIVOLATILES BY GC/MS(EPA 8270) WASTEWATER AND LIQUID WASTE

COMPOUNDS:	LAB#	49942	DET.	49943	DET.	49944	DET.
	SMP#	GW-5	LIM.	GW-3	LIM.	GW-2	LIM.
	dil.	1		1		1	
BNA		ug/L		ug/L		ug/L	
4-CHLORO-3-METHYLPHENOL		ND	4.0	ND	4.0	ND	4.0
2-CHLOROPHENOL		ND	4.0	ND	4.0	ND	4.0
2,4-DICHLOROPHENOL		ND	4.0	ND	4.0	ND	4.0
2,4-DIMETHYLPHENOL		ND	4.0	7.0	4.0	ND	4.0
2,4-DINITROPHENOL		ND	20.0	ND	20.0	ND	20.0
2-METHYL-4,6-DINITROPHENOL		ND	20.0	ND	20.0	ND	20.0
2-NITROPHENOL		ND	4.0	ND	4.0	ND	4.0
4-NITROPHENOL		ND	20.0	ND	20.0	ND	20.0
PENTACHLOROPHENOL		ND	20.0	ND	20.0	ND	20.0
PHENOL		ND	4.0	ND	4.0	ND	4.0
2,4,6-TRICHLOROPHENOL		ND	4.0	ND	4.0	ND	4.0
ACENAPHTHENE		ND	4.0	5.3	4.0	ND	4.0
ACENAPHTHYLENE		ND	4.0	ND	4.0	ND	4.0
ANTHRACENE		ND	4.0	4.7	4.0	ND	4.0
BENZO(a)ANTHRACENE		ND	4.0	ND	4.0	ND	4.0
BENZO(b)FLUORANTHENE		ND	4.0	ND	4.0	ND	4.0
BENZO(k)FLUORANTHENE		ND	4.0	ND	4.0	ND	4.0
BENZO(a)PYRENE		ND	4.0	ND	4.0	ND	4.0
BENZO(g,h,i)PERYLENE		ND	4.0	ND	4.0	ND	4.0
BENZIDINE		ND	20.0	ND	20.0	ND	20.0
BIS(2-CHLOROETHYL)ETHER		ND	4.0	ND	4.0	ND	4.0
BIS(2-CHLOROETHOXY)METHANE		ND	4.0	ND	4.0	ND	4.0
BIS(2-ETHYLHEXYL)PHTHALATE		ND	4.0	ND	4.0	ND	4.0
BIS(2-CHLOROISOPROPYL)ETHER		ND	4.0	ND	4.0	ND	4.0
4-BROMOPHENYL PHENYL ETHER		ND	4.0	ND	4.0	ND	4.0
BUTYL BENZYL PHTHALATE		ND	4.0	ND	4.0	ND	4.0
2-CHLORONAPHTHALENE		ND	4.0	ND	4.0	ND	4.0
4-CHLOROPHENYL PHENYL ETHER		ND	4.0	ND	4.0	ND	4.0

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044

COMPOUNDS:	LAB#	49942	DET.	49943	DET.	49944	DET.
	SMP#	GW-5	LIM.	GW-3	LIM.	GW-2	LIM.
	dil.	1		1		1	
BNA		ug/L		ug/L		ug/L	
CHRYSENE		ND	4.0	ND	4.0	ND	4.0
DIBENZO(a,h)ANTHRACENE		ND	4.0	ND	4.0	ND	4.0
DI-n-BUTYL PHTHALATE		ND	4.0	ND	4.0	ND	4.0
1,2-DICHLOROBENZENE		ND	4.0	ND	4.0	ND	4.0
1,3-DICHLOROBENZENE		ND	4.0	ND	4.0	ND	4.0
1,4-DICHLOROBENZENE		ND	4.0	ND	4.0	ND	4.0
3,3'-DICHLOROBENZIDINE		ND	10.0	ND	10.0	ND	10.0
DIETHYL PHTHALATE		ND	4.0	ND	4.0	ND	4.0
DIMETHYL PHTHALATE		ND	4.0	ND	4.0	ND	4.0
2,4-DINITROTOLUENE		ND	4.0	ND	4.0	ND	4.0
2,6-DINITROTOLUENE		ND	4.0	ND	4.0	ND	4.0
DIOCTYL PHTHALATE		ND	4.0	ND	4.0	ND	4.0
FLUORANTHENE		ND	4.0	ND	4.0	ND	4.0
FLUORENE		ND	4.0	ND	4.0	ND	4.0
HEXACHLOROBENZENE		ND	4.0	ND	4.0	ND	4.0
HEXACHLOROBUTADIENE		ND	4.0	ND	4.0	ND	4.0
HEXACHLOROETHANE		ND	4.0	ND	4.0	ND	4.0
HEXACHLOROCYCLOPENTADIENE		ND	20.0	ND	20.0	ND	20.0
INDENO(1,2,3-c,d)PYRENE		ND	4.0	ND	4.0	ND	4.0
ISOPHORONE		ND	4.0	ND	4.0	ND	4.0
NAPHTHALENE		ND	4.0	ND	4.0	ND	4.0
NITROBENZENE		ND	4.0	ND	4.0	ND	4.0
N-NITROSODIMETHYLAMINE		ND	4.0	ND	4.0	ND	4.0
N-NITROSODI-n-PROPYLAMINE		ND	4.0	ND	4.0	ND	4.0
N-NITROSODIPHENYLAMINE		ND	4.0	ND	4.0	ND	4.0
PHENANTHRENE		ND	4.0	18	4.0	ND	4.0
PYRENE		ND	4.0	6.5	4.0	ND	4.0
1,2,4-TRICHLOROBENZENE		ND	4.0	ND	4.0	ND	4.0
ANILINE		ND	4.0	ND	4.0	ND	4.0
BENZOIC ACID		ND	20.0	ND	20.0	ND	20.0
BENZYL ALCOHOL		ND	4.0	ND	4.0	ND	4.0
4-CHLOROANALINE		ND	4.0	ND	4.0	ND	4.0
DIBENZOFURAN		ND	4.0	ND	4.0	ND	4.0
2-METHYL-NAPHTHALENE		ND	4.0	ND	4.0	ND	4.0
2-METHYL-PHENOL		ND	20.0	ND	20.0	ND	20.0
4-METHYL-PHENOL		ND	20.0	5.0	20.0	ND	20.0
2-NITROANILINE		ND	4.0	ND	4.0	ND	4.0
3-NITROANILINE		ND	4.0	ND	4.0	ND	4.0

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044

COMPOUNDS:	LAB#	49942	DET.	49943	DET.	49944	DET.
	SMP#	GW-5	LIM.	GW-3	LIM.	GW-2	LIM.
	dil.	1		1		1	
BNA		ug/L		ug/L		ug/L	
4-NITROANILINE		ND	20.0	ND	20.0	ND	20.0
2,4,5-TRICHLOROPHENOL		ND	4.0	ND	4.0	ND	4.0
SURROGATE RECOVERIES (PERCENT)		-	-	-	-	-	-
PHENOL-D5		42		53		39	
2-FLUOROPHENOL		42		31		29	
NITROBENZENE-D5		60		63		43	
2-FLUOROBIPHENYL		58		67		54	
2,4,6-TRIBROMOPHENOL		38		45		39	
TERPHENYL-D14		43		40		38	

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LABORATORY RESULTS

Laboratory Job No.: 894044

COMPOUNDS:	LAB#	49945	DET.	49946	DET.	49947	DET.
	SMP#	GW-7	LIM.	GW-4	LIM.	GW-1	LIM.
	dil.	1		1		100	
BNA		ug/L		ug/L		ug/L	
4-CHLORO-3-METHYLPHENOL		ND	4.0	ND	4.0	ND	400.0
2-CHLOROPHENOL		ND	4.0	ND	4.0	ND	400.0
2,4-DICHLOROPHENOL		ND	4.0	ND	4.0	ND	400.0
2,4-DIMETHYLPHENOL		ND	4.0	ND	4.0	9000	400.0
2,4-DINITROPHENOL		ND	20.0	ND	20.0	ND	2000.0
2-METHYL-4,6-DINITROPHENOL		ND	20.0	ND	20.0	ND	2000.0
2-NITROPHENOL		ND	4.0	ND	4.0	ND	400.0
4-NITROPHENOL		ND	20.0	ND	20.0	ND	2000.0
PENTACHLOROPHENOL		ND	20.0	ND	20.0	ND	2000.0
PHENOL		ND	4.0	ND	4.0	ND	400.0
2,4,6-TRICHLOROPHENOL		ND	4.0	ND	4.0	ND	400.0
ACENAPHTHENE		ND	4.0	ND	4.0	ND	400.0
ACENAPHTHYLENE		ND	4.0	ND	4.0	ND	400.0
ANTHRACENE		ND	4.0	ND	4.0	ND	400.0
BENZO(a)ANTHRACENE		ND	4.0	ND	4.0	ND	400.0
BENZO(b)FLUORANTHENE		ND	4.0	ND	4.0	ND	400.0
BENZO(k)FLUORANTHENE		ND	4.0	ND	4.0	ND	400.0
BENZO(a)PYRENE		ND	4.0	ND	4.0	ND	400.0
BENZO(g,h,i)PERYLENE		ND	4.0	ND	4.0	ND	400.0
BENZIDINE		ND	20.0	ND	20.0	ND	2000.0
BIS(2-CHLOROETHYL)ETHER		ND	4.0	ND	4.0	ND	400.0
BIS(2-CHLOROETHOXY)METHANE		ND	4.0	ND	4.0	ND	400.0
BIS(2-ETHYLHEXYL)PHTHALATE		ND	4.0	ND	4.0	ND	400.0
BIS(2-CHLOROISOPROPYL)ETHER		ND	4.0	ND	4.0	ND	400.0
4-BROMOPHENYL PHENYL ETHER		ND	4.0	ND	4.0	ND	400.0
BUTYL BENZYL PHTHALATE		ND	4.0	ND	4.0	ND	400.0
2-CHLORONAPHTHALENE		ND	4.0	ND	4.0	ND	400.0
4-CHLOROPHENYL PHENYL ETHER		ND	4.0	ND	4.0	ND	400.0
CHRYSENE		ND	4.0	ND	4.0	ND	400.0
DIBENZO(a,h)ANTHRACENE		ND	4.0	ND	4.0	ND	400.0
DI-n-BUTYL PHTHALATE		ND	4.0	ND	4.0	ND	400.0
1,2-DICHLOROBENZENE		5.0	4.0	ND	4.0	ND	400.0
1,3-DICHLOROBENZENE		ND	4.0	ND	4.0	ND	400.0

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Telephone: (707) 763-8245 FAX: (707) 763-4065

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044

COMPOUNDS:	LAB#	49945	DET.	49946	DET.	49947	DET.
	SMP#	GW-7	LIM.	GW-4	LIM.	GW-1	LIM.
BNA	dil.	1	ug/L	1	ug/L	100	ug/L
1,4-DICHLOROBENZENE		ND	4.0	ND	4.0	ND	400.0
3,3'-DICHLOROBENZIDINE		ND	10.0	ND	10.0	ND	1000.0
DIETHYL PHTHALATE		ND	4.0	ND	4.0	ND	400.0
DIMETHYL PHTHALATE		ND	4.0	ND	4.0	ND	400.0
2,4-DINITROTOLUENE		ND	4.0	ND	4.0	ND	400.0
2,6-DINITROTOLUENE		ND	4.0	ND	4.0	ND	400.0
DIOCTYL PHTHALATE		ND	4.0	ND	4.0	ND	400.0
FLUORANTHENE		ND	4.0	ND	4.0	ND	400.0
FLUORENE		ND	4.0	ND	4.0	ND	400.0
HEXACHLOROBENZENE		ND	4.0	ND	4.0	ND	400.0
HEXACHLOROBUTADIENE		ND	4.C	ND	4.0	ND	400.0
HEXACHLOROETHANE		ND	4.0	ND	4.0	ND	400.0
HEXACHLOROCYCLOPENTADIENE		ND	4.0	ND	4.0	ND	400.0
INDENO(1,2,3-c,d)PYRENE		ND	20.0	ND	20.0	ND	2000.0
ISOPHORONE		ND	4.0	ND	4.0	ND	400.0
NAPHTHALENE		ND	4.0	ND	4.0	ND	400.0
NITROBENZENE		ND	4.0	ND	4.0	ND	400.0
N-NITROSODIMETHYLAMINE		ND	4.0	ND	4.0	ND	400.0
N-NITROSODI-n-PROPYLAMINE		ND	4.0	ND	4.0	ND	400.0
N-NITROSODIPHENYLAMINE		ND	4.0	ND	4.0	ND	400.0
PHENANTHRENE		ND	4.0	ND	4.0	ND	400.0
PYRENE		ND	4.0	ND	4.0	ND	400.0
1,2,4-TRICHLOROBENZENE		ND	4.0	ND	4.0	ND	400.0
ANILINE		ND	4.0	ND	4.0	ND	400.0
BENZOIC ACID		ND	20.0	ND	20.0	ND	2000.0
BENZYL ALCOHOL		ND	4.0	ND	4.0	ND	400.0
4-CHLOROANALINE		ND	4.0	ND	4.0	ND	400.0
DIBENZOFURAN		ND	4.0	ND	4.0	ND	400.0
2-METHYL-NAPHTHALENE		ND	4.0	ND	4.0	ND	400.0
2-METHYL-PHENOL		ND	20.0	ND	20.0	ND	2000.0
4-METHYL-PHENOL		ND	20.0	ND	20.0	2600	2000.0
2-NITROANILINE		ND	4.0	ND	4.0	ND	400.0
3-NITROANILINE		ND	4.0	ND	4.0	ND	400.0
4-NITROANILINE		ND	20.0	ND	20.0	ND	2000.0
2,4,5-TRICHLOROPHENOL		ND	4.0	ND	4.0	ND	400.0

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044

COMPOUNDS:	LAB#	49945	DET.	49946	DET.	49947	DET.
	SMP#	GW-7	LIM.	GW-4	LIM.	GW-1	LIM.
	dil.	1		1		100	
BNA		ug/L		ug/L		ug/L	
SURROGATE RECOVERIES (PERCENT)		-	-	-	-	-	-
PHENOL-D5		66		50		DO	
2-FLUOROPHENOL		55		43		DO	
NITROBENZENE-D5		65		60		DO	
2-FLUOROBIPHENYL		68		53		DO	
2,4,6-TRIBROMOPHENOL		60		58		DO	
TERPHENYL-D14		39		65		DO	

ND = NOT DETECTED

DO = THERE WERE NO SURROGATE RECOVERIES DUE TO THE DILUTION.

ANALYST:CAROLYN STUDENY

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L A B O R A T O R Y R E S U L T S

Date Collected: 08/29/89
Date Analyzed: 09/12/89

Laboratory Job No.: 894044
Date Received: 08/31/89
Date Reported: 10/03/89

PURGEABLES BY GC/MS(EPA8240) WASTEWATER OR LIQUID WASTE

COMPOUNDS:	LAB#	49942	DET.	49943	DET.	49944	DET.
	SMP#	GW-5	LIM.	GW-3	LIM.	GW-2	LIM.
	dil.	1		100		10	
PURGEABLES		ug/L		ug/L		ug/L	
BENZENE		ND	0.5	ND	50.0	19	5.0
BROMODICHLOROMETHANE		ND	0.5	ND	50.0	ND	5.0
BROMOFORM		ND	0.5	ND	50.0	ND	5.0
BROMOMETHANE		ND	0.5	ND	50.0	ND	5.0
CARBON TETRACHLORIDE		ND	0.5	ND	50.0	ND	5.0
CHLOROBENZENE		ND	0.5	ND	50.0	ND	5.0
CHLOROETHANE		ND	0.5	ND	50.0	ND	5.0
2-CHLOROETHYLVINYL ETHER		ND	5.0	ND	500.0	ND	50.0
CHLOROFORM		2.1	0.5	ND	50.0	ND	5.0
CHLOROMETHANE		ND	0.5	ND	50.0	ND	5.0
DIBROMOCHLOROMETHANE		ND	0.5	ND	50.0	ND	5.0
1,2-DICHLOROBENZENE		ND	0.5	ND	50.0	ND	5.0
1,3-DICHLOROBENZENE		ND	0.5	ND	50.0	ND	5.0
1,4-DICHLOROBENZENE		ND	0.5	ND	50.0	ND	5.0
1,1-DICHLOROETHANE		ND	0.5	ND	50.0	ND	5.0
1,2-DICHLOROETHANE		ND	0.5	ND	50.0	39	5.0
1,1-DICHLOROETHENE		ND	0.5	ND	50.0	ND	5.0
TRANS-1,2-DICHLOROETHENE		ND	0.5	ND	50.0	ND	5.0
1,2-DICHLOROPROPANE		ND	0.5	ND	50.0	ND	5.0
CIS-1,3-DICHLOROPROPENE		ND	0.5	ND	50.0	ND	5.0
TRANS-1,3-DICHLOROPROPENE		ND	0.5	ND	50.0	ND	5.0
ETHYL BENZENE		ND	0.5	ND	50.0	ND	5.0
METHYLENE CHLORIDE		ND	0.5	ND	50.0	ND	5.0
1,1,2,2-TETRACHLOROETHANE		ND	0.5	ND	50.0	ND	5.0
TETRACHLOROETHENE		ND	0.5	ND	50.0	ND	5.0
TOLUENE		ND	0.5	ND	50.0	ND	5.0
1,1,1-TRICHLOROETHANE		ND	0.5	ND	50.0	14	5.0
1,1,2-TRICHLOROETHANE		ND	0.5	ND	50.0	ND	5.0

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044

COMPOUNDS:	LAB#	49942	DET.	49943	DET.	49944	DET.
	SMP#	GW-5	LIM.	GW-3	LIM.	GW-2	LIM.
	dil.	1		100		10	
PURGEABLES		ug/L		ug/L		ug/L	
TRICHLOROETHENE		ND	0.5	ND	50.0	ND	5.0
TRICHLOROFLUOROMETHANE		ND	0.5	ND	50.0	ND	5.0
VINYL CHLORIDE		ND	1.0	ND	100.0	280	10.0
XYLENES		ND	0.5	8000	50.0	7.8	5.0
ACETONE		ND	10.0	ND	1000.0	ND	100.0
2-BUTANONE		ND	1.0	ND	100.0	ND	10.0
CARBON DISULFIDE		ND	1.0	ND	100.0	ND	10.0
2-HEXANONE		ND	1.0	ND	100.0	ND	10.0
4-METHYL-2-PENTANONE		ND	1.0	ND	100.0	ND	10.0
STYRENE		ND	1.0	ND	100.0	ND	10.0
VINYL ACETATE		ND	1.0	ND	100.0	ND	10.0
SURROGATE RECOVERIES-QC							
1,2-DICHLOROETHANE-D4		95%		105%		91%	
TOLUENE-D8		92%		90%		99%	
4-BROMOFLUOROBENZENE		100%		92%		77%	

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044

COMPOUNDS:	LAB#	49945	DET.	49946	DET.	49947	DET.
	SMP#	GW-7	LIM.	GW-4	LIM.	GW-1	LIM.
PURGEABLES	dil.	10		1		100	
		ug/L		ug/L		ug/L	
BENZENE		59	5.0	ND	0.5	380	50.0
BROMODICHLOROMETHANE		ND	5.0	ND	0.5	ND	50.0
BROMOFORM		ND	5.0	ND	0.5	ND	50.0
BROMOMETHANE		ND	5.0	ND	0.5	ND	50.0
CARBON TETRACHLORIDE		ND	5.0	ND	0.5	ND	50.0
CHLOROBENZENE		ND	5.0	ND	0.5	ND	50.0
CHLOROETHANE		31	5.0	ND	0.5	ND	50.0
2-CHLOROETHYLVINYL ETHER		ND	50.0	ND	5.0	ND	500.0
CHLOROFORM		ND	5.0	ND	0.5	ND	50.0
CHLOROMETHANE		ND	5.0	ND	0.5	ND	50.0
DIBROMOCHLOROMETHANE		ND	5.0	ND	0.5	ND	50.0
1,2-DICHLOROBENZENE		ND	5.0	ND	0.5	ND	50.0
1,3-DICHLOROBENZENE		ND	5.0	ND	0.5	ND	50.0
1,4-DICHLOROBENZENE		ND	5.0	ND	0.5	ND	50.0
1,1-DICHLOROETHANE		48	5.0	ND	0.5	ND	50.0
1,2-DICHLOROETHANE		ND	5.0	ND	0.5	ND	50.0
1,1-DICHLOROETHENE		ND	5.0	ND	0.5	ND	50.0
TRANS-1,2-DICHLOROETHENE		ND	5.0	ND	0.5	ND	50.0
1,2-DICHLOROPROPANE		ND	5.0	ND	0.5	ND	50.0
CIS-1,3-DICHLOROPROPENE		ND	5.0	ND	0.5	ND	50.0
TRANS-1,3-DICHLOROPROPENE		ND	5.0	ND	0.5	ND	50.0
ETHYL BENZENE		ND	5.0	ND	0.5	ND	50.0
METHYLENE CHLORIDE		ND	5.0	ND	0.5	ND	50.0
1,1,2,2-TETRACHLOROETHANE		ND	5.0	ND	0.5	ND	50.0
TETRACHLOROETHENE		ND	5.0	ND	0.5	ND	50.0
TOLUENE		41	5.0	ND	0.5	ND	50.0
1,1,1-TRICHLOROETHANE		ND	5.0	ND	0.5	580	50.0
1,1,2-TRICHLOROETHANE		ND	5.0	ND	0.5	ND	50.0
TRICHLOROETHENE		ND	5.0	ND	0.5	ND	50.0
TRICHLOROFLUOROMETHANE		ND	5.0	ND	0.5	ND	50.0
VINYL CHLORIDE		280	10.0	ND	1.0	260	100.0
XYLENES		12	5.0	ND	0.5	620	50.0
ACETONE		ND	100.0	ND	10.0	ND	1000.0

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044

COMPOUNDS:	LAB#	49945	DET.	49946	DET.	49947	DET.
	SMP#	GW-7	LIM.	GW-4	LIM.	GW-1	LIM.
	dil.	10		1		100	
PURGEABLES		ug/L		ug/L		ug/L	
2-BUTANONE		ND	10.0	ND	1.0	ND	100.0
CARBON DISULFIDE		ND	10.0	ND	1.0	ND	100.0
2-HEXANONE		ND	10.0	ND	1.0	ND	100.0
4-METHYL-2-PENTANONE		ND	10.0	ND	1.0	ND	100.0
STYRENE		ND	10.0	ND	1.0	ND	100.0
VINYL ACETATE		ND	10.0	ND	1.0	ND	100.0
SURROGATE RECOVERIES-QC							
1,2-DICHLOROETHANE-D4		110%		98%		124%	
TOLUENE-D8		104%		92%		90%	
4-BROMOFLUOROBENZENE		93%		96%		85%	

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044

COMPOUNDS:	LAB#	49948	DET.
	SMP#	GW-BLK	LIM.
	dil.	1	
PURGEABLES		ug/L	
BENZENE		ND	0.5
BROMODICHLOROMETHANE		ND	0.5
BROMOFORM		ND	0.5
BROMOMETHANE		ND	0.5
CARBON TETRACHLORIDE		ND	0.5
CHLOROBENZENE		ND	0.5
CHLOROETHANE		ND	0.5
2-CHLOROETHYLVINYL ETHER		ND	5.0
CHLOROFORM		ND	0.5
CHLOROMETHANE		ND	0.5
DIBROMOCHLOROMETHANE		ND	0.5
1,2-DICHLOROBENZENE		ND	0.5
1,3-DICHLOROBENZENE		ND	0.5
1,4-DICHLOROBENZENE		ND	0.5
1,1-DICHLOROETHANE		ND	0.5
1,2-DICHLOROETHANE		ND	0.5
1,1-DICHLOROETHENE		ND	0.5
TRANS-1,2-DICHLOROETHENE		ND	0.5
1,2-DICHLOROPROPANE		ND	0.5
CIS-1,3-DICHLOROPROPENE		ND	0.5
TRANS-1,3-DICHLOROPROPENE		ND	0.5
ETHYL BENZENE		ND	0.5
METHYLENE CHLORIDE		ND	0.5
1,1,2,2-TETRACHLOROETHANE		ND	0.5
TETRACHLOROETHENE		ND	0.5
TOLUENE		0.7	0.5
1,1,1-TRICHLOROETHANE		ND	0.5
1,1,2-TRICHLOROETHANE		ND	0.5
TRICHLOROETHENE		ND	0.5
TRICHLOROFLUOROMETHANE		ND	0.5
VINYL CHLORIDE		ND	1.0
XYLENES		ND	0.5
ACETONE		ND	10.0

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 894044

COMPOUNDS:	LAB#	49948	DET.
	SMP#	GW-BLK	LIM.
	dil.	1	
PURGEABLES		ug/L	
2-BUTANONE		ND	1.0
CARBON DISULFIDE		ND	1.0
2-HEXANONE		ND	1.0
4-METHYL-2-PENTANONE		ND	1.0
STYRENE		ND	1.0
VINYL ACETATE		ND	1.0
SURROGATE RECOVERIES-QC			
1,2-DICHLOROETHANE-D4		110%	
TOLUENE-D8		98%	
4-BROMOFLUOROBENZENE		96%	

ND: NOT DETECTED.

ANALYST:PAUL MILLS

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L A B O R A T O R Y R E S U L T S

Date Collected: 08/29/89
Date Extracted: 09/12/89
Date Analyzed: 09/12/89

Laboratory Job No.: 894044
Date Received: 08/31/89
Date Reported: 10/03/89

ASSAY: TPH/GASOLINE (EPA 5030/8015)
MATRIX: LIQUID

LABNO SMPLNO-ID	RESULTS	DET.LIM
49942 GW-5 GASOLINE	ND	0.05 mg/L
49943 GW-3 GASOLINE	39 mg/L	0.25 mg/L
49944 GW-2 GASOLINE	1.6 mg/L	0.50 mg/L
49945 GW-7 GASOLINE	2.1 mg/L	0.50 mg/L
49946 GW-4 GASOLINE	ND	0.05 mg/L
49947 GW-1 GASOLINE	11 mg/L	0.50 mg/L

ANALYST:ROBERT REMLINGER

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L A B O R A T O R Y R E S U L T S

Date Collected: 08/29/89
Date Extracted: 09/12/89
Date Analyzed: 09/12/89

Laboratory Job No.: 894044
Date Received: 08/31/89
Date Reported: 10/03/89

ASSAY: TPH/DIESEL (EPA 3510/8015)
MATRIX: WATER

LABNO SMPLNO-ID	RESULTS	DET.LIM
49942 GW-5 DIESEL	ND	0.075 mg/L
49943 GW-3 DIESEL	0.3 mg/L	0.075 mg/L
49944 GW-2 DIESEL	3.3 mg/L	0.075 mg/L
49945 GW-7 DIESEL	9.1 mg/L	0.075 mg/L
49946 GW-4 DIESEL	ND	0.075 mg/L
49947 GW-1 DIESEL	40 mg/L	0.075 mg/L

ANALYST:ROBERT REMLINGER

JOSEPH S. BESCA
Senior Remediation Specialist

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