**INTERNATIONAL GEOLOGIC**
ENVIRONMENTAL AND GEOLOGICAL SERVICES

2831 SYLHOWE ROAD, OAKLAND, CALIFORNIA 94602
PHONE (510) 530-8751 FAX (510) 530-8794



November 9, 1998
705-3.TRA

Ms. Susan Hugo
Alameda Health Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-9335

Subject: Letter of Transmittal for Third Quarter Groundwater Monitoring Report 705-3, for 1372 Ocean Avenue, Emeryville, California.

Ms. Hugo:

We are pleased to submit the enclosed report outlining the quarterly monitoring performed at the above mentioned property in September 1998.

If you have any questions or comments, please contact me at (510) 530-8751. Thank you.

Sincerely,
International Geologic

Steve Bittman

Steve Bittman
Project Manager

cc: Mr. Kevin Graves
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

Mr. Doug Ralston
Plant Insulation Company
1300 64th Street
Emeryville, California 94662

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# Third Quarter Groundwater Monitoring Report

## September 1998

## for
## 1372 Ocean Avenue
## Emeryville, California

Prepared by

**INTERNATIONAL GEOLOGIC**
**2831 Sylhowe Road**
**Oakland, California 94602**

October 23, 1998

**INTERNATIONAL GEOLOGIC**
ENVIRONMENTAL AND GEOLOGICAL SERVICES

2831 SYLHOWE ROAD, OAKLAND, CALIFORNIA 94602
PHONE (510) 530-8751 FAX (510) 530-8794

# Third Quarter Groundwater Monitoring Report

**September 1998**

**for**
**1372 Ocean Avenue**
**Emeryville, California**

## INTRODUCTION

The subject property is located at 1372 Ocean Avenue in Emeryville, California and is owned by the "Plant Insulation Company" of Emeryville, California (see site Vicinity Map, Figure 1). The site consists of a warehouse and adjoining storage yard built in 1955, and had been used by a trucking company during the 1950's and 1960's. A 2,500 square-foot concrete and asphalt surfaced storage yard adjoins the west side of an onsite warehouse building.

## BACKGROUND

### Excavation

During preparations for the sale of the property, a suspected former fuel dispenser island was identified against the west fence in the yard area, suggesting the possible existence of an underground storage tank (UST) beneath the property (see Figure 2, Site Plan/Project Area Map). Mr. Doug Ralston, President of Plant Insulation Company, had no knowledge of a UST beneath the property, and subsurface locating techniques utilized near the area of the apparent fuel dispenser island, failed to locate a tank.

Subsequently on March 31, 1997, the suspected UST and dispenser areas were investigated by exploration/excavation. During excavations that reached approximately 4 feet below the ground surface (bgs) in a 15 foot by 15 foot area, an abandoned supply line and large sections of broken concrete slab were brought to the surface, suggesting that at least one UST had been removed at some time prior to Plant Insulation Company's ownership of the property (approximately 1975).

On April 10, 1997, one soil sample was collected at a depth of 5.5 feet bgs, and one grab groundwater sample was collected at a depth of approximately 6.5 feet bgs from a hand-augured boring (B-1) in the excavation area (see Figure 2). The samples were laboratory analyzed for petroleum hydrocarbons as gasoline (TPHg) and diesel (TPHd), total and dissolved lead, and volatile and semi-volatile organic compounds. Analytical results of the soil sample indicated the presence of 150 parts per million (ppm) TPHg and 430 ppm TPHd. The groundwater sample contained 330 parts per billion (ppb) TPHg and 7,000 ppb TPHd. A soil sample collected from the former dispenser area at a depth of 2 feet bgs contained up to 210 ppm TPHd.

**Monitoring Well Installation/Sampling**

A requirement for a groundwater monitoring well to determine the extent of soil and groundwater contamination beneath the property, was set forth in a letter from the Alameda County Health Care Services Agency (ACHCSA) dated July 17, 1997.

On October 11, 1997, boring SB-1 was drilled to a depth of 16 feet bgs in a location about 9 feet in the inferred downgradient direction (to the west) of the former UST location. Laboratory analyses of soil samples collected from boring SB-1 indicated the presence of up to 180 ppm TPHg and 500 ppm TPHd at a depth of 5.5 feet bgs. Groundwater monitoring well MW-1 was constructed in boring SB-1 at the location shown on Figure 2. Laboratory analytical results of the initial groundwater sample collected from well MW-1 on October 19, 1997, are presented in Table 2.

Detailed descriptions regarding site history, the discovery of the former underground fuel tank location, monitoring well installation and laboratory analytical results of soil and groundwater samples collected on site, can be reviewed in the International Geologic Letter Report, Subsurface Investigation Related To A Suspected Underground Storage Tank Location, For 1372 Ocean Avenue, Emeryville, California (May 7, 1997), and in the International Geologic Report, Groundwater Monitoring Well Installation Report For 1372 Ocean Avenue, Emeryville, California December 12, 1997.

**Hydrogeology**

The direction of groundwater flow beneath the general area of the site has been most recently calculated to be toward the west. This direction was calculated by Hageman/Aguiar Inc., during the monitoring of three wells in August 1996 at the adjacent property to the west at 6460 Hollis Street (Hageman/Aguiar 10/4/96).

The depth to first encountered groundwater as measured during the drilling of boring SB-1, was approximately 7.5 feet bgs. Depth to groundwater measurements in well MW-1 are compiled in Table 1 below.

**TABLE 1**
**DEPTH TO GROUNDWATER IN WELL MW-1**
(Measured From Top of Well Casing)
1372 Ocean Avenue
Emeryville, California

| DATE | TIME OF DAY | DEPTH TO WATER |
|---|---|---|
| October 12, 1997 | 15:00 | 4.09 feet |
| October 19, 1997 | 14:00 | 4.38 feet |
| March 6, 1998 | 13:00 | 3.12 feet |
| June 21, 1998 | 9:30 | 4.38 feet |
| September 18, 1998 | 14:15 | 4.91 feet |

## GROUNDWATER SAMPLE COLLECTION AND LABORATORY ANALYSES

### Groundwater Sample Collection

A groundwater sample was collected from well MW-1 on September 18, 1998. Field procedures used by International Geologic during well sampling procedures, including a well sampling data sheet, are presented in Attachment 1 to this report.

### Analytical Laboratory Methods/Results

Laboratory analyses were performed at McCampbell Analytical, Inc., in Pacheco, California (DHS Certified Number 1644). The groundwater sample was analyzed for the following:

- TPHg, BTEX, and MTBE by EPA Test Method 8015/8020/5030.
- TPHd by EPA Test Method 8015/3550.
- VOCs by EPA Test Method 8010/601.

Laboratory results of the groundwater sample collected from well MW-1 are shown in Table 2 on the following page. The sample chain of custody record and laboratory data sheets are presented in Attachment 2.

**TABLE 2**
**CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES**
1372 Ocean Avenue
Emeryville, California

| Compound | Sample Date 10/19/97 | Sample Date 3/6/98 | Sample Date 6/21/98 | **Sample Date 9/18/98** |
|---|---|---|---|---|
| TPHg | <50 | 57 [a] | 65 [ad] | **<50** |
| TPHd | 120 [b] | 120 [b] | 180 [cd] | **82** [b] |
| MTBE | <5.0 | <5.0 | 7.1 | **<5.0** |
| Benzene | <0.5 | <0.5 | <0.5 | **<0.5** |
| Toluene | <0.5 | <0.5 | <0.5 | **<0.5** |
| Ethylbenzene | <0.5 | <0.5 | <0.5 | **<0.5** |
| Xylenes | <0.5 | <0.5 | <0.5 | **<0.5** |
| 1,1- Dichloroethene | 0.57 | <3.0 | <2.0 | **<3** |
| cis 1,2-Dichloroethene | 12 | 16 | 17 | **17** |
| trans 1,2-Dichloroethene | 2.2 | <3.0 | 2.1 | **<3** |
| Tetrachloroethene | 6.0 | <3.0 | <3.0 | **<3** |
| Trichloroethene | 41 | 82 | 78 | **86** |
| Trichlorflouromethane | 2.5 | 3.8 | <2.0 | **<3** |
| Vinyl Chloride | 1.1 | 3.0 | 2.2 | **3.4** |

**Results expressed in parts per billion (ppb).**
TPHg: Total petroleum hydrocarbons as gasoline.
TPHd: Total petroleum hydrocarbons as diesel.
MTBE: Methyl-Tertiary-Butyl-Ether.
a: One to a few isolated peaks present
b: Diesel range compounds are significant; no recognizable pattern.
c: Oil range compounds are significant.
d: Liquid sample that contains approx. 5% sediment.

## FINDINGS

1) TPHg was not detected above the laboratory detection limit of 50 ppb in the groundwater sample collected from well MW-1 in September 1998. This represents a decrease as compared to the concentration of 65 ppb TPHg detected in June 1998. BTEX compounds were not detected in the groundwater sample for the current quarter, or in previous samplings.

2) MTBE was not detected above the laboratory detection limit of 5 ppb in the groundwater sample collected from well MW-1. This represents a decrease as compared to the concentration of 7.1 ppb TPHg detected in June 1998. This compound was not detected in the October 1997 or March 1998 samples.

3) 82 ppb TPHd was present in the groundwater sample collected from well MW-1 in September 1998, which represents a decrease as compared with the June 1998 results of 180 ppb TPHd.

4) VOCs detected in the groundwater sample collected from well MW-1 in September 1998 increased slightly for two compounds as compared to the June 1998 results. Concentrations of Trichloroethene increased from 78 ppb to 86 ppb, and Vinyl Chloride increased form 2.2 ppb to 3.4 ppb. Other detected VOCs showed no significant change as compared to previous quarterly results.

## RECOMMENDATIONS

1) Groundwater samples should continue to be collected from well MW-1 on a quarterly schedule during this year- December 1998.

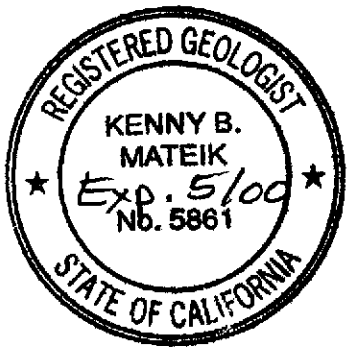
2) Groundwater samples collected from well MW-1 should be analyzed at a laboratory certified by the state of California, for TPHg/BTEX/MTBE using EPA Method 8015/8020/5030, TPHd using EPA Test Method 8015/3550, and for VOCs using EPA Test Method 601.

3) A quarterly letter report should be prepared documenting field observations and laboratory results. The report should be signed by a geologist registered by the state of California.

4) If hydrocarbon and VOC concentrations remain constant or decrease after the one year monitoring period, site closure should be granted.

## CERTIFICATION

We certify that the work presented in this report was performed under our supervision. To the best of our knowledge, the data contained herein are true and accurate, and the work was performed in accordance with professional standards.




Steve Bittman 10/23/98
Steve Bittman Date
Project Manager

Ken Mateik 10/23/98
Ken Mateik Date
CA Registered Geologist No. 5861

## REFERENCES

Alameda County Health Care Services Agency, Department of Environmental Health. Letter to Mr. Frank DeWolfe, Subject: Confirmation of Closure For Ten USTs at RIX Industries, 6460 Hollis Street, Emeryville, California. May 3, 1995.

Hageman/Aquiar Inc. Quarterly Groundwater Sampling Report for RIX Industries, 6460 Hollis Street, Emeryville, California. October 4, 1996.

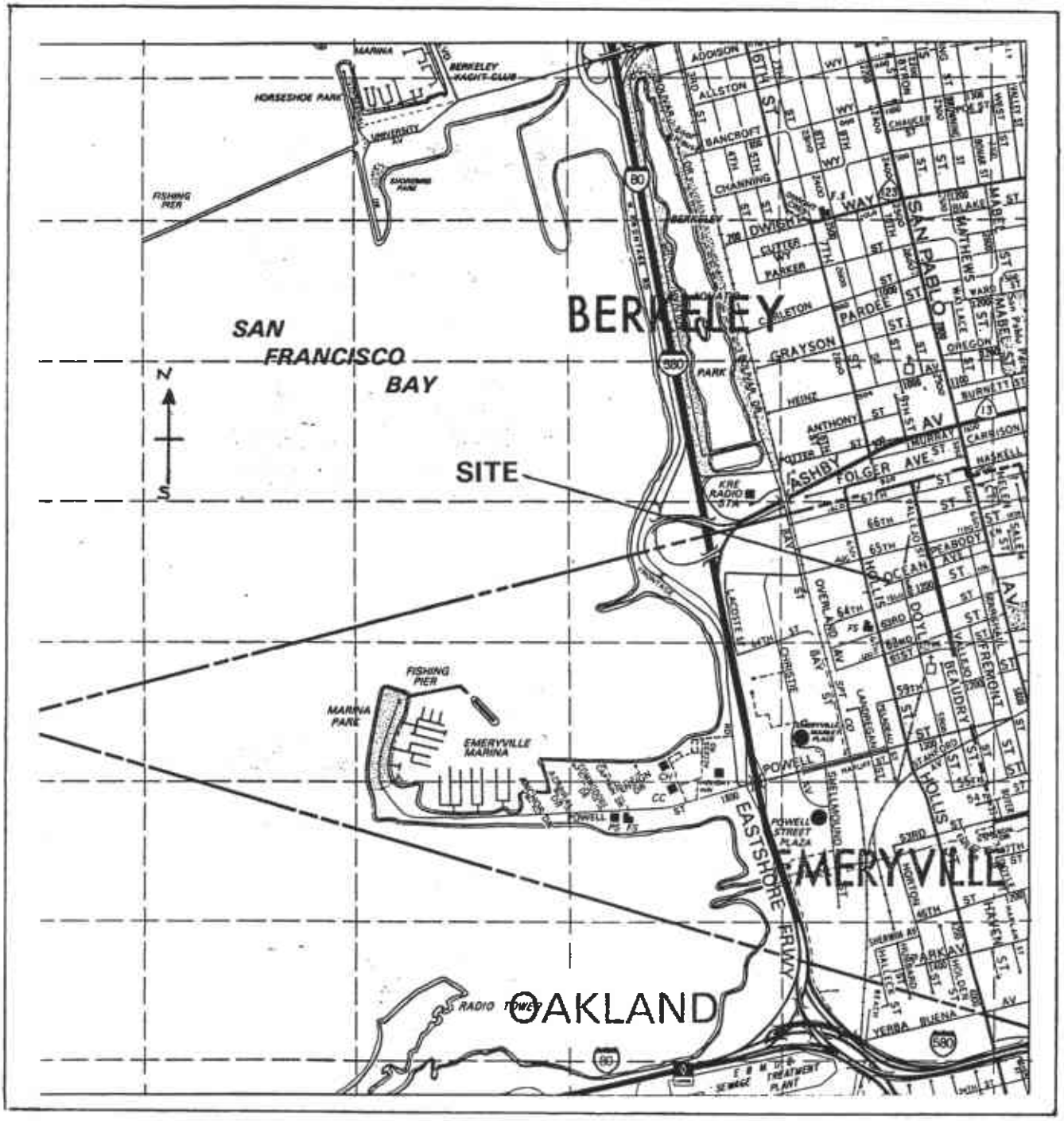
International Geologic. Letter Report, Subsurface Investigation Related To A Suspected Underground Storage Tank Location, For 1372 Ocean Avenue, Emeryville, California. May 7, 1997.

International Geologic. Report, Groundwater Monitoring Well Installation Report For 1372 Ocean Avenue, Emeryville, California. December 12, 1997.

International Geologic. Report, First Quarter Groundwater Monitoring Report, March 1998, For 1372 Ocean Avenue, Emeryville, California. April 1, 1998.

## LIMITATIONS

This report was prepared in accordance with standards of environmental geological practice generally accepted in California at the time this investigation was performed. This investigation was conducted solely for the purpose of evaluating environmental conditions with respect to a limited scan of hydrocarbons and volatile and semi-volatile organic compounds in the area sampled at the subject property. Evaluation of conditions at and near the site for the purpose of this investigation is made from a limited number of observation points. Actual subsurface conditions may differ at locations not sampled within the property. Further investigation, including subsurface exploration and laboratory testing of soil and groundwater samples collected at the site, can aid in evaluating subsurface environmental conditions and reduce the inherent uncertainties associated with this type of limited environmental assessment. Accuracy or completeness of public and proprietary records used to conduct limited assessments of this type is not implied. No soil engineering or geotechnical references are implied nor should be inferred.



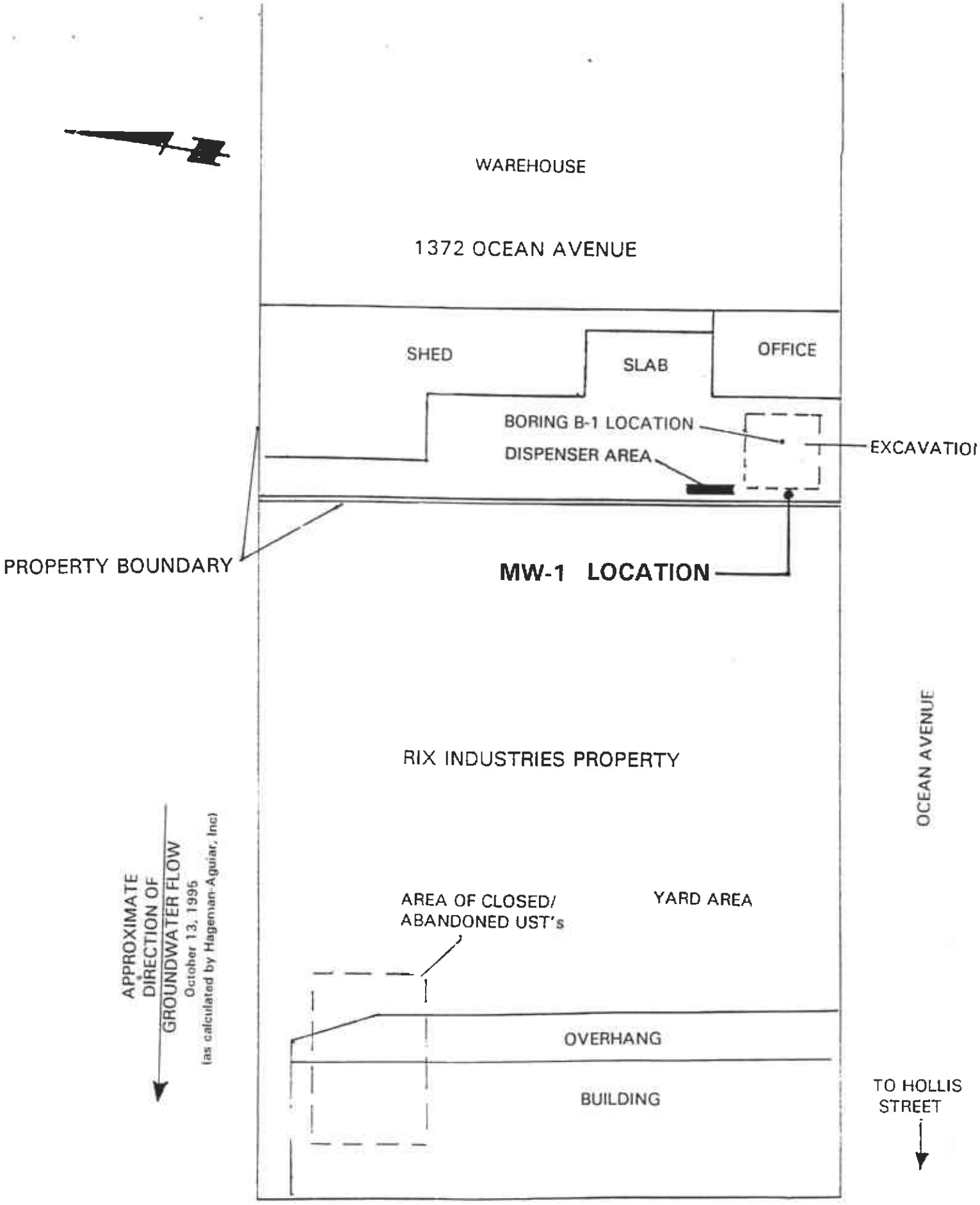

*INTERNATIONAL GEOLOGIC* Job No. 705-2

1372 Ocean Avenue
Emeryville, California

**SITE VICINITY MAP**

(Source: Thomas Bros. 1994)

**FIGURE 1**




*INTERNATIONAL GEOLOGIC* Job No. 705-2

1372 Ocean Avenue
Emeryville, California

**SITE PLAN/PROJECT AREA MAP**

APPROXIMATE SCALE: 1 INCH = 25 FEET

**FIGURE 2**

# ATTACHMENT 1

# FIELD PROTOCOL

# FIELD PROTOCOL

## Groundwater Monitoring Well Sampling

The static water level in the well was measured to the nearest 0.01-foot using an electric water-level sounder cleaned with TSP and water before use. The liquid in the well was examined for visual evidence of contamination by gently lowering approximately half the length of a new disposable bailer past the air/water interface. The sample was then retrieved and inspected for floating product, sheen, emulsion, color, and clarity.

The well were purged using a dedicated PVC bailer cleaned with TSP and water prior to use. During the well purging process, electrical conductivity, Ph, and temperature values of the groundwater were recorded on a Well Sampling Data Sheet included at the end of the protocol description. Approximately eight well casing volumes were purged*. Turbidity measurements were estimated of the purged well water.

Before sample collection, the water level in the well was allowed to recover to at least 80 percent of the initial level. A sample of the formation water was then collected from the well using a new disposable bailer. The water sample was then gently poured into laboratory-cleaned, amber colored, 1 liter bottles and 40-milliliter (ml) glass vials with .5 ml Hydrochloric acid added as a preservative.

## Sample Labeling and Handling

Sample containers were labeled in the field with the date, project number, and sample identification, then promptly placed in iced storage for transport to the laboratory. A Chain of Custody Record was initiated by the field geologist and updated throughout handling of the samples, and accompanied the samples to a laboratory certified by the State of California for the analyses requested. Samples were transported to the laboratory promptly to help ensure that recommended sample holding times were not exceeded. Samples are properly disposed of after their useful life has expired.

*The quantity of water purged from the wells was calculated as follows:

1 well casing volume = $\pi r^2 h(7.48)$ where:

r = radius of the well casing in feet.

h = column of water in the well in feet.
(depth to bottom - depth to water).

7.48 = conversion constant from cubic feet to gallons.

Gallons removed/1 well casing volume = number of well casing volumes removed from the well.

Water generated by the purging of the wells was stored on site in 17E DOT 55-gallon drums.

# ATTACHMENT 2

## LABORATORY DATA SHEETS
## CHAIN OF CUSTODY RECORDS

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

| | | |
|---|---|---|
| International Geologic | Client Project ID: Emeryville, CA | Date Sampled: 09/18/98 |
| 2831 Sylhowe Road | | Date Received: 09/21/98 |
| Oakland, CA 94602 | Client Contact: Steve Bittman | Date Extracted: 09/21-09/23/98 |
| | Client P.O: | Date Analyzed: 09/21-09/23/98 |

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX***

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

| Lab ID | Client ID | Matrix | TPH(g)+ | MTBE | Benzene | Toluene | Ethylben-zene | Xylenes | % Recovery Surrogate |
|---|---|---|---|---|---|---|---|---|---|
| 95447 | MW-1 | W | ND | ND | ND | ND | ND | ND | 90 |
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| | | | | | | | | | |
| Reporting Limit unless otherwise stated; ND means not detected above the reporting limit | | W | 50 ug/L | 5.0 | 0.5 | 0.5 | 0.5 | 0.5 | |
| | | S | 1.0 mg/kg | 0.05 | 0.005 | 0.005 | 0.005 | 0.005 | |

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

# cluttered chromatogram; sample peak coelutes with surrogate peak

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

| | | |
|---|---|---|
| International Geologic<br>2831 Sylhowe Road<br>Oakland, CA 94602 | Client Project ID: Emeryville, CA | Date Sampled: 09/18/98 |
| | | Date Received: 09/21/98 |
| | Client Contact: Steve Bittman | Date Extracted: 09/21-09/28/98 |
| | Client P.O: | Date Analyzed: 09/21-09/28/98 |

**Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel ***

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

| Lab ID | Client ID | Matrix | TPH(d)+ | % Recovery Surrogate |
|---|---|---|---|---|
| 95447 | MW-1 | W | 82,b | 98 |
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| Reporting Limit unless otherwise stated; ND means not detected above the reporting limit | | W | 50 ug/L | |
| | | S | 1.0 mg/kg | |

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

DHS Certification No. 1644

/h/ Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

| | | |
|---|---|---|
| International Geologic | Client Project ID: Emeryville, CA | Date Sampled: 09/18/98 |
| 2831 Sylhowe Road | | Date Received: 09/21/98 |
| Oakland, CA 94602 | Client Contact: Steve Bittman | Date Extracted: 09/22-09/23/98 |
| | Client P.O: | Date Analyzed: 09/22-09/23/98 |

**Volatile Halocarbons**

EPA method 601 or 8010

| Lab ID | 95447 | | | |
|---|---|---|---|---|
| Client ID | MW-1 | | | |
| Matrix | W | | | |
| Compound | Concentration* | | | |
| Bromodichloromethane | ND<3 | | | |
| Bromoform[b] | ND<3 | | | |
| Bromomethane | ND<3 | | | |
| Carbon Tetrachloride[c] | ND<3 | | | |
| Chlorobenzene | ND<3 | | | |
| Chloroethane | ND<3 | | | |
| 2-Chloroethyl Vinyl Ether[d] | ND<3 | | | |
| Chloroform [e] | ND<3 | | | |
| Chloromethane | ND<3 | | | |
| Dibromochloromethane | ND<3 | | | |
| 1,2-Dichlorobenzene | ND<3 | | | |
| 1,3-Dichlorobenzene | ND<3 | | | |
| 1,4-Dichlorobenzene | ND<3 | | | |
| Dichlorodifluoromethane | ND<3 | | | |
| 1,1-Dichloroethane | ND<3 | | | |
| 1,2-Dichloroethane | ND<3 | | | |
| 1,1-Dichloroethene | ND<3 | | | |
| cis 1,2-Dichloroethene | 17 | | | |
| trans 1,2-Dichloroethene | ND<3 | | | |
| 1,2-Dichloropropane | ND<3 | | | |
| cis 1,3-Dichloropropene | ND<3 | | | |
| trans 1,3-Dichloropropene | ND<3 | | | |
| Methylene Chloride[f] | ND<3 | | | |
| 1,1,2,2-Tetrachloroethane | ND<3 | | | |
| Tetrachloroethene | ND<3 | | | |
| 1,1,1-Trichloroethane | ND<3 | | | |
| 1,1,2-Trichloroethane | ND<3 | | | |
| Trichloroethene | 86 | | | |
| Trichlorofluoromethane | ND<3 | | | |
| Vinyl Chloride[g] | 3.4 | | | |
| % Recovery Surrogate | 112 | | | |
| Comments | | | | |

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe

Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

# QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/21/98-09/22/98 Matrix: WATER

| Analyte | Concentration (mg/L) Sample (#95370) | MS | MSD | Amount Spiked | % Recovery MS | MSD | RPD |
|---|---|---|---|---|---|---|---|
| TPH (gas) | 0.0 | 94.3 | 93.2 | 100.0 | 94.3 | 93.2 | 1.2 |
| Benzene | 0.0 | 9.7 | 9.9 | 10.0 | 97.0 | 99.0 | 2.0 |
| Toluene | 0.0 | 10.3 | 10.4 | 10.0 | 103.0 | 104.0 | 1.0 |
| Ethyl Benzene | 0.0 | 10.2 | 10.5 | 10.0 | 102.0 | 105.0 | 2.9 |
| Xylenes | 0.0 | 31.5 | 32.0 | 30.0 | 105.0 | 106.7 | 1.6 |
| TPH(diesel) | 0.0 | 176 | 174 | 150 | 117 | 116 | 1.1 |
| TRPH (oil & grease) | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

# QC REPORT FOR EPA 8010/8020/EDB

Date: 09/22/98 Matrix: WATER

| Analyte | Concentration (ug/L) Sample (#95381) | MS | MSD | Amount Spiked | % Recovery MS | MSD | RPD |
|---|---|---|---|---|---|---|---|
| 1,1-DCE | 0.0 | 9.0 | 8.7 | 10.0 | 90 | 87 | 3.4 |
| Trichloroethene | 0.0 | 8.2 | 8.2 | 10.0 | 82 | 82 | 0.0 |
| EDB | 0.0 | 8.6 | 8.2 | 10.0 | 86 | 82 | 4.8 |
| Chlorobenzene | 0.0 | 9.0 | 9.2 | 10.0 | 90 | 92 | 2.2 |
| Benzene | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Toluene | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Chlorobz (PID) | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

# QC REPORT FOR EPA 8010/8020/EDB

Date: 09/23/98 Matrix: WATER

| Analyte | Concentration (ug/L) | | | | % Recovery | | |
|---|---|---|---|---|---|---|---|
| | Sample (#95389) | MS | MSD | Amount Spiked | MS | MSD | RPD |
| 1,1-DCE | 0.0 | 9.1 | 8.9 | 10.0 | 91 | 89 | 2.2 |
| Trichloroethene | 0.0 | 8.6 | 8.3 | 10.0 | 86 | 83 | 3.6 |
| EDB | 0.0 | 7.8 | 7.5 | 10.0 | 78 | 75 | 3.9 |
| Chlorobenzene | 0.0 | 9.3 | 9.1 | 10.0 | 93 | 91 | 2.2 |
| Benzene | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Toluene | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Chlorobz (PID) | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

12391 Fig 25

# McCAMBELL ANALYTICAL, INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553
Telephone: (510) 798-1620 Fax: (510) 798-1622

# CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

Report To: Steve Bittman Bill To: International Geologic
Company: International Geologic
2831 Sylhowe Rd.
Oakland, CA 94602
Tele: (510) 530-8751 Fax: (510) 530-8794
Project #: Project Name:
Project Location: Emeryville, CA
Sampler Signature: Steve Bittman

| SAMPLE ID | LOCATION | SAMPLING Date | SAMPLING Time | # Containers | Type Containers | MATRIX Water | MATRIX Soil | MATRIX Air | MATRIX Sludge | MATRIX Other | METHOD PRESERVED Ice | METHOD PRESERVED HCl | METHOD PRESERVED $HNO_3$ | METHOD PRESERVED Other | BTEX & TPH as Gas (602/8020 + 8015) MTBE | TPH as Diesel (8015) | Total Petroleum Oil & Grease (5520 E&F/B&F) | Total Petroleum Hydrocarbons (418.1) | EPA 601 / 8010 | BTEX ONLY (EPA 602 / 8020) | EPA 608 / 8080 | EPA 608 / 8080 PCB's ONLY | EPA 624 / 8240 / 8260 | EPA 625 / 8270 | PAH's / PNA's by EPA 625 / 8270 / 8310 | CAM-17 Metals | LUFT 5 Metals | Lead (7240/7421/239.2/6010) | RCI | Other | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | | 9/18/98 | | 3 | VOA | X | | | | | X | X | | | X | | | | | | | | | | | | | | | | 95/142 |
| MW-1 | | 9/18/98 | | 3 | VOA | X | | | | | X | X | | | | | | | X | | | | | | | | | | | | |
| MW-1 | | 9/18/98 | | 2 | Liter | X | | | | | X | | | | | X | | | | | | | | | | | | | | | |

| Relinquished By: | Date: | Time: | Received By: |
|---|---|---|---|
| Steve Bittman | 9/21/98 | | 10:30 AM |
| Relinquished By: | Date: | Time: | Received By: |
| Relinquished By: | Date: | Time: | Received By: |

Remarks:

ICE/t° ✓
GOOD CONDITION ✓
HEADSPACE ABSENT ✓
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓

VOAS | O&G | METALS | OTHER