Seery

ATT

October 7, 1991

91 OCT -9 AM 11:37

Mr. Jim Craig
Castro Valley Autohaus
20697 Park Way
Castro Valley, CA 94546

**Subject:** **Results of Groundwater Sampling Activities**
**Castro Valley Autohaus**
**20697 Park Way**
**Castro Valley, CA**
**(Project # 919289)**

Dear Mr. Craig:

Aqua Terra Technologies
Consulting Engineers
& Scientists

2950 Buskirk Avenue
Suite 120
Walnut Creek, CA
94596
415 934-4884
FAX 934-0418

This letter report presents the results groundwater sampling activities conducted by Aqua Terra Technologies, Inc. (ATT) at the subject property. Groundwater sampling was conducted as part of site characterization activities in accordance regulatory agency requirements. Included herein is a discussion of project history, sample collection activities, analytical results, conclusions, and recommendations.

## PROJECT HISTORY

### Underground Storage Tank Removal

The following summary represents ATT's understanding of the project history; this is based on a review of the Castro Valley Autohaus project file, and conversations with individuals who were present during tank removal [Mr. Jim Craig of Castro Valley Autohaus, and Mr. Scott Seery of the Alameda County Health Care Services Agency (ACHCSA)]. Two 1,000 gallon underground waste oil storage tanks were removed from the subject property in November 1989. The removal of the underground tanks was performed in accordance with the ACHCSA September 25, 1989 letter to Castro Valley Autohaus.

One of the tanks ruptured as it was being hoisted from the excavation. As a result, sludge and oil residue was spilled within the excavation. At the direction of Mr. Seery, an additional 2.5 feet of soil was removed from the bottom of the excavation.

**Excavation Soil Sampling**

Four soil samples were collected at a depth of seven feet below grade from the excavation sidewalls. This depth was selected to correspond with the bottoms of the underground tanks. The samples were identified as "7' east end of excav.", "7' west end of excav.", "7' south end of excav.", and "7' north end of excav.". All four soil samples were analyzed by EPA method 8020 for total petroleum hydrocarbons (TPH) as gasoline, and benzene, toluene, ethylbenzene, and total xylenes (BTEX), EPA Method 8015 for TPH as diesel, EPA Method 503E for total oil and grease (TOG), and EPA Method 8010 for volatile halocarbons. Sample "7' east side of excav." was additionally analyzed for cadmium, chromium, lead, and zinc in accordance with EPA Method 6010, semi-volatile organics by EPA Method 8270, and polychlorinated biphenyls (PCBs) using gas chromatography with electron capture detector (GC/ECD).

The only volatile organic compounds detected in the soil samples were dichloromethane (methylene chloride) in the "7' south side of excav." sample at a concentration of 0.45 mg/Kg, and trichloroethene (TCE) in the "7' east side of excav." sample at a concentration of 0.07 mg/Kg. TPH as gasoline, TPH as diesel, TOG, and BTEX were not detected in any of the four soil samples. Similarly, the additional analysis performed on the "7' east side of excav." sample did not detect semi-volatile organic compounds, PCBs, or elevated concentrations of cadmium, chromium, lead, and zinc.

Two soil samples were also collected from the bottom of the excavation at a depth of 9.5 feet below grade. This sampling depth was approximately 2.5 feet below the bottom of the tanks. These soil samples were labeled "9.5 bottom of west tank" and "9.5 bottom of east tank". The two excavation bottom soil samples were analyzed for TPH as gasoline (EPA 8020), TPH as diesel (EPA 8015), TOG (EPA 503E), BTEX (EPA 8020), and volatile halocarbons (EPA 8010).

Laboratory analysis for the two bottom soil samples did not detect TPH as gasoline, TPH as diesel, TOG, BTEX, or volatile halocarbons in either sample. A copy of the laboratory analysis for the six samples collected from within the excavation are provided in Attachment A.

**Monitoring Well Installation and Sampling**

On February 13, 1991 a groundwater monitoring well was installed to the south of the former tank location and within ten feet of the underground storage tank excavation boundaries. Soil samples were collected at five feet and ten feet below grade (samples identified as "Monitoring Well #1 @ 5'" and "Monitoring Well #1 @ 10'") during well installation. The soil samples were analyzed for volatile organic compounds (VOCs) in accordance with EPA Method 8240, and soluble lead in accordance with waste extraction test (WET) protocol and EPA Method 6010. Monitoring well installation and soil sample collection and analysis were performed in accordance with the ACHCSA letter of December 14, 1990.

The laboratory detected acetone in the "Monitoring Well #1 @ 5'" sample at a concentration of 0.033 mg/Kg. No other VOCs were detected in this sample. The laboratory did not detect any VOCs in the "Monitoring Well #1 @ 10'" soil sample. Copies of the laboratory analysis for the soil samples collected during monitoring well installation are presented in Attachment B.

The groundwater monitoring well was developed on May 17, 1991. Groundwater samples were collected from the monitoring well on May 23, 1991 for volatile halocarbons analysis by EPA Method 8010 and organic (tetraethyl) lead analysis in accordance with the California Department of Health Services (DHS) analytical protocol. Sample "Z-1018" was collected from the top six inches of the water column. Sample Z-1020 was collected from the bottom six inches of the water column. Collection of groundwater samples from the upper and lower thirds of the water column was performed in accordance with the December 14, 1990 ACHCSA letter (Item #4).

The laboratory detected 1,1-dichloroethane (1,1-DCA) at a concentration of 1.3 ug/L in the Z-1018 sample, and 1.2 ug/L in the Z-1020 sample. No other volatile halocarbons were detected in either groundwater sample. The laboratory did not detect organic lead in either groundwater sample. Copies of the laboratory results for the May 1991 groundwater sampling event are provided in Attachment C.

The soils removed during tank excavation activities were stockpiled in the asphalt parking area at the facility, and covered with plastic sheeting. These soils are currently undergoing characterization for disposal at an appropriate facility.

## ATT GROUNDWATER SAMPLING ACTIVITIES

On August 21, 1991 ATT measured site groundwater elevation and collected a groundwater sample from the site groundwater monitoring well (Plate 1). The groundwater elevation was measured at 8.11 feet below the top of well casing. The groundwater sample was collected in accordance with the sampling protocol presented in Attachment D. Following collection, the sample containers were labeled (MW1) and immediately placed in a cooler containing bagged ice. The sample was transported under chain of custody documentation to a DHS certified laboratory. The sample was submitted to the laboratory for volatile organic analysis in accordance with EPA Method 624 analytical protocol. Groundwater sample collection and analysis was performed in accordance with the requirements contained in ACHCSA August 12, 1991 letter.

The laboratory did not detect any VOCs in the August 21, 1991 groundwater sample. A copy of the laboratory analytical results presented in Attachment E. Copies of the sample collection records and chain of custody documentation are also provided in Attachment E.

## CONCLUSIONS

### Soil Samples

Upon review of the analytical data from soil and groundwater samples collected at the site, ATT finds no evidence suggesting that a significant unauthorized release had occurred from the underground storage tanks. Detectable concentrations of TPH and/or TOG would be expected if a release had occurred from use of these tanks. However, the analytical data do not support this because neither TPH nor TOG have been detected in any samples collected at this site. The only compounds detected during underground storage tank removal were methylene chloride and TCE, both of which were less than 0.5 mg/Kg, at a depth of seven feet below grade. The absence of VOCs in the samples collected at 9.5 feet below grade suggest that vertical contaminant migration has not occurred, and that soils containing VOCs in the vicinity of the former tanks have probably been sufficiently remediated by excavation during tank closure activities. This also appears to be supported by analytical results of soils samples collected during monitoring well installation. With the exception of acetone in the sample collected five

feet below grade, VOCs were not detected in these soil samples. The reported concentration of acetone (0.033 mg/Kg) may be due to inadvertent sample contamination since this is a common solvent used in laboratories.

**Groundwater Samples**

The results of the May and August groundwater sampling events do not demonstrate the presence of VOCs or lead in site groundwater above Primary Maximum Contaminant Levels (MCLs). Furthermore, organic solvents such as trichloroethene (TCE) or 1,1,1-trichloroethane (1,1,1-TCA) commonly degrade to 1,1-DCA and other VOCs. However, with the exception of the two samples collected during tank closure, halogenated VOCs have not been detected in soil samples collected from beneath the tanks or during monitoring well installation. The detected 1,1-DCA in site groundwater may be reflective of degraded regional groundwater quality rather than site conditions. unsubstantiated ??

**RECOMMENDATIONS**

The site's shallow, unconfined groundwater table is at 8.1 feet below grade which is approximately one foot below where VOCs were detected in previously collected and analyzed soil samples. Also, at the direction of the ACHCSA, soils that were impacted by the spill from the tank rupture during removal, were immediately excavated. Therefore, it is unlikely that groundwater was significantly impacted from that spill. This is demonstrated by the detection of only one halocarbon compound in site groundwater: 1,1-DCA which is a common degradation product of TCE. Therefore, natural aerobic biodegradation is probably occurring as indicated by 1,1-DCA concentrations which have never been observed to exceed 2 ug/L in site groundwater.

The current regional drought has depressed groundwater tables in the area. It is unlikely that continued quarterly groundwater monitoring will determine the presence of dense nonaqueous phase liquids (DNAPLs) in vadose zone soils; which could potentially impact groundwater after an increase in groundwater table elevation. Although there is no evidence to suggest that an impact to groundwater is likely, ATT proposes that the current groundwater monitoring schedule be modified from routine quarterly monitoring to

collection of one additional groundwater sample following the onset of the rainy season.

The analytical data from collection of a groundwater sample during higher groundwater table elevations, should determine if an impact to groundwater has occurred from the detected concentrations (less than 0.5 mg/Kg) of VOCs in site soils.

ATT proposes that the groundwater sample be collected and analyzed in accordance with the collection and analytical protocol followed in the August sampling event. ATT requests that written confirmation of this proposed monitoring modification be provided by the ACHCSA and/or the RWQCB.

Please contact us if you have any questions or comments regarding this report.

Sincerely,

AQUA TERRA TECHNOLOGIES, INC.

Bradley J. Bennett
Project Manager

William E. Motzer, Ph.D.
Senior Hydrogeologist
California Registered Geologist #4202
(Expires 6/30/92)

BJB/WEM:mp

attachments

cc: Scott Seery, ACHCSA
Lester Feldman, RWQCB

# ATTACHMENT A

## Analytical Results from Tank Excavation Soil Samples

INTERNATIONAL TECHNOLOGY CORPORATION

# ANALYTICAL SERVICES

Soil samples from excavation after removing additional 2½' of soil.

## CERTIFICATE OF ANALYSIS

D & D Management
6440 Hesket Court
San Jose, CA 95123
ATTN: Paul Dzakowic

Date: December 27, 1989

Work Order Number: S9-11-366

P.O. Number: Verbal

This is the Certificate of Analysis for the following samples:

| | |
|---|---|
| Client Project ID: | Castro Valley Auto Haus, 20697 Parkway |
| Date Received by Lab: | 11/30/89 |
| Number of Samples: | 6 |
| Sample Type: | Soil |

The methods of analysis for metals and general chemistry are taken from E.P.A. protocol, using methods from SW-846, 3rd Edition or Methods for Chemical Analysis of Water and Wastes, 600/4-79-020. The method used is listed adjacent to the parameter in the table.

The method of analysis for volatile organics is taken from E.P.A. Methods 601, 602, 8010 and 8020. Samples are examined using the purge and trap technique. Final detection is by gas chromatography using a photoionization detector and an electrolytic conductivity detector in series.

The method of analysis for low boiling hydrocarbons is taken from EPA Methods 8015 and 5030. The sample is examined using the purge and trap technique. Final detection is by gas chromatography using a flame ionization detector as well as a photoionization detector. The result for total low boiling hydrocarbons is calculated as gasoline.

The method of analysis for high boiling hydrocarbons involves extracting the samples with solvent and examining the extracts by gas chromatography using a flame ionization detector.

The method of analysis for oil and grease is taken from Standard Methods for the Examination of Water and Wastewater, Section 503E. Samples are extracted with repeated portions of solvent and the extract is treated with silica gel to remove polar compounds. The extract is evaporated and oil and grease is determined gravimetrically.

Continued. . .

The method of analysis for polychlorinated biphenyl mixtures involves diluting or extracting the sample with solvent. The resulting extract is cleaned-up to remove interferences and examined by gas chromatography using an electron capture detector.

Any of the following polychlorinated biphenyl mixtures would have been detected had it been present at or above the limit of detection: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262 and 1268.

The method of analysis for semi-volatile organics is taken from E.P.A. Methods 625 and 8270. The samples are extracted with solvent and concentrated. Final detection is by gas chromatography/mass spectrometry.

Creosote is a complex mixture. Identification and quantitation is done using the seven most prevalent polynuclear aromatic hydrocarbons.

Results for organic chemical parameters in soils have been corrected for moisture content and are reported on a dry soil basis unless noted otherwise. Results for inorganic chemical parameters have not been corrected for moisture content.

Reviewed and Approved

David A. Vickette
Project Manager

DAP/an
21 Pages Following - Tables of Results

Date: December 27, 1989
Client Project ID: Castro Valley
Auto Haus, 20697 Parkway

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' North side of Excav.
Sample Date: 11/29/89
Lab Sample ID: S9-11-366-01
Receipt Condition: Cool

Low Boiling Hydrocarbons Extraction Date: 12/5/89
Low Boiling Hydrocarbons Analysis Date: 12/7/89

High Boiling Hydrocarbons Extraction Date: 12/6/89
High Boiling Hydrocarbons Analysis Date: 12/8/89

Oil & Grease Extraction Date: 12/6/89
Oil & Grease Analysis Date: 12/6/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020
Standard Methods, 503E

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Low Boiling Hydrocarbons, calculated as Gasoline | 2.5 | None |
| High Boiling Hydrocarbons, calculated as Diesel | 5. | None |
| Oil and Grease | 50. | None |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' North side of Excav.

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-01
Receipt Condition: Cool
Extraction Date: 12/5/89
Analysis Date: 12/11/89

Volatile Halocarbons - E.P.A. Methods 601, 8010

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Bromodichloromethane | 0.05 | None |
| Bromoform | 0.05 | None |
| Bromomethane | 0.05 | None |
| Carbon tetrachloride | 0.05 | None |
| Chlorobenzene | 0.05 | None |
| Chloroethane | 0.05 | None |
| 2-Chloroethylvinyl ether | 0.05 | None |
| Chloroform | 0.05 | None |
| Chloromethane | 0.05 | None |
| Dibromochloromethane | 0.05 | None |
| 1,2-Dichlorobenzene | 0.05 | None |
| 1,3-Dichlorobenzene | 0.05 | None |
| 1,4-Dichlorobenzene | 0.05 | None |
| Dichlorodifluoromethane | 0.05 | None |
| 1,1-Dichloroethane | 0.05 | None |
| 1,2-Dichloroethane | 0.05 | None |
| 1,1-Dichloroethene | 0.05 | None |
| cis-1,2-Dichloroethene | 0.05 | None |
| trans-1,2-Dichloroethene | 0.05 | None |
| 1,2-Dichloropropane | 0.05 | None |
| cis-1,3-Dichloropropene | 0.05 | None |
| trans-1,3-Dichloropropene | 0.05 | None |
| Methylene Chloride | 0.05 | None |
| 1,1,2,2-Tetrachloroethane | 0.05 | None |
| Tetrachloroethene | 0.05 | None |
| 1,1,1-Trichloroethane | 0.05 | None |
| 1,1,2-Trichloroethane | 0.05 | None |
| Trichloroethene | 0.05 | None |
| Trichlorofluoromethane | 0.05 | None |
| 1,1,2-Trichlorotrifluoroethane | 0.05 | None |
| Vinyl Chloride | 0.05 | None |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' North side of Excav.

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-01
Receipt Condition: Cool
Extraction Date: 12/5/89
Analysis Date: 12/11/89

Volatile Aromatics - E.P.A. Methods 602, 8020

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Benzene | 0.05 | None |
| Toluene | 0.05 | None |
| Ethyl benzene | 0.05 | None |
| Xylenes (total) | 0.2 | None |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' South side of Excav.
Sample Date: 11/29/89
Lab Sample ID: S9-11-366-02
Receipt Condition: Cool

Low Boiling Hydrocarbons Extraction Date: 12/5/89
Low Boiling Hydrocarbons Analysis Date: 12/7/89

High Boiling Hydrocarbons Extraction Date: 12/6/89
High Boiling Hydrocarbons Analysis Date: 12/8/89

Oil & Grease Extraction Date: 12/6/89
Oil & Grease Analysis Date: 12/6/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020
Standard Methods, 503E

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Low Boiling Hydrocarbons, calculated as Gasoline | 2.5 | None |
| High Boiling Hydrocarbons, calculated as Diesel | 5. | None |
| Oil and Grease | 50. | None |

Date: December 27, 1989
Client Project ID: Castro Valley
Auto Haus, 20697 Parkway

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' South side of Excav.

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-02
Receipt Condition: Cool
Extraction Date: 12/5/89
Analysis Date: 12/11/89

Volatile Halocarbons - E.P.A. Methods 601, 8010

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Bromodichloromethane | 0.05 | None |
| Bromoform | 0.05 | None |
| Bromomethane | 0.05 | None |
| Carbon tetrachloride | 0.05 | None |
| Chlorobenzene | 0.05 | None |
| Chloroethane | 0.05 | None |
| 2-Chloroethylvinyl ether | 0.05 | None |
| Chloroform | 0.05 | None |
| Chloromethane | 0.05 | None |
| Dibromochloromethane | 0.05 | None |
| 1,2-Dichlorobenzene | 0.05 | None |
| 1,3-Dichlorobenzene | 0.05 | None |
| 1,4-Dichlorobenzene | 0.05 | None |
| Dichlorodifluoromethane | 0.05 | None |
| 1,1-Dichloroethane | 0.05 | None |
| 1,2-Dichloroethane | 0.05 | None |
| 1,1-Dichloroethene | 0.05 | None |
| cis-1,2-Dichloroethene | 0.05 | None |
| trans-1,2-Dichloroethene | 0.05 | None |
| 1,2-Dichloropropane | 0.05 | None |
| cis-1,3-Dichloropropene | 0.05 | None |
| trans-1,3-Dichloropropene | 0.05 | None |
| Methylene Chloride | 0.05 | 0.45 |
| 1,1,2,2-Tetrachloroethane | 0.05 | None |
| Tetrachloroethene | 0.05 | None |
| 1,1,1-Trichloroethane | 0.05 | None |
| 1,1,2-Trichloroethane | 0.05 | None |
| Trichloroethene | 0.05 | None |
| Trichlorofluoromethane | 0.05 | None |
| 1,1,2-Trichlorotrifluoroethane | 0.05 | None |
| Vinyl Chloride | 0.05 | None |

Date: December 27, 1989
Client Project ID: Castro Valley
Auto Haus, 20697 Parkway

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' South side of Excav.

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-02
Receipt Condition: Cool
Extraction Date: 12/5/89
Analysis Date: 12/13/89

Volatile Aromatics - E.P.A. Methods 602, 8020

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Benzene | 0.05 | None |
| Toluene | 0.05 | None |
| Ethyl benzene | 0.05 | None |
| Xylenes (total) | 0.2 | None |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' East side of Excav.

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-03
Receipt Condition: Cool

Results - Milligrams per Kilogram

| Parameter | E.P.A. Method | Detection Limit | Detected |
|---|---|---|---|
| Cadmium | 6010 | 0.25 | None |
| Chromium | 6010 | 0.50 | 42. |
| Lead | 6010 | 1.5 | 53. |
| Zinc | 6010 | 0.50 | 67. |

Date: December 27, 1989
Client Project ID: Castro Valley
Auto Haus, 20697 Parkway

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' East side of Excav.
Sample Date: 11/29/89
Lab Sample ID: S9-11-366-03
Receipt Condition: Cool

Low Boiling Hydrocarbons Extraction Date: 12/5/89
Low Boiling Hydrocarbons Analysis Date: 12/12/89

High Boiling Hydrocarbons Extraction Date: 12/6/89
High Boiling Hydrocarbons Analysis Date: 12/8/89

Oil & Grease Extraction Date: 12/6/89
Oil & Grease Analysis Date: 12/6/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020
Standard Methods, 503E

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Low Boiling Hydrocarbons, calculated as Gasoline | 2.5 | None |
| High Boiling Hydrocarbons, calculated as Diesel | 5. | None |
| Oil and Grease | 50. | None |

Date: December 27, 1989
Client Project ID: Castro Valley
Auto Haus, 20697 Parkway

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' East side of Excav.

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-03
Receipt Condition: Cool
Extraction Date: 12/5/89
Analysis Date: 12/11/89

Volatile Halocarbons - E.P.A. Methods 601, 8010

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Bromodichloromethane | 0.05 | None |
| Bromoform | 0.05 | None |
| Bromomethane | 0.05 | None |
| Carbon tetrachloride | 0.05 | None |
| Chlorobenzene | 0.05 | None |
| Chloroethane | 0.05 | None |
| 2-Chloroethylvinyl ether | 0.05 | None |
| Chloroform | 0.05 | None |
| Chloromethane | 0.05 | None |
| Dibromochloromethane | 0.05 | None |
| 1,2-Dichlorobenzene | 0.05 | None |
| 1,3-Dichlorobenzene | 0.05 | None |
| 1,4-Dichlorobenzene | 0.05 | None |
| Dichlorodifluoromethane | 0.05 | None |
| 1,1-Dichloroethane | 0.05 | None |
| 1,2-Dichloroethane | 0.05 | None |
| 1,1-Dichloroethene | 0.05 | None |
| cis-1,2-Dichloroethene | 0.05 | None |
| trans-1,2-Dichloroethene | 0.05 | None |
| 1,2-Dichloropropane | 0.05 | None |
| cis-1,3-Dichloropropene | 0.05 | None |
| trans-1,3-Dichloropropene | 0.05 | None |
| Methylene Chloride | 0.05 | None |
| 1,1,2,2-Tetrachloroethane | 0.05 | None |
| Tetrachloroethene | 0.05 | None |
| 1,1,1-Trichloroethane | 0.05 | None |
| 1,1,2-Trichloroethane | 0.05 | None |
| Trichloroethene | 0.05 | 0.07 |
| Trichlorofluoromethane | 0.05 | None |
| 1,1,2-Trichlorotrifluoroethane | 0.05 | None |
| Vinyl Chloride | 0.05 | None |

Date: December 27, 1989
Client Project ID: Castro Valley
Auto Haus, 20697 Parkway

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' East side of Excav.

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-03
Receipt Condition: Cool
Extraction Date: 12/5/89
Analysis Date: 12/13/89

Volatile Aromatics - E.P.A. Methods 602, 8020

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Benzene | 0.05 | None |
| Toluene | 0.05 | None |
| Ethyl benzene | 0.05 | None |
| Xylenes (total) | 0.2 | None |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' East side of Excav.

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-03
Receipt Condition: Cool
Extraction Date: 12/7/89
Analysis Date: 12/8/89

## Polychlorinated Biphenyl Mixtures

### Results - Parts per Million

| Lab Sample ID | Client Sample ID | Aroclor Detected | Amount Detected |
|---|---|---|---|
| S9-11-366-03 | 7' East side of Excav. | None | None |
| Detection Limit | | | 0.2 |

Date: December 27, 1989
Client Project ID: Castro Valley
Auto Haus, 20697 Parkway

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' East side of Excav.

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-03
Receipt Condition: Cool
Extraction Date: 12/7/89
Analysis Date: 12/17/89

Semi-Volatile Organics -E.P.A. Methods 625, 8270; Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected | Parameter | Detection Limit | Detected |
|---|---|---|---|---|---|
| Naphthalene | 0.39 | None | Pyrene | 0.39 | None |
| 2-Methylnaphthalene | 0.39 | None | Benzo(a)anthracene | 0.39 | None |
| Acenaphthylene | 0.39 | None | Chrysene | 0.39 | None |
| Acenaphthene | 0.39 | None | Benzo(b)fluoranthene | 0.39 | None |
| Fluorene | 0.39 | None | Benzo(k)fluoranthene | 0.39 | None |
| Pentachlorophenol | 1.9 | None | Benzo(a)pyrene | 0.39 | None |
| Phenanthrene | 0.39 | None | Indeno(1,2,3-cd)pyrene | 0.39 | None |
| Anthracene | 0.39 | None | Dibenzo(a,h)anthracene | 0.39 | None |
| Fluoranthene | 0.39 | None | Benzo(g,h,i)perylene | 0.39 | None |
| | | | Creosote | 3.9 | None |

| Surrogates | Limits | % Rec | Surrogates | Limits | % Rec |
|---|---|---|---|---|---|
| Nitrobenzene-d5 | 23-120 | 78. | Phenol-d5 | 24-113 | 78. |
| 2-Fluorobiphenyl | 30-115 | 73. | 2-Fluorophenol | 25-121 | 85. |
| Terphenyl-d14 | 18-137 | 79. | 2,4,6-Tribromophenol | 19-122 | 92. |

Date: December 27, 1989
Client Project ID: Castro Valley
Auto Haus, 20697 Parkway

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' West side of Excav.
Sample Date: 11/29/89
Lab Sample ID: S9-11-366-04
Receipt Condition: Cool

Low Boiling Hydrocarbons Extraction Date: 12/5/89
Low Boiling Hydrocarbons Analysis Date: 12/12/89

High Boiling Hydrocarbons Extraction Date: 12/6/89
High Boiling Hydrocarbons Analysis Date: 12/8/89

Oil & Grease Extraction Date: 12/6/89
Oil & Grease Analysis Date: 12/6/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020
Standard Methods, 503E

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Low Boiling Hydrocarbons, calculated as Gasoline | 2.5 | None |
| High Boiling Hydrocarbons, calculated as Diesel | 5. | None |
| Oil and Grease | 50. | None |

Date: December 27, 1989
Client Project ID: Castro Valley
Auto Haus, 20697 Parkway

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' West side of Excav.

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-04
Receipt Condition: Cool
Extraction Date: 12/5/89
Analysis Date: 12/11/89

Volatile Halocarbons - E.P.A. Methods 601, 8010

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Bromodichloromethane | 0.05 | None |
| Bromoform | 0.05 | None |
| Bromomethane | 0.05 | None |
| Carbon tetrachloride | 0.05 | None |
| Chlorobenzene | 0.05 | None |
| Chloroethane | 0.05 | None |
| 2-Chloroethylvinyl ether | 0.05 | None |
| Chloroform | 0.05 | None |
| Chloromethane | 0.05 | None |
| Dibromochloromethane | 0.05 | None |
| 1,2-Dichlorobenzene | 0.05 | None |
| 1,3-Dichlorobenzene | 0.05 | None |
| 1,4-Dichlorobenzene | 0.05 | None |
| Dichlorodifluoromethane | 0.05 | None |
| 1,1-Dichloroethane | 0.05 | None |
| 1,2-Dichloroethane | 0.05 | None |
| 1,1-Dichloroethene | 0.05 | None |
| cis-1,2-Dichloroethene | 0.05 | None |
| trans-1,2-Dichloroethene | 0.05 | None |
| 1,2-Dichloropropane | 0.05 | None |
| cis-1,3-Dichloropropene | 0.05 | None |
| trans-1,3-Dichloropropene | 0.05 | None |
| Methylene Chloride | 0.05 | None |
| 1,1,2,2-Tetrachloroethane | 0.05 | None |
| Tetrachloroethene | 0.05 | None |
| 1,1,1-Trichloroethane | 0.05 | None |
| 1,1,2-Trichloroethane | 0.05 | None |
| Trichloroethene | 0.05 | None |
| Trichlorofluoromethane | 0.05 | None |
| 1,1,2-Trichlorotrifluoroethane | 0.05 | None |
| Vinyl Chloride | 0.05 | None |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 7' West side of Excav.

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-04
Receipt Condition: Cool
Extraction Date: 12/5/89
Analysis Date: 12/13/89

Volatile Aromatics - E.P.A. Methods 602, 8020

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Benzene | 0.05 | None |
| Toluene | 0.05 | None |
| Ethyl benzene | 0.05 | None |
| Xylenes (total) | 0.2 | None |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 9.5 Bottom of West Tank
Sample Date: 11/29/89
Lab Sample ID: S9-11-366-05
Receipt Condition: Cool

Low Boiling Hydrocarbons Extraction Date: 12/5/89
Low Boiling Hydrocarbons Analysis Date: 12/12/89

High Boiling Hydrocarbons Extraction Date: 12/6/89
High Boiling Hydrocarbons Analysis Date: 12/8/89

Oil & Grease Extraction Date: 12/6/89
Oil & Grease Analysis Date: 12/6/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020
Standard Methods, 503E

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Low Boiling Hydrocarbons, calculated as Gasoline | 2.5 | None |
| High Boiling Hydrocarbons, calculated as Diesel | 5. | None |
| Oil and Grease | 50. | None |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 9.5 Bottom of West Tank

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-05
Receipt Condition: Cool
Extraction Date: 12/5/89
Analysis Date: 12/11/89

Volatile Halocarbons - E.P.A. Methods 601, 8010

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Bromodichloromethane | 0.05 | None |
| Bromoform | 0.05 | None |
| Bromomethane | 0.05 | None |
| Carbon tetrachloride | 0.05 | None |
| Chlorobenzene | 0.05 | None |
| Chloroethane | 0.05 | None |
| 2-Chloroethylvinyl ether | 0.05 | None |
| Chloroform | 0.05 | None |
| Chloromethane | 0.05 | None |
| Dibromochloromethane | 0.05 | None |
| 1,2-Dichlorobenzene | 0.05 | None |
| 1,3-Dichlorobenzene | 0.05 | None |
| 1,4-Dichlorobenzene | 0.05 | None |
| Dichlorodifluoromethane | 0.05 | None |
| 1,1-Dichloroethane | 0.05 | None |
| 1,2-Dichloroethane | 0.05 | None |
| 1,1-Dichloroethene | 0.05 | None |
| cis-1,2-Dichloroethene | 0.05 | None |
| trans-1,2-Dichloroethene | 0.05 | None |
| 1,2-Dichloropropane | 0.05 | None |
| cis-1,3-Dichloropropene | 0.05 | None |
| trans-1,3-Dichloropropene | 0.05 | None |
| Methylene Chloride | 0.05 | None |
| 1,1,2,2-Tetrachloroethane | 0.05 | None |
| Tetrachloroethene | 0.05 | None |
| 1,1,1-Trichloroethane | 0.05 | None |
| 1,1,2-Trichloroethane | 0.05 | None |
| Trichloroethene | 0.05 | None |
| Trichlorofluoromethane | 0.05 | None |
| 1,1,2-Trichlorotrifluoroethane | 0.05 | None |
| Vinyl Chloride | 0.05 | None |

Date: December 27, 1989
Client Project ID: Castro Valley
Auto Haus, 20697 Parkway

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 9.5 Bottom of West Tank

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-05
Receipt Condition: Cool
Extraction Date: 12/5/89
Analysis Date: 12/11/89

Volatile Aromatics - E.P.A. Methods 602, 8020

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Benzene | 0.05 | None |
| Toluene | 0.05 | None |
| Ethyl benzene | 0.05 | None |
| Xylenes (total) | 0.2 | None |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 9.5 Bottom of East Tank
Sample Date: 11/29/89
Lab Sample ID: S9-11-366-06
Receipt Condition: Cool

Low Boiling Hydrocarbons Extraction Date: 12/5/89
Low Boiling Hydrocarbons Analysis Date: 12/12/89

High Boiling Hydrocarbons Extraction Date: 12/6/89
High Boiling Hydrocarbons Analysis Date: 12/8/89

Oil & Grease Extraction Date: 12/6/89
Oil & Grease Analysis Date: 12/6/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020
Standard Methods, 503E

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Low Boiling Hydrocarbons, calculated as Gasoline | 2.5 | None |
| High Boiling Hydrocarbons, calculated as Diesel | 5. | None |
| Oil and Grease | 50. | None |

Date: December 27, 1989
Client Project ID: Castro Valley
Auto Haus, 20697 Parkway

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 9.5 Bottom of East Tank

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-06
Receipt Condition: Cool
Extraction Date: 12/5/89
Analysis Date: 12/11/89

Volatile Halocarbons - E.P.A. Methods 601, 8010

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Bromodichloromethane | 0.05 | None |
| Bromoform | 0.05 | None |
| Bromomethane | 0.05 | None |
| Carbon tetrachloride | 0.05 | None |
| Chlorobenzene | 0.05 | None |
| Chloroethane | 0.05 | None |
| 2-Chloroethylvinyl ether | 0.05 | None |
| Chloroform | 0.05 | None |
| Chloromethane | 0.05 | None |
| Dibromochloromethane | 0.05 | None |
| 1,2-Dichlorobenzene | 0.05 | None |
| 1,3-Dichlorobenzene | 0.05 | None |
| 1,4-Dichlorobenzene | 0.05 | None |
| Dichlorodifluoromethane | 0.05 | None |
| 1,1-Dichloroethane | 0.05 | None |
| 1,2-Dichloroethane | 0.05 | None |
| 1,1-Dichloroethene | 0.05 | None |
| cis-1,2-Dichloroethene | 0.05 | None |
| trans-1,2-Dichloroethene | 0.05 | None |
| 1,2-Dichloropropane | 0.05 | None |
| cis-1,3-Dichloropropene | 0.05 | None |
| trans-1,3-Dichloropropene | 0.05 | None |
| Methylene Chloride | 0.05 | None |
| 1,1,2,2-Tetrachloroethane | 0.05 | None |
| Tetrachloroethene | 0.05 | None |
| 1,1,1-Trichloroethane | 0.05 | None |
| 1,1,2-Trichloroethane | 0.05 | None |
| Trichloroethene | 0.05 | None |
| Trichlorofluoromethane | 0.05 | None |
| 1,1,2-Trichlorotrifluoroethane | 0.05 | None |
| Vinyl Chloride | 0.05 | None |

Date: December 27, 1989
Client Project ID: Castro Valley
Auto Haus, 20697 Parkway

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-366

Client Sample ID: 9.5 Bottom of East Tank

Sample Date: 11/29/89
Lab Sample ID: S9-11-366-06
Receipt Condition: Cool
Extraction Date: 12/5/89
Analysis Date: 12/11/89

Volatile Aromatics - E.P.A. Methods 602, 8020

Results - Milligrams per Kilogram

| Parameter | Detection Limit | Detected |
|---|---|---|
| Benzene | 0.05 | None |
| Toluene | 0.05 | None |
| Ethyl benzene | 0.05 | None |
| Xylenes (total) | 0.2 | None |

# ATTACHMENT B

## Analytical Results from Monitoring Well Installation Soil Samples

INTERNATIONAL TECHNOLOGY CORPORATION

# ANALYTICAL SERVICES

## CERTIFICATE OF ANALYSIS

Date: 03/07/91

D & D Management Consultants
6440 Hesket Court
San Jose, CA 95123
Paul Dzakowic

Work Order: T1-02-140

This is the Certificate of Analysis for the following samples:

Client Work ID: 20697 Parkway
Date Received: 02/14/91
Number of Samples: 2
Sample Type: solid

**TABLE OF CONTENTS FOR ANALYTICAL RESULTS**



**Reviewed and Approved:**

**Suzanne Veaudry**
**Project Manager**

IT ANALYTICAL SERVICES
SAN JOSE, CA

**Company:** D & D Management Consultants
**Date:** 03/07/91
**Client Work ID:** 20697 Parkway

Work Order: T1-02-140

TEST NAME: **Vol. Organics EPA 624/8240**

SAMPLE ID: **Monitoring Well #1 @ 5'**
SAMPLE DATE: **02/13/91**
LAB SAMPLE ID: **T102140-01**
SAMPLE MATRIX: **solid**
RECEIPT CONDITION: **Cool**
EXTRACTION DATE: **N/A**
ANALYSIS DATE: **02/20/91**

**RESULTS in Milligrams per Kilogram:**

| PARAMETER | DETECTION LIMIT | DETECTED | PARAMETER | DETECTION LIMIT | DETECTED |
|---|---|---|---|---|---|
| Chloromethane | 0.012 | None | cis-1,3-Dichloropropene | 0.006 | None |
| Bromomethane | 0.012 | None | Trichloroethene | 0.006 | None |
| Vinyl Chloride | 0.012 | None | Chlorodibromomethane | 0.006 | None |
| Chloroethane | 0.012 | None | 1,1,2-Trichloroethane | 0.006 | None |
| Dichloromethane | 0.006 | None | Benzene | 0.006 | None |
| Acetone | 0.012 | 0.033 | trans-1,3-Dichloropropene | 0.006 | None |
| Carbon Disulfide | 0.006 | None | Bromoform | 0.006 | None |
| 1,1-Dichloroethene | 0.006 | None | 4-Methyl-2-Pentanone | 0.012 | None |
| 1,1-Dichloroethane | 0.006 | None | 2-Hexanone | 0.012 | None |
| 1,2-Dichloroethene (total) | 0.006 | None | Tetrachloroethene | 0.006 | None |
| Chloroform | 0.006 | None | 1,1,2,2-Tetrachloroethane | 0.006 | None |
| 1,2-Dichloroethane | 0.006 | None | Toluene | 0.006 | None |
| 2-Butanone | 0.012 | None | Chlorobenzene | 0.006 | None |
| 1,1,1-Trichloroethane | 0.006 | None | Ethylbenzene | 0.006 | None |
| Carbon Tetrachloride | 0.006 | None | Styrene | 0.006 | None |
| Vinyl Acetate | 0.012 | None | Xylenes (total) | 0.006 | None |
| Bromodichloromethane | 0.006 | None | Acrolein | 0.012 | None |
| 1,2-Dichloropropane | 0.006 | None | Acrylonitrile | 0.012 | None |

| SURROGATES | LIMITS | % REC |
|---|---|---|
| 1,2-Dichloroethane-d4 | 76-114 | 91. |
| Toluene-d8 | 88-110 | 100. |
| 4-Bromofluorobenzene | 86-115 | 93. |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: D & D Management Consultants
Date: 03/07/91
Client Work ID: 20697 Parkway

Work Order: T1-02-140

TEST NAME: **Metals Analysis**

SAMPLE ID: **Monitoring Well #1 @ 5'**
SAMPLE DATE: **02/13/91**
LAB SAMPLE ID: **T102140-01**
SAMPLE MATRIX: **WET**
RECEIPT CONDITION: **Cool**

**RESULTS in Milligrams per Liter**

| PARAMETER | METHOD | DETECTION LIMIT | DETECTED |
|---|---|---|---|
| Lead (W.E.T.) | 6010 | 0.03 | 0.09 |

IT ANALYTICAL SERVICES
SAN JOSE, CA

**Company:** D & D Management Consultants
**Date:** 03/07/91
**Client Work ID:** 20697 Parkway

**Work Order:** T1-02-140

TEST NAME: **Vol. Organics EPA 624/8240**

SAMPLE ID: **Monitoring Well #1 @ 10'**
SAMPLE DATE: **02/13/91**
LAB SAMPLE ID: **T102140-02**
SAMPLE MATRIX: **solid**
RECEIPT CONDITION: **Cool**
EXTRACTION DATE: **N/A**
ANALYSIS DATE: **02/20/91**

**RESULTS in Milligrams per Kilogram:**

| PARAMETER | DETECTION LIMIT | DETECTED | PARAMETER | DETECTION LIMIT | DETECTED |
|---|---|---|---|---|---|
| Chloromethane | 0.011 | None | cis-1,3-Dichloropropene | 0.005 | None |
| Bromomethane | 0.011 | None | Trichloroethene | 0.005 | None |
| Vinyl Chloride | 0.011 | None | Chlorodibromomethane | 0.005 | None |
| Chloroethane | 0.011 | None | 1,1,2-Trichloroethane | 0.005 | None |
| Dichloromethane | 0.005 | None | Benzene | 0.005 | None |
| Acetone | 0.011 | None | trans-1,3-Dichloropropene | 0.005 | None |
| Carbon Disulfide | 0.005 | None | Bromoform | 0.005 | None |
| 1,1-Dichloroethene | 0.005 | None | 4-Methyl-2-Pentanone | 0.011 | None |
| 1,1-Dichloroethane | 0.005 | None | 2-Hexanone | 0.011 | None |
| 1,2-Dichloroethene (total) | 0.005 | None | Tetrachloroethene | 0.005 | None |
| Chloroform | 0.005 | None | 1,1,2,2-Tetrachloroethane | 0.005 | None |
| 1,2-Dichloroethane | 0.005 | None | Toluene | 0.005 | None |
| 2-Butanone | 0.011 | None | Chlorobenzene | 0.005 | None |
| 1,1,1-Trichloroethane | 0.005 | None | Ethylbenzene | 0.005 | None |
| Carbon Tetrachloride | 0.005 | None | Styrene | 0.005 | None |
| Vinyl Acetate | 0.011 | None | Xylenes (total) | 0.005 | None |
| Bromodichloromethane | 0.005 | None | Acrolein | 0.011 | None |
| 1,2-Dichloropropane | 0.005 | None | Acrylonitrile | 0.011 | None |

| SURROGATES | LIMITS | % REC |
|---|---|---|
| 1,2-Dichloroethane-d4 | 70-121 | 91. |
| Toluene-d8 | 81-117 | 103. |
| 4-Bromofluorobenzene | 74-121 | 91. |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: D & D Management Consultants
Date: 03/07/91
Client Work ID: 20697 Parkway

Work Order: T1-02-140

TEST NAME: **Metals Analysis**

SAMPLE ID: **Monitoring Well #1 @ 10'**
SAMPLE DATE: **02/13/91**
LAB SAMPLE ID: **T102140-02**
SAMPLE MATRIX: **WET**
RECEIPT CONDITION: **Cool**

**RESULTS in Milligrams per Liter**

| PARAMETER | METHOD | DETECTION LIMIT | DETECTED |
|---|---|---|---|
| Lead (W.E.T.) | 6010 | 0.03 | 0.08 |

IT ANALYTICAL SERVICES
SAN JOSE, CA

**Company:** D & D Management Consultants
**Date:** 03/07/91
**Client Work ID:** 20697 Parkway

**Work Order:** T1-02-140

TEST NAME: **Spike and Spike Duplicates**

SAMPLE ID: **Quality Control**
SAMPLE DATE: **not spec**
LAB SAMPLE ID: **T102140-03A**
EXTRACTION DATE:
ANALYSIS DATE: **02/20/91**
ANALYSIS METHOD: **624**

**QUALITY CONTROL REPORT**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Analyses

**RESULTS in Micrograms per Liter**

| PARAMETER | Sample Amt | Spike Amt | MS Result | MSD Result | MS %Rec | MSD %Rec | RPD |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | None | 50. | 31.5 | 33.9 | 63. | 68. | 8. |
| Trichloroethene | None | 50. | 71.5 | 64.8 | 143. | 130. | 10. |
| Benzene | None | 50. | 50.9 | 47.6 | 102. | 95. | 7. |
| Toluene | None | 50. | 52.4 | 50.8 | 105. | 102. | 3. |
| Chlorobenzene | None | 50. | 51.3 | 48.9 | 103. | 98. | 5. |

| SURROGATES | MS %Rec | MSD %Rec |
|---|---|---|
| 1,2-Dichloroethane-d4 | 90. | 95. |
| Toluene-d8 | 103. | 106. |
| P-Bromofluorobenzene | 89. | 86. |

IT ANALYTICAL SERVICES
SAN JOSE, CA

**Company: D & D Management Consultants**
**Date: 03/07/91**
**Client Work ID: 20697 Parkway**

**Work Order: T1-02-140**

TEST CODE **624** TEST NAME **Vol. Organics EPA 624/8240**

The method of analysis for volatile organics is taken from EPA Methods 624 and 8240. Water samples and low-level soil samples are analyzed directly using the purge and trap technique. Medium-level soil samples are extracted with methanol and a portion of the extract is analyzed using the purge and trap technique. Final detection is by gas chromatography-mass spectrometry.

TEST CODE **METALS** TEST NAME **Metals Analysis**

The methods of analysis for metals are taken from E.P.A. protocol, using methods from SW-846, 3rd Edition or Methods for Chemical Analysis of Water and Wastes, 600/4-79-020. The method used is listed adjacent to the parameter in the table.

TEST CODE **WET_S** TEST NAME **W.E.T. - Soil**

For the Waste Extraction Test the samples were prepared by extraction with 0.2M sodium citrate for 48 hours. The resulting values are the soluble threshold limit concentrations for the requested parameters.

T1-02-140

# CHAIN OF CUSTODY RECORD

D & D Management Consultants, Inc
6440 Hoskot Court
San Jose, CA 95123

| PROJECT NO. | SITE NAME & ADDRESS |
|---|---|
| | 20697 Parkway |

WITNESSING AGENCY / INSPECTOR NAME / DATE

| ID NO. | DATE | TIME | SOIL | WATER | SAMPLING LOCATION | TPH (Gasoline) & B, T, X, & E | TPH (Diesel) & B, T, X, & E | Total Oil & Grease | Halogenated HC's | B, T, X & E | ~~Soluble~~ Heavy Metals | Volatile Organics EPA 8240 | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01A | 7/13/91 | 0930 | X | | Monitoring Well #1 @ 5' | | | | | | X | X | Routine Turn Around |
| 02A | 7/13/91 | 0945 | X | | Monitoring Well #1 @ 10' | | | | | | X | X | |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
|---|---|---|
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| Relinquished by: (Signature) | 7/14/91 0934 | Received for Laboratory by: (Signature) |

The following MUST BE completed by the laboratory accepting samples for analysis:

1. Have all samples received for analysis been stored in ice? yes
2. Will samples remain refrigerated until analyzed? yes
3. Did any samples received for analysis have head space? N/A
4. Were samples in appropriate containers and properly packaged? Yes

Signature — Title: Sample Custodian — Date: 7/14/91

Rev: 1-88

**ATTACHMENT C**

**Analytical Results**
**May, 1991 Groundwater Sampling**

INTERNATIONAL TECHNOLOGY CORPORATION

June 20, 1991

Mr. Jim Craig
Castro Valley Autohaus
20697 Park Way
Castro Valley, CA 94546

Dear Jim Craig:

On Thursday May 23, IT Corporation (IT) performed monitoring well sampling for Castro Valley Autohaus located at 20697 Parkway, Castro Valley, CA. Monitoring well MW-1 was initially developed by IT on May 17 using hand pump and bailer techniques. The groundwater samples from MW-1 (Z-1018, Z-1019, Z-1020, Z-1021) were collected under Chain of Custody controls and submitted to IT Corporations San Jose laboratory for analysis. Sample Z-1018 and Z-1020 were obtained from the top six inches (6") and bottom six inches (6") of the water column respectively. Duplicate samples Z-1019 and Z-1021 were submitted to the laboratory and subsequently discarded due to lack of importance. The results of the laboratory analyses along with completed Chain of Custody and Request for Analyses are attached for your review.

If you have any questions concerning the analytical results or any aspect of the job, please do not hesitate to contact me at (415) 372-9100 extension 3305.

Sincerely,

J. Brin Owen III
Analytical Project Manager

JBO:gal

attachments

FAS:1113.BO

INTERNATIONAL TECHNOLOGY CORPORATION

# ANALYTICAL SERVICES

## CERTIFICATE OF ANALYSIS

**Date: 06/11/91**

**IT Corporation, Martinez**
**4585 Pacheco Blvd.**
**Martinez, CA 94553**
**Jim Reid**

**Work Order: T1-05-249** **P.O. Number: 161067**

**This is the Certificate of Analysis for the following samples:**

**Client Work ID: 161067 Castro Valley Autohs**
**Date Received: 05/23/91**
**Number of Samples: 4**
**Sample Type: aqueous**

**TABLE OF CONTENTS FOR ANALYTICAL RESULTS**



**Reviewed and Approved:**

Elizabeth M. Hager

**Elizabeth M. Hager**
**Project Manager**

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: IT Corporation, Martinez
Date: 06/11/91
Client Work ID: 161067 Castro Valley Autohs

Work Order: T1-05-249

TEST NAME: **Halocarbons by 8010/601**

SAMPLE ID: **Z1018**
SAMPLE DATE: **05/23/91**
LAB SAMPLE ID: **T105249-01**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool**
EXTRACTION DATE: **N/A**
ANALYSIS DATE: **05/30/91**

**RESULTS in Micrograms per Liter**

| PARAMETER | DETECTION LIMIT | DETECTED |
|---|---|---|
| Chloromethane | 0.5 | None |
| Bromomethane | 0.5 | None |
| Vinyl chloride | 0.5 | None |
| Chloroethane | 0.5 | None |
| Methylene Chloride | 0.5 | None |
| 1,1-Dichloroethene | 0.5 | None |
| 1,1-Dichloroethane | 0.5 | 1.3 |
| Chloroform | 0.5 | None |
| 1,2-Dichloroethane | 0.5 | None |
| 1,1,1-Trichloroethane | 0.5 | None |
| Carbon tetrachloride | 0.5 | None |
| Bromodichloromethane | 0.5 | None |
| 1,1,2,2-Tetrachloroethane | 0.5 | None |
| 1,2-Dichloropropane | 0.5 | None |
| trans-1,3-dichloropropene | 0.5 | None |
| Trichloroethene | 0.5 | None |
| Dibromochloromethane | 0.5 | None |
| 1,1,2-Trichloroethane | 0.5 | None |
| cis-1,3-Dichloropropene | 0.5 | None |
| Bromoform | 0.5 | None |
| Tetrachloroethene | 0.5 | None |
| Dichlorodifluoromethane | 0.5 | None |
| Trichlorofluoromethane | 0.5 | None |
| cis-1,2-Dichloroethene | 0.5 | None |
| trans-1,2-Dichloroethene | 0.5 | None |
| Chlorobenzene | 0.5 | None |
| 1,2-Dichlorobenzene | 0.5 | None |
| 1,3-Dichlorobenzene | 0.5 | None |
| 1,4-Dichlorobenzene | 0.5 | None |
| 1,1,2-Trichlorotrifluoroethane | 0.5 | None |
| 1-Chloro-2-fluorobenzene (Surr) | 70-120% | 106.% |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: IT Corporation, Martinez
Date: 06/11/91
Client Work ID: 161067 Castro Valley Autohs

Work Order: T1-05-249

TEST NAME: **Metals Analysis**

SAMPLE ID: **Z1018**
SAMPLE DATE: **05/23/91**
LAB SAMPLE ID: **T105249-01**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool**

**RESULTS in Milligrams per Liter**

| PARAMETER | METHOD | DETECTION LIMIT | DETECTED |
|---|---|---|---|
| Lead (org.) | DHS | 0.01 | **None** |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: IT Corporation, Martinez
Date: 06/11/91
Client Work ID: 161067 Castro Valley Autohs

Work Order: T1-05-249

TEST NAME: **Halocarbons by 8010/601**

SAMPLE ID: **Z1020**
SAMPLE DATE: **05/23/91**
LAB SAMPLE ID: **T105249-03**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool**
EXTRACTION DATE: **N/A**
ANALYSIS DATE: **05/30/91**

**RESULTS in Micrograms per Liter**

| PARAMETER | DETECTION LIMIT | DETECTED |
|---|---|---|
| Chloromethane | 0.5 | None |
| Bromomethane | 0.5 | None |
| Vinyl chloride | 0.5 | None |
| Chloroethane | 0.5 | None |
| Methylene Chloride | 0.5 | None |
| 1,1-Dichloroethene | 0.5 | None |
| 1,1-Dichloroethane | 0.5 | 1.2 |
| Chloroform | 0.5 | None |
| 1,2-Dichloroethane | 0.5 | None |
| 1,1,1-Trichloroethane | 0.5 | None |
| Carbon tetrachloride | 0.5 | None |
| Bromodichloromethane | 0.5 | None |
| 1,1,2,2-Tetrachloroethane | 0.5 | None |
| 1,2-Dichloropropane | 0.5 | None |
| trans-1,3-dichloropropene | 0.5 | None |
| Trichloroethene | 0.5 | None |
| Dibromochloromethane | 0.5 | None |
| 1,1,2-Trichloroethane | 0.5 | None |
| cis-1,3-Dichloropropene | 0.5 | None |
| Bromoform | 0.5 | None |
| Tetrachloroethene | 0.5 | None |
| Dichlorodifluoromethane | 0.5 | None |
| Trichlorofluoromethane | 0.5 | None |
| cis-1,2-Dichloroethene | 0.5 | None |
| trans-1,2-Dichloroethene | 0.5 | None |
| Chlorobenzene | 0.5 | None |
| 1,2-Dichlorobenzene | 0.5 | None |
| 1,3-Dichlorobenzene | 0.5 | None |
| 1,4-Dichlorobenzene | 0.5 | None |
| 1,1,2-Trichlorotrifluoroethane | 0.5 | None |
| 1-Chloro-2-fluorobenzene (Surr) | 70-120% | 111.% |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: IT Corporation, Martinez
Date: 06/11/91
Client Work ID: 161067 Castro Valley Autohs

Work Order: T1-05-249

TEST NAME: **Metals Analysis**

SAMPLE ID: **Z1020**
SAMPLE DATE: **05/23/91**
LAB SAMPLE ID: **T105249-03**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool**

**RESULTS in Milligrams per Liter**

| PARAMETER | METHOD | DETECTION LIMIT | DETECTED |
|---|---|---|---|
| Lead (org.) | DHS | 0.01 | None |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: IT Corporation, Martinez
Date: 06/11/91
Client Work ID: 161067 Castro Valley Autohs

Work Order: T1-05-249

TEST NAME: **Spike and Spike Duplicates**

SAMPLE ID: **Quality Control**
SAMPLE DATE: **not spec**
LAB SAMPLE ID: **T105249-05B**
EXTRACTION DATE:
ANALYSIS DATE: **05/30/91**
ANALYSIS METHOD: **601/8010**

## QUALITY CONTROL REPORT

Laboratory Spike(LS) and Laboratory Spike Duplicate(LSD) Analyses

**RESULTS in Micrograms per Liter**

| PARAMETER | Sample Amt | Spike Amt | LS Result | LSD Result | LS %Rec | LSD %Rec | RPD |
|---|---|---|---|---|---|---|---|
| Chlorobenzene | None | 10.0 | 11.1 | 10.6 | 111. | 106. | 5. |
| 1,1-Dichloroethene | None | 10.0 | 12.0 | 11.4 | 120. | 114. | 5. |
| Trichloroethene | None | 10.0 | 11.8 | 11.4 | 118. | 114. | 3. |

| SURROGATES | LS %Rec | LSD %Rec |
|---|---|---|
| 1-Chloro-2-fluorobenzene | 109. | 109. |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: IT Corporation, Martinez
Date: 06/11/91
Client Work ID: 161067 Castro Valley Autohs

Work Order: T1-05-249

TEST NAME: **Spike and Spike Duplicates**

SAMPLE ID: **Quality Control**
SAMPLE DATE: **not spec**
LAB SAMPLE ID: **T105249-05B**
EXTRACTION DATE:
ANALYSIS DATE: **05/31/91**
ANALYSIS METHOD: **Metals (DFAAS)**

**QUALITY CONTROL REPORT**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Analyses

**RESULTS in Milligrams per Liter**

| PARAMETER | Sample Amt | Spike Amt | MS Result | MSD Result | MS %Rec | MSD %Rec | RPD |
|---|---|---|---|---|---|---|---|
| Lead (Organic) | None | 1.69 | 1.85 | N/A | 109.5 | N/A | N/A |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: IT Corporation, Martinez
Date: 06/11/91
Client Work ID: 161067 Castro Valley Autohs

Work Order: T1-05-249

TEST NAME: **Halocarbons by 8010/601**

SAMPLE ID: **Quality Control - MB**
SAMPLE DATE: **not spec**
LAB SAMPLE ID: **T105249-05**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool**
EXTRACTION DATE: **N/A**
ANALYSIS DATE: **05/30/91**

**RESULTS in Micrograms per Liter**

| PARAMETER | DETECTION LIMIT | DETECTED |
|---|---|---|
| Chloromethane | 0.5 | None |
| Bromomethane | 0.5 | None |
| Vinyl chloride | 0.5 | None |
| Chloroethane | 0.5 | None |
| Methylene Chloride | 0.5 | None |
| 1,1-Dichloroethene | 0.5 | None |
| 1,1-Dichloroethane | 0.5 | None |
| Chloroform | 0.5 | None |
| 1,2-Dichloroethane | 0.5 | None |
| 1,1,1-Trichloroethane | 0.5 | None |
| Carbon tetrachloride | 0.5 | None |
| Bromodichloromethane | 0.5 | None |
| 1,1,2,2-Tetrachloroethane | 0.5 | None |
| 1,2-Dichloropropane | 0.5 | None |
| trans-1,3-dichloropropene | 0.5 | None |
| Trichloroethene | 0.5 | None |
| Dibromochloromethane | 0.5 | None |
| 1,1,2-Trichloroethane | 0.5 | None |
| cis-1,3-Dichloropropene | 0.5 | None |
| Bromoform | 0.5 | None |
| Tetrachloroethene | 0.5 | None |
| Dichlorodifluoromethane | 0.5 | None |
| Trichlorofluoromethane | 0.5 | None |
| cis-1,2-Dichloroethene | 0.5 | None |
| trans-1,2-Dichloroethene | 0.5 | None |
| Chlorobenzene | 0.5 | None |
| 1,2-Dichlorobenzene | 0.5 | None |
| 1,3-Dichlorobenzene | 0.5 | None |
| 1,4-Dichlorobenzene | 0.5 | None |
| 1,1,2-Trichlorotrifluoroethane | 0.5 | None |
| 1-Chloro-2-fluorobenzene (Surr) | 70-120% | 97.% |

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: IT Corporation, Martinez
Date: 06/11/91
Client Work ID: 161067 Castro Valley Autohs

Work Order: T1-05-249

TEST CODE **601** TEST NAME **Halocarbons by 8010/601**

The method of analysis for volatile halocarbons is taken from EPA Methods 601 and 8010. Samples are examined using the purge and trap technique. Final detection is by gas chromatography using an electrolytic conductivity detector.

TEST CODE **METALS** TEST NAME **Metals Analysis**

The methods of analysis for metals are taken from E.P.A. protocol, using methods from SW-846, 3rd Edition or Methods for Chemical Analysis of Water and Wastes, 600/4-79-020. The method used is listed adjacent to the parameter in the table.

TEST CODE **ORGPB** TEST NAME **Organic Lead in Water**

The method of analysis for Organic Lead was taken from the California Department of Health Services, Method for Organic Lead Analysis.

T1-05 249

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 223796
O/C Control No. 23151

PROJECT NAME: Castro Valley Autohaus
PROJECT NUMBER: 161067
PROFIT CENTER NUMBER: 4626
PROJECT MANAGER: Jim Reid
BILL TO: Jim Reid, 4585 Pacheco Blvd, Martinez, CA. 94553
PURCHASE ORDER NO.: 161067

DATE SAMPLES SHIPPED: 5/23/91
LAB DESTINATION: ITAS San Jose
LABORATORY CONTACT: Beth Hager
SEND LAB REPORT TO: Jim Reid, 4585 Pacheco Blvd, Martinez, CA. 94553
DATE REPORT REQUIRED: 3 week TAT
PROJECT CONTACT: Jim Reid / Brian Quinn
PROJECT CONTACT PHONE NO.: 512-2100 (415)

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| Z 1018 | groundwater | 3 X 40ml | cool | 601 | Spoke to B. Hager ITAS San Jose about archiving Z-1019 & Z-1021 (Duplicates) & not to run them, she will check status & get back to me. |
| Z 1018 | " | 1 X 1L | " | Organic Lead | |
| Z 1019 | " | 3 X 40ml | " | 601 | |
| Z 1019 | " | 1 X 1L | " | Organic Lead | |
| Z 1020 | " | 3X 40 ml | " | 601 | |
| Z 1020 | " | 1 X 1 L | " | Organic Lead | |
| Z 1021 | " | 3X 40 ml | " | 601 | |
| Z 1021 | groundwater | 1 X 1 L | cool | Organic Lead | |
| | | | | | |
| | | | | | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
**Normal** _____ **Rush** _____ (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
**I** _____ **II** _____ **III** _____ **Project Specific** _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
**Non-hazard** _____ **Flammable** _____ **Skin Irritant** _____ **Highly Toxic** _____ **Other** _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
**Return to Client** _____ **Disposal by Lab** _____ **Archive** _____ **(Indicate number of months.)**

FOR LAB USE ONLY
**Received by** _____ **Date/Time** 5/23/91 1402

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

T1-05 249

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 279791

C/C Control No. 231318

PROJECT NAME/NUMBER Castro Valley Antohaus

LAB DESTINATION ITAS-SJ

SAMPLE TEAM MEMBERS J. Reed

CARRIER/WAYBILL NO. hand Delivered

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| Z1018 | MW-1 1st 6" of | 5/23/91 1205 | water | 3x40ml VOA | Room Temp 5/23/91 | |
| Z1018 | MW-1 water Column | 1205 | | 2x1L glass | | |
| Z1019 | MW-1 1st 6" | 1210 | | 3x40ml VOA | | |
| Z1019 | MW-1 Duplicate | 1210 | | 2x1L glass | | |
| Z1020 | MW-1 bottom 6" of | 1215 | | 3x40ml VOA | | |
| Z1020 | MW-1 water Column | 1215 | | 2x1L glass | | |
| Z1021 | MW-1 bottom 6" | 1220 | | 3x40ml VOA | | |
| Z1021 | MW-1 Duplicate | 5/22/91 1220 | water | 2x1L glass | | |
| | | | | | | |
| | | | | | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: J. Reed, ITcorp, 5/23/91, 1402

   Received By: [signature] 5/23/91 1402

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

127A-10-85

**ATTACHMENT D**

**Soil & Groundwater Sample Collection & Handling Protocol**

# ATTACHMENT D

## SOIL & GROUNDWATER SAMPLE COLLECTION & HANDLING PROTOCOL

### INTRODUCTION & PURPOSE

Because reliable and representative test results must be generated from soil and groundwater samples, it is essential to establish a sampling procedure which assures that all samples are:

- Collected by approved and repeatable methods
- Representative of the materials(s) at the desired location and depth
- Uncontaminated by container and sampling equipment

The following sampling protocol was designed to be a guide to the sampling and handling procedures for soil and groundwater samples. Based on conditions which may be encountered in the field, some modifications to this protocol may be required to fit the needs of an individual site.

### SAMPLING PROCEDURES

#### Groundwater Sampling

Prior to collecting groundwater samples, monitoring wells were purged by bailing until pH, conductivity, and temperature levels stabilize. A minimum of four well casing volumes was purged from each well. Wells were purged and groundwater samples were obtained using a teflon bailer, or disposable polyethelene bailer, and nylon rope. New nylon rope is used for each well.

The appropriate number of sample containers and type were used for each sample collected, in accordance with the analytical laboratory requirements and EPA protocol. The bottles were filled using the bailer. All sample bottles were pre-cleaned by the supplier according to EPA protocols.

To prevent cross contamination of groundwater samples by the sampling equipment, all reusable equipment used in sampling was washed with a trisodium phosphate solution (TSP), triple rinsed with purified water, and

allowed to air dry prior to each use. A sample of the purified water was retained for analysis as part of sample quality assurance.

**Soil Sampling**

After the soil sampler was driven to the desired depth and the samples were retrieved, each end of the tube containing the soil sample retained for laboratory analysis was sealed with teflon sheeting, covered with plastic end caps, and sealed with PVC tape. All sample containers (tubes) were steamed cleaned (or washed with TSP, as above) and air dried prior to use. The soil sample recovered in the tube just above the sample retained for chemical analysis was examined in the field for visual and olfactory indications of chemical contamination and used for lithologic description.

The Unified Soil Classification System (USCS) was used to log and describe the soil by the onsite geologist. These logs also include details of the sampling process such as depth, apparent odors, discoloration, and any other factors which may be required to evaluate the presence of contamination at the site.

**POST SAMPLING PROCEDURES**

One field/travel blank consisting of one sample bottle filled with purified water accompanied soil and groundwater sample containers at all times, including during transport to and from the site. Purified water field/travel blanks were analyzed according to the appropriate EPA Methods corresponding to the soil/groundwater sample analyses.

Sample containers were labeled with sample number, project number, date, and the initials of the person collecting the sample. A separate sample collection record was maintained for each groundwater sample collected.

Soil and groundwater samples collected were analyzed by an analytical laboratory certified by the California Department of Health Services (DHS). Quality assurance documentation accompanied all analytical reports generated by the laboratory.

The samples were placed in a cooler with dry ice (for soil samples) or bagged ice (for water samples) immediately following collection, and remained in the cooler until refrigerated at the analytical laboratory. The samples were delivered to the laboratory direct by courier or overnight freight within 48 hours of time of collection. Appropriate chain of custody forms were used for all samples.

# ATTACHMENT E

## Analytical Results for August, 1991 Groundwater Sampling

# CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

August 29, 1991 — ChromaLab File # 0891207 B

Client: Aqua Terra Tech., Inc. — Attn: Brad Bennett
Date Sampled: Aug. 21, 1991 — Date Submitted: Aug. 22, 1991
Date Analyzed: Aug. 28, 1991

Project Number: — Project Name:
Sample I.D.: MW 1
Method of Analysis: EPA 624 — Detection Limit: 2.0 µg/l

| COMPOUND NAME | µg/l | Spike Recovery |
|---|---|---|
| CHLOROMETHANE | N.D. | --- |
| VINYL CHLORIDE | N.D. | --- |
| BROMOMETHANE | N.D. | --- |
| CHLOROETHANE | N.D. | --- |
| TRICHLOROFLUOROMETHANE | N.D. | --- |
| 1,1-DICHLOROETHENE | N.D. | 92.6% 91.7% |
| METHYLENE CHLORIDE | N.D. | --- |
| 1,2-DICHLOROETHENE (TOTAL) | N.D. | --- |
| 1,1-DICHLOROETHANE | N.D. | --- |
| CHLOROFORM | N.D. | --- |
| 1,1,1-TRICHLOROETHANE | N.D. | --- |
| CARBON TETRACHLORIDE | N.D. | --- |
| 1,2-DICHLOROETHANE | N.D. | --- |
| BENZENE | N.D. | --- |
| TRICHLOROETHENE | N.D. | 94.2% 93.5% |
| 1,2-DICHLOROPROPANE | N.D. | --- |
| BROMODICHLOROMETHANE | N.D. | --- |
| 2-CHLOROETHYLVINYLETHER | N.D. | --- |
| TRANS-1,3-DICHLOROPROPENE | N.D. | --- |
| TOLUENE | N.D. | --- |
| CIS-1,3-DICHLOROPROPENE | N.D. | --- |
| 1,1,2-TRICHLOROETHANE | N.D. | --- |
| TETRACHLOROETHENE | N.D. | 89.7% 87.6% |
| DIBROMOCHLOROMETHANE | N.D. | --- |
| CHLOROBENZENE | N.D. | --- |
| ETHYL BENZENE | N.D. | --- |
| BROMOFORM | N.D. | --- |
| 1,1,2,2-TETRACHLOROETHANE | N.D. | 90.5% 88.4% |
| 1,3-DICHLOROBENZENE | N.D. | --- |
| 1,4-DICHLOROBENZENE | N.D. | --- |
| 1,2-DICHLOROBENZENE | N.D. | --- |
| TOTAL XYLENES | N.D. | --- |
| ACETONE | N.D. | --- |
| METHYL ETHYL KETONE | N.D. | --- |
| METHYL ISOBUTYL KETONE | N.D. | --- |

ChromaLab, Inc.

David Duong
Chief Chemist

Eric Tam
Lab Director

2239 Omega Road, #1 • San Ramon, California 94583
510/831-1788 • Facsimile 510/831-8798
Federal ID #68-0140157

# CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

August 29, 1991

ChromaLab File # 0891207 C

Client: Aqua Terra Tech., Inc.
Attn: Brad Bennett
Date Sampled: Aug. 21, 1991
Date Submitted: Aug. 22, 1991
Date Analyzed: Aug. 28, 1991

Project Number:
Project Name:
Sample I.D.: FB
Method of Analysis: EPA 624
Detection Limit: 2.0 µg/l

| COMPOUND NAME | µg/l | Spike Recovery |
|---|---|---|
| CHLOROMETHANE | N.D. | --- |
| VINYL CHLORIDE | N.D. | --- |
| BROMOMETHANE | N.D. | --- |
| CHLOROETHANE | N.D. | --- |
| TRICHLOROFLUOROMETHANE | N.D. | --- |
| 1,1-DICHLOROETHENE | N.D. | 92.6% 91.7% |
| METHYLENE CHLORIDE | N.D. | --- |
| 1,2-DICHLOROETHENE (TOTAL) | N.D. | --- |
| 1,1-DICHLOROETHANE | N.D. | --- |
| CHLOROFORM | N.D. | --- |
| 1,1,1-TRICHLOROETHANE | N.D. | --- |
| CARBON TETRACHLORIDE | N.D. | --- |
| 1,2-DICHLOROETHANE | N.D. | --- |
| BENZENE | N.D. | --- |
| TRICHLOROETHENE | N.D. | 94.2% 93.5% |
| 1,2-DICHLOROPROPANE | N.D. | --- |
| BROMODICHLOROMETHANE | N.D. | --- |
| 2-CHLOROETHYLVINYLETHER | N.D. | --- |
| TRANS-1,3-DICHLOROPROPENE | N.D. | --- |
| TOLUENE | N.D. | --- |
| CIS-1,3-DICHLOROPROPENE | N.D. | --- |
| 1,1,2-TRICHLOROETHANE | N.D. | --- |
| TETRACHLOROETHENE | N.D. | 89.7% 87.6% |
| DIBROMOCHLOROMETHANE | N.D. | --- |
| CHLOROBENZENE | N.D. | --- |
| ETHYL BENZENE | N.D. | --- |
| BROMOFORM | N.D. | --- |
| 1,1,2,2-TETRACHLOROETHANE | N.D. | 90.5% 88.4% |
| 1,3-DICHLOROBENZENE | N.D. | --- |
| 1,4-DICHLOROBENZENE | N.D. | --- |
| 1,2-DICHLOROBENZENE | N.D. | --- |
| TOTAL XYLENES | N.D. | --- |
| ACETONE | N.D. | --- |
| METHYL ETHYL KETONE | N.D. | --- |
| METHYL ISOBUTYL KETONE | N.D. | --- |

ChromaLab, Inc.

David Duong
Chief Chemist

Eric Tam
Lab Director

2239 Omega Road, #1 • San Ramon, California 94583
510/831-1788 • Facsimile 510/831-8798
Federal ID #68-0140157

**Aqua Terra Technologies, Inc.**
2950 Buskirk Avenue, Ste. 120
Walnut Creek, CA 94596
Tel. (415) 934-4884
Fax. (415) 934-0418

ATT

# CHAIN OF SAMPLE CUSTODY RECORD

(original document, please return)



Sampled By: RICHARD BRUSH
Date Sampled: 8/21/91
Signature: [signature]
ATT Job #:
Lab Name: CHROMALAB
Results To Be Sent To: BRAD BENNETT
Contact:
Results Needed By: 5 DAY TURN AROUND
Phone #:
Fax Results ASAP ☐
Lab Job #:

| Sample Collection | | | | Sample Preservation | | | | Sample Containers | | | | Analysis/EPA Method No. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample I.D. | Time (24 hr) | Matrix (e.g. Water, Soil) | Number of Containers | Ice | HCL | Dry Ice | | 2" Brass Tube | 40 mL Glass VOA | | | TPH-G | BTEX | TEPH | 8240 | | | Remarks |
| SP1 | 15:25 | SOIL | 1 | X | | | | X | | | | X | X | X | | | | |
| | | | | | | | | | | | | | | | | | | |
| MW1 | 15:55 | WATER | 3 | X | | | | | X | | | | | | X | | | |
| FB | 15:39 | " | " | X | | | | | X | | | | | | X | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

CHROMALAB FILE # 891207
ORDER # 3253

Notes:
SP1 IS A COMPOSITE SOIL SAMPLE, COMPOSITE WAS DONE IN THE FIELD. ALL SAMPLES KEPT ON ICED COOLER UNTIL REACHING THE LAB

| Relinquished by/ Company Affiliation | Date | Time | Received by: Company Affiliation | Date | Time |
|---|---|---|---|---|---|
| [signature] | 8-22-91 | 11.45 | [signature] | 8 22.91 | 11.45 |
| | | | | | |
| | | | | | |

SAMPLE COLLECTION RECORD - MONITOR WELL

ATT

Date: 8-21-91 Sample I.D.: MW1 Job No.: 919289

Site Location: CASTRO VALLEY AUTOHAUS

No. of Containers : 3 /(check one): X Well Samples;

___Duplicates from well_____; ___Travel Blanks;

___Field Blanks; ___Other (explain)/_____

W.L.(1/100'): 8.11 Time : 15:25 B.O.W.(1/2'): 12.5'

Method: X Electric Well Sounder; ___Other/_____

Con./pH meter calibrated: (Y) / N Well Loc. Map: (Y) / N

Calculated Purge Volume (4 casing volumes): 3 gallons

Purging Method: X Disposable Bailer; ___Teflon Bailer;

___Other/_____

Time Start Purging (24 hr): 15:46, Product: Y / (N)
Sheen: Y / (N), Odor: Y / (N), Vapor:____ ppm / %LEL

Turbidity: N, Color: N

Time Stop Purging (24 hr): 15:52, Product: Y / (N)
Sheen: Y / (N), Odor: Y / (N), Vapor:____ ppm / %LEL

Turbidity: N, Color: N

| | Temp. | pH | Cond. | Purge Vol. | Time |
|---|---|---|---|---|---|
| First : | 22 °C | 7.20 | 1340 µs | 1 | 15:48 |
| Second: | 22 °C | 7.47 | 1380 µs | 2 | 15:50 |
| Final : | 22 ° | 7.54 | 1390 µs | 3 | 15:52 |

Sample Collection Time (24 hr): 15:55

Notes:_____

_____

_____

Collected By (signature): _____

SAMPLE COLLECTION RECORD - MONITOR WELL

ATT

Date: 8-21-91 Sample I.D.: FB Job No.: 919289

Site Location: CASTRO VALLEY AUTOHAUS

No. of Containers : 3 /(check one): ___Well Samples;

___Duplicates from well_____; ___Travel Blanks;

_X_Field Blanks; ___Other (explain)/_____

W.L.(1/100'):_____ Time :_____ B.O.W.(1/2'):_____

Method:___Electric Well Sounder; ___Other/_____

Con./pH meter calibrated: Y / N Well Loc. Map: Y / N

Calculated Purge Volume (4 casing volumes):_____ gallons

Purging Method: _X_Disposable Bailer; ___Teflon Bailer;

___Other/_____

Time Start Purging (24 hr):_____, Product: Y / N
Sheen: Y / N , Odor: Y / N , Vapor:____ ppm / %LEL

Turbidity:_____, Color:_____

Time Stop Purging (24 hr):_____, Product: Y / N
Sheen: Y / N , Odor: Y / N , Vapor:____ ppm / %LEL

Turbidity:_____, Color:_____

| | Temp. | pH | Cond. | Purge Vol. | Time |
|---|---|---|---|---|---|
| First : | | | | | |
| Second: | | | | | |
| Final : | | | | | |

Sample Collection Time (24 hr): 15:39

Notes:_____

_____

_____

Collected By (signature): [signature]