



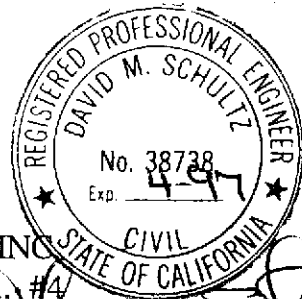
ENVIRONMENTAL  
PROTECTION  
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October 30, 1996

STD  
269

REPORT  
of  
SOIL AND GROUNDWATER ASSESSMENT  
ASE JOB NO. 2971  
at  
Custom Alloy Scrap Sales  
2711 Union Street  
Oakland, California

Submitted by:  
AQUA SCIENCE ENGINEERS, INC.  
2411 Old Crow Canyon Road, #4  
San Ramon, CA 94583  
(510) 820-9391



*[Handwritten signature]*

## TABLE OF CONTENTS

<u>SECTION</u>		<u>PAGE</u>
1.0	INTRODUCTION	1
2.0	SITE HISTORY	1
3.0	SCOPE OF WORK	2
4.0	DRILLING SOIL BORINGS AND COLLECTING SAMPLES	3
5.0	ANALYTICAL RESULTS FOR SOIL	4
6.0	MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING	6
7.0	GROUNDWATER ELEVATIONS	7
8.0	ANALYTICAL RESULTS FOR GROUNDWATER	7
9.0	CONCLUSIONS AND RECOMMENDATIONS	9
10.0	REPORT LIMITATIONS	10

### LIST OF TABLES

TABLE 1	ANALYTICAL RESULTS FOR SOIL	5
TABLE 2	GROUNDWATER ELEVATIONS	7
TABLE 3	ANALYTICAL RESULTS FOR GROUNDWATER	8

## **LIST OF FIGURES**

- FIGURE 1        SITE LOCATION MAP
- FIGURE 2        MONITORING WELL LOCATION MAP
- FIGURE 3        GROUNDWATER ELEVATION CONTOUR MAP

## **LIST OF APPENDICES**

- APPENDIX A      JUNE 17, 1996 LETTER FROM THE ALAMEDA COUNTY  
HEALTH CARE SERVICES AGENCY
- APPENDIX B      PERMIT
- APPENDIX C      BORING LOGS AND WELL CONSTRUCTION DETAILS
- APPENDIX D      ANALYTICAL REPORT AND CHAIN OF CUSTODY FORM FOR  
SOIL SAMPLES
- APPENDIX E      WELL SAMPLING FIELD LOGS
- APPENDIX F      ANALYTICAL REPORT AND CHAIN OF CUSTODY FORM FOR  
GROUNDWATER SAMPLES

## 1.0 INTRODUCTION

This report outlines the methods and findings of Aqua Science Engineers, Inc. (ASE)'s soil and groundwater assessment at the property located at 2711 Union Street in Oakland, California (Figure 1). This property is currently being occupied by Custom Alloy Scrap Sales, a metal recycler. The proposed site assessment activities were initiated by Mr. Eugene Teasley of Gardiner Manufacturing as required in a letter from the Alameda County Health Care Services Agency (ACHCSA) dated June 17, 1996.

## 2.0 SITE HISTORY

The site was previously occupied by Gardiner Manufacturing as a machining and press operation. Beginning in 1985, Custom Alloy Scrap Sales occupied the property as a metal scrap recycling operation. Custom Alloy Scrap Sales is currently the tenant on the property.

In August 1990, MacKinnon Environmental Consulting of Walnut Creek, California conducted a limited soil assessment at the site. Up to 4,000 parts per million (ppm) oil and grease (O&G) and 2,600 ppm total petroleum hydrocarbons as diesel (TPH-D) were detected in the soil samples collected during the assessment.

In March 1996, ASE drilled ten soil borings at the site. Up to 4,300 ppm TPH-D, 4,500 ppm O&G, 0.01 ppm toluene, 0.0092 ppm ethylbenzene, 0.011 ppm total xylenes, 0.055 ppm cis-1,2-dichloroethene (cis-1,2-DCE), 0.018 ppm trans-1,2-dichloroethene (trans-1,2-DCE) and 0.052 ppm trichloroethene (TCE) were detected in the soil samples collected during this assessment. None of these volatile organic compound (VOC) concentrations, nor any of the metal concentrations detected, exceeded US EPA Region IX Preliminary Remediation Goals (PRGs) for Industrial Soil. Up to 7,100 parts per billion (ppb) O&G, 43 ppb vinyl chloride, 2.1 ppb 1,1-dichloroethene, 22 ppb 1,1-dichloroethane, 78 ppb cis-1,2-DCE, 15 ppb trans-1,2-DCE, 100 ppb TCE, 1 ppb tetrachloroethene (PCE), 21 ppb chlorobenzene, and 39 ppb 1,2-dichlorobenzene were detected in groundwater samples collected from the site. Several of these VOC concentrations exceeded California Department of Toxic Substances Control (DTSC) maximum contaminant levels (MCLs) for drinking water. Although groundwater in the site vicinity is not utilized for drinking water, Ms. Susan Hugo of the ACHCSA prepared a letter dated June 17, 1996 requesting additional soil and groundwater assessment activities at the site.

### 3.0 SCOPE OF WORK (SOW)

Based on the site history and requirements outlined in the June 17, 1996 letter from the ACHCSA, ASE's SOW was as follows:

- 1) Prepare a workplan and a health and safety plan for approval by ACHCSA.
- 2) Obtain all necessary permits from the appropriate agencies including Alameda County Flood Control and Water Conservation District - Zone 7 well construction permits. ASE also notified Underground Service Alert (USA) to have all known public utility lines marked.
- 3) Core drill through the concrete in each location chosen for monitoring well installation.
- 4) Drill four (4) soil borings to approximately 25-feet below ground surface (bgs) at the site. One of the borings is placed in the area between borings BH-A and BH-C from ASE's previous assessment. Another boring is placed as close as possible to the property line closest to Poplar Street to assess the downgradient extent of contamination in the vicinity of BH-A. The third boring is placed near the pass-through and rotary to assess the downgradient extent of contamination in this area. A fourth boring is placed at the upgradient edge of the property.
- 5) Analyze one soil sample from each boring at a CAL-EPA certified environmental laboratory for total petroleum hydrocarbons as gasoline (TPH-G) by modified EPA Method 5030/8015, total petroleum hydrocarbons as diesel (TPH-D) by modified EPA Method 3510/8015, benzene, toluene, ethylbenzene and total xylenes (BTEX) and MTBE by EPA Method 8020, volatile organic compounds (VOCs) by EPA Method 8010 and polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8310.
- 6) Install 2-inch diameter groundwater monitoring wells in each boring described in task 4.
- 7) Develop the groundwater monitoring wells using surge block agitation and bailer evacuation.
- 8) Collect groundwater samples from each monitoring well for analyses.

- 9) Analyze the groundwater samples at a CAL-EPA certified environmental laboratory for TPH-G by modified EPA Method 5030/8015, TPH-D by modified EPA Method 3510/8015, BTEX and MTBE by EPA Method 8020, VOCs by EPA Method 8010 and PAHs by EPA Method 8310.
- 10) Survey the top of casing elevation of each well and determine the groundwater flow direction beneath the site.
- 11) Prepare a report detailing the methods and findings of the groundwater investigation.

#### **4.0 DRILLING SOIL BORINGS AND COLLECTING SAMPLES**

Prior to drilling, ASE obtained Alameda County Flood Control and Water Conservation District (Zone 7) drilling permit #96692 (Appendix B). ASE also notified Underground Service Alert (USA) to have underground public utilities in the vicinity of the site marked.

On September 26 and 27, 1996, Soils Exploration Services of Vacaville, California drilled soil borings MW-1, MW-2, MW-3 and MW-4 at the site using a CME-55 drill rig equipped with 8-inch diameter hollow-stem augers. Groundwater monitoring wells MW-1, MW-2, MW-3 and MW-4 were subsequently constructed in the borings.

Undisturbed soil samples were collected at 5-foot intervals as drilling progressed for lithologic and hydrogeologic description and for possible chemical analyses. The samples were collected by driving a split-barrel drive sampler lined with 2-inch diameter brass tubes ahead of the auger tip with successive blows from a 140-lb. hammer dropped 30-inches. One tube from each sampling interval was immediately trimmed, sealed with Teflon tape, plastic end caps and duct tape, labeled, sealed in a plastic bag and stored on ice for transport to Chromalab, Inc. of Pleasanton, California (ELAP #1094) under chain of custody. Soil from the remaining tubes was described by the site geologist using the Unified Soil Classification System (USCS) and was screened for volatile compounds with an Organic Vapor Meter (OVM). The soil was screened by emptying soil from one of the sample tubes into a plastic bag. The bag was then sealed and placed in the sun for approximately 10 minutes. After the hydrocarbons were allowed to volatilize, the OVM measured the vapor in the bag through a small hole punched in the bag. OVM readings are used as a screening tool only, since the procedures are not as rigorous as those used in the laboratory.

Drilling equipment was steam-cleaned prior to use, and sampling equipment was washed with a TSP solution between sampling intervals to prevent cross-contamination. Rinsate was contained on-site in sealed and labeled Department of Transportation approved 55-gallon (DOT 17H) drums.

Sediments encountered during drilling generally consisted of silty clay or clayey silt from beneath the concrete surface to 15-feet below ground surface (bgs), silty sand from 15-feet bgs to 24-feet bgs, and clayey silt from 24-feet bgs to the total depth explored of 26.5-feet bgs. No silty sand was encountered in borings MW-3 and MW-4. Groundwater was encountered at approximately 15-feet bgs in each of the boreholes. The boring logs and well construction details are included as Appendix C. Drill cuttings were contained in DOT 17H drums for future disposal by our client.

## **5.0 ANALYTICAL RESULTS FOR SOIL**

The soil samples collected from 6-feet bgs in each boring were analyzed by Chromalab, Inc. for TPH-G by modified EPA Method 5030/8015, TPH-D by modified EPA Method 3510/8015, BTEX and MTBE by EPA Method 8020, VOCs by EPA Method 8010 and PAHs by EPA Method 8310. The analytical results are tabulated in Table One, and a copy of the certified analytical report and chain of custody form are included in Appendix D.

Only 350 ppm and 280 ppm TPH-D were detected in the soil samples collected from 6.0-feet bgs in borings MW-2 and MW-4, although the chromatogram pattern on these samples did not resemble the diesel standard. Motor oil range hydrocarbons were detected in the soil sample collected from boring MW-4. 0.048 ppm fluorene was detected in the soil sample collected from 6.0-feet bgs in boring MW-4. None of these concentrations would present a concern which would require soil remediation at the site.

**TABLE ONE**  
 Summary of Chemical Analysis of **SOIL** Samples  
 All results are in parts per million

<b>COMPOUND</b>	<b>MW-1 6.0'</b>	<b>MW-2 6.0'</b>	<b>MW-3 6.0'</b>	<b>MW-4 6.0'</b>
Total petroleum hydrocarbons as Gasoline (TPH-G)	< 1.0	< 1.0	< 1.0	< 1.0
Total petroleum hydrocarbons as Diesel (TPH-D)	< 1.0	<b>350**</b>	< 1.0	<b>280*</b>
Benzene	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Toluene	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Ethylbenzene	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Total xylenes	< 0.0050	< 0.0050	< 0.0050	< 0.0050
MTBE	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Fluorene	< 0.0050	< 0.025	< 0.0050	<b>0.048</b>
Other SVOCs	< 0.005- < 0.015	< 0.025- < 0.075	< 0.005- < 0.015	< 0.025- < 0.075
Vinyl Chloride	< 0.0050	< 0.0050	< 0.0050	< 0.0050
cis-1,2-Dichloroethene	< 0.0050	< 0.0050	< 0.0050	< 0.0050
trans-1,2- Dichloroethene	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Trichloroethene (TCE)	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Tetrachloroethene (PCE)	< 0.010	< 0.010	< 0.010	< 0.010
Chlorobenzene	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Other VOCs	< 0.0050- < 0.010	< 0.0050- < 0.010	< 0.0050- < 0.010	< 0.0050- < 0.010

Notes:

- \* = Chromatogram pattern does not resemble diesel standard.
- \*\* = Chromatogram pattern does not resemble diesel standard: hydrocarbons in motor oil range detected.

Detectable concentrations in bold.

Non-detectable concentrations indicated by the less than sign (<) followed by the detection limit.



## 6.0 MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

Groundwater monitoring wells MW-1, MW-2, MW-3 and MW-4 were installed in borings MW-1, MW-2, MW-3 and MW-4, respectively. The wells were constructed with 2-inch diameter, 0.020-inch slotted, flush-threaded, Schedule 40 PVC well screen and blank casing. Each well is screened between 5-feet bgs (4-feet bgs in boring MW-4) and the total depth of each well (between 20 and 25-feet bgs) to monitor the first water bearing zone encountered. Lonestar #3 Monterey sand occupies the annular space between the borehole and the casing from the bottom of the boring to approximately 1-foot above the well screen. A 1-foot thick hydrated bentonite layer separates the sand from the overlying cement surface seal. The wellheads are secured with locking wellplugs beneath at-grade traffic-rated vaults.

On September 30, 1996, ASE environmental specialist Scott Ferriman developed each monitoring well using at least two episodes of surge-block agitation and bailer evacuation. Over ten well casing volumes of water were removed from each well during development, and evacuation continued until the water was relatively clear. No odors were present in groundwater purged from monitoring wells MW-1, MW-2 and MW-3. A slight sewage-like odor was present in groundwater purged from monitoring well MW-4.

On October 3, 1996, ASE environmental specialist Scott Ferriman collected groundwater samples from each monitoring well. Prior to sampling, the wells were purged of four well casing volumes of groundwater. The pH, temperature and conductivity of the purge water were monitored during evacuation, and samples were not collected until these parameters stabilized. Samples were collected from each well using pre-cleaned polyethylene bailers. The groundwater samples were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials and 1-liter amber glass containers, preserved with hydrochloric acid (VOAs only), labeled, placed in protective foam sleeves, and stored on ice for transport to Chromalab, Inc. of Pleasanton, California under chain of custody. Well development and sampling purge water were contained in DOT 17H drums and stored on-site for handling by the client at a later date. See Appendix E for a copy of the Field Logs.

## 7.0 GROUNDWATER ELEVATIONS

ASE surveyed the top of casing elevation of each well relative to a site datum on October 3, 1996. An assumed site datum elevation of 15-feet above mean sea level (msl) was interpolated from the USGS Oakland West, California 7.5 Minute Quadrangle (1980). The top of casing elevation of monitoring well MW-1 was set at 15-feet, and the top of casing elevations of the monitoring wells MW-2, MW-3 and MW-4 were surveyed relative to monitoring well MW-1. Depths to groundwater were measured in each well prior to sampling on October 3, 1996 with an electric water level sounder. Depth to groundwater measurements are presented in Table Two, and groundwater elevation contours are plotted on Figure 3. Groundwater appears to flow to the west beneath the site at a gradient of 0.009-feet/foot.

**TABLE TWO**  
Summary of Groundwater Well Survey Data

Well I.D.	Date of Measurement	Top of Casing Elevation (relative to project datum)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-1	10-03-96	15.00	9.52	5.48
MW-2	10-03-96	15.44	9.75	5.69
MW-3	10-03-96	14.92	7.75	7.17
MW-4	10-03-96	14.98	8.73	6.25

## 8.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by Chromalab for TPH-G by modified EPA Method 5030/8015, TPH-D by modified EPA Method 3510/8015, BTEX and MTBE by EPA Method 8020, VOCs by EPA Method 8010 and PAHs by EPA Method 8310. The analytical results are tabulated in Table Three, and copies of the certified analytical report and chain of custody form are included in Appendix F.

the site vicinity. To determine whether any remediation would be required at the site, a risk assessment may need to be performed after several quarters of groundwater monitoring are completed. The likely criteria will be a risk based assessment using a vapor intrusion from groundwater to industrial buildings scenario. Since only very low concentrations of VOCs are present in soil beneath the site, it is unlikely that this risk will be great.

ASE recommends that this site be placed on a quarterly groundwater monitoring program. After three additional sampling periods, ASE recommends that a risk assessment be performed to determine whether the site is suitable for closure.

### 10.0 REPORT LIMITATIONS

The results of this assessment represent conditions at the time of the soil and groundwater sampling, at the specific locations where the samples were collected, and for the specific parameters analyzed by the laboratory.

It does not fully characterize the site for contamination resulting from unknown sources, or for parameters not analyzed by the laboratory. All of the laboratory work cited in this report was prepared under the direction of an independent CAL-EPA certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

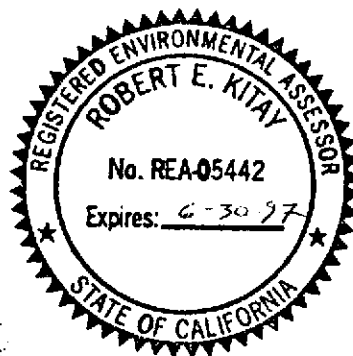
Should you have any questions or comments, please feel free to call us at (510) 820-9391.

Respectfully submitted,

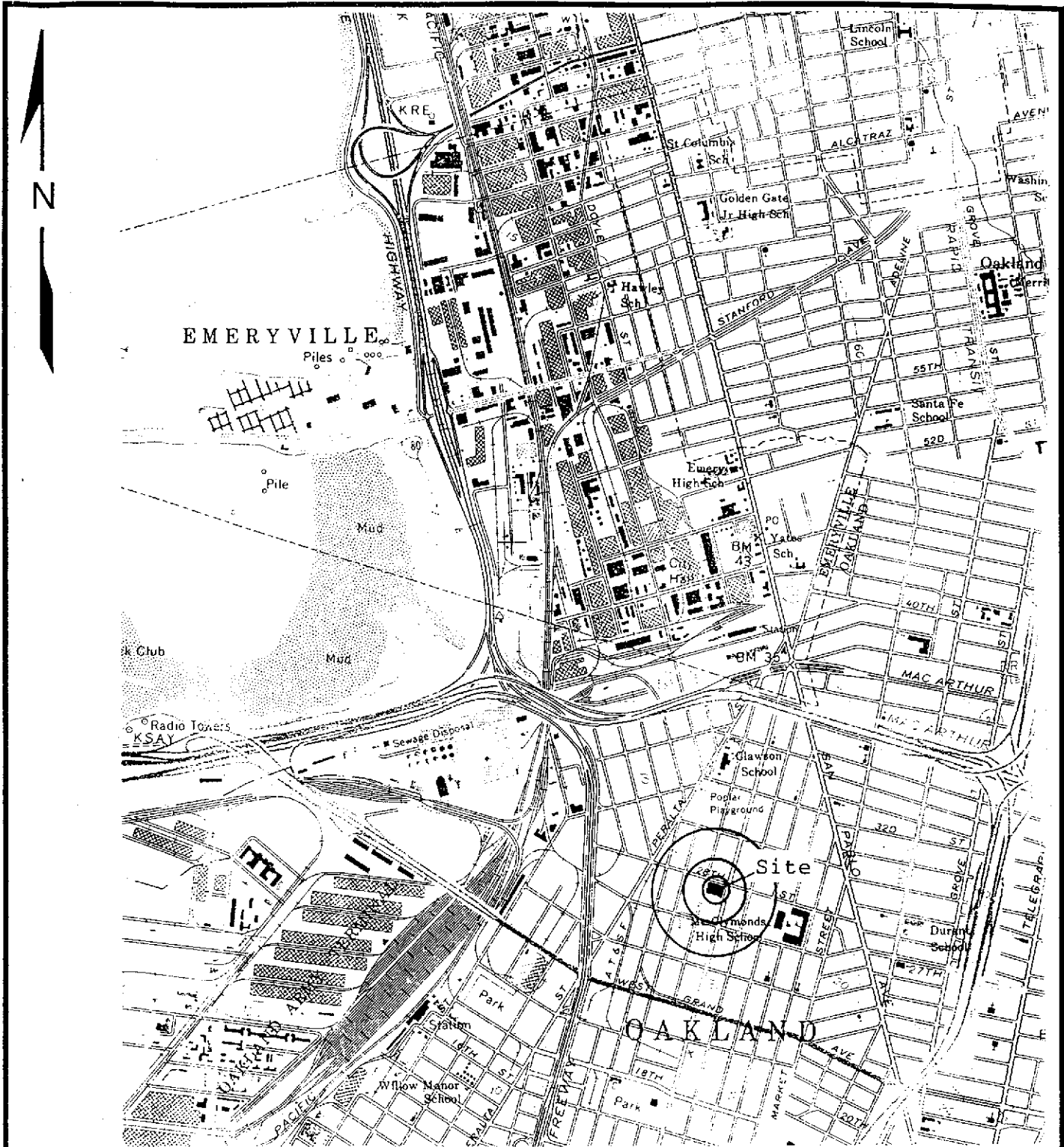
AQUA SCIENCE ENGINEERS, INC.



Robert E. Kitay, R.E.A.  
Project Geologist



Attachments: Figures 1 through 3  
Appendices A through F



<b>SITE LOCATION MAP</b>	
Custom Alloy Scrap Sales Poplar and 28th Street Oakland, California	
Aqua Science Engineers, Inc.	Figure 1

BASE: USGS Oakland West 7.5 minute quadrangle topographic map,  
dated 1960, scale 1:24,000.

28TH STREET

LEGEND

- BH-C ● BORING LOCATION, SOIL AND GROUNDWATER SAMPLES
- BH-G ⊙ BORING LOCATION, SOIL SAMPLES ONLY
- MONITORING WELL LOCATION

POPLAR STREET

UNION STREET

GATE

STEEL POLE  
(TYPICAL)

MW-3

BH-J

MW-2

BH-A

BH-D

BH-F

BH-E

BH-B

BH-H

BH-I

MW-1

BH-C

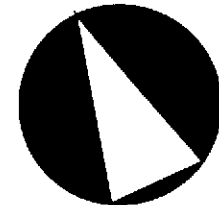
BH-G

MW-4

PASS THROUGH

ROTARY

GATE



NORTH

SCALE  
1" = 40'

MONITORING WELL  
LOCATION MAP

CUSTOM ALLOY SCRAP SALES  
2711 UNION STREET  
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC. | FIGURE 2

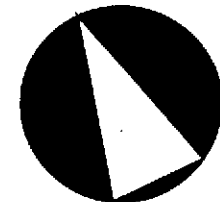
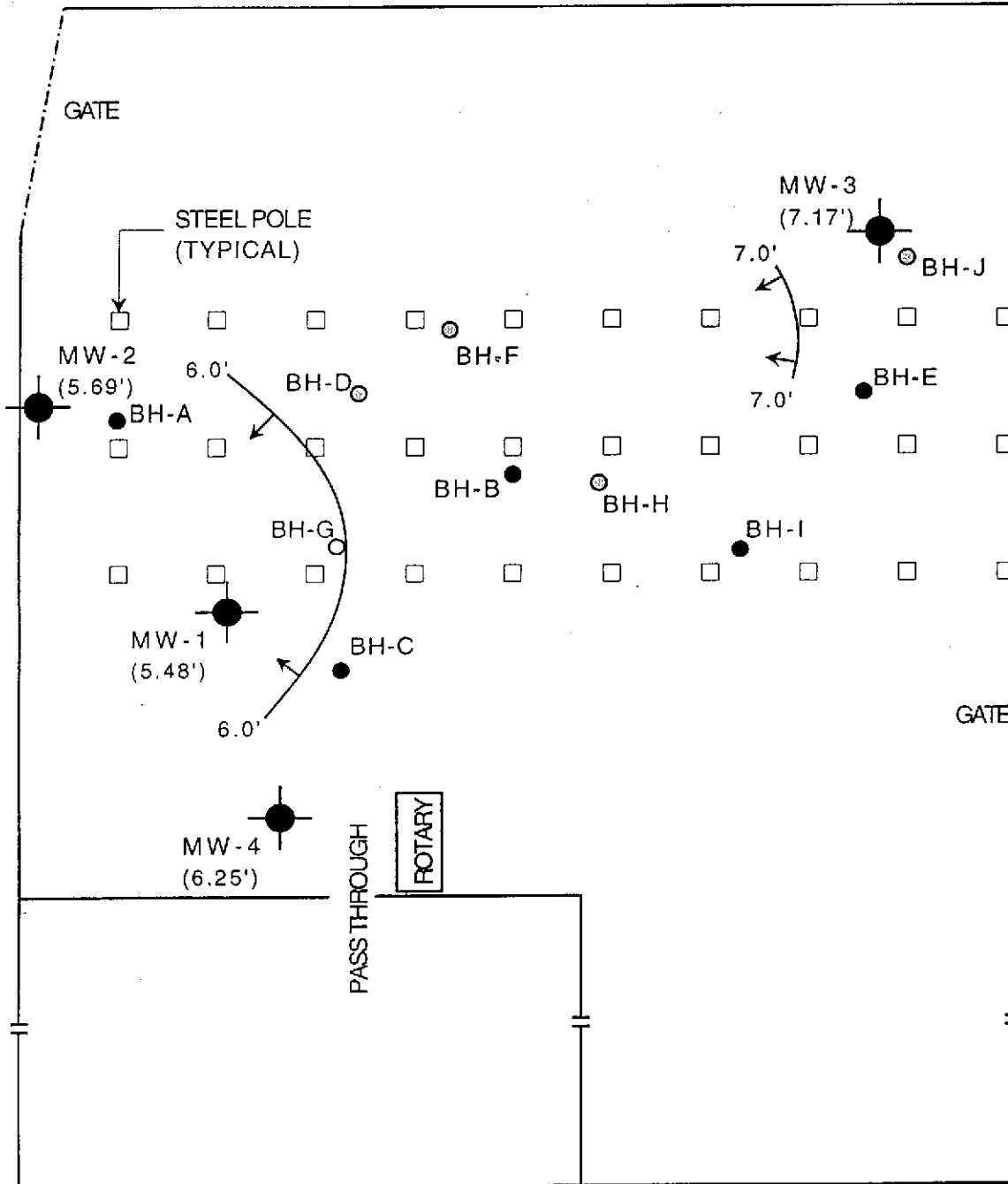
28TH STREET

**LEGEND**

- BH-C ● BORING LOCATION, SOIL AND GROUNDWATER SAMPLES
- BH-G ⊙ BORING LOCATION, SOIL SAMPLES ONLY
- MW-3 (7.17') ● MONITORING WELL LOCATION, GROUNDWATER ELEVATION IN PARENTHESES
- ↷ GROUNDWATER ELEVATION CONTOUR, ARROW INDICATES GROUNDWATER FLOW DIRECTION

POPLAR STREET

UNION STREET



NORTH

SCALE  
1" = 40'

GROUNDWATER ELEVATION  
CONTOUR MAP

CUSTOM ALLOY SCRAP SALES  
2711 UNION STREET  
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

FIGURE 3

## **APPENDIX A**

June 17, 1996 Letter  
From The  
Alameda County Health Care Services Agency

FROM : ALAMEDA CO EHS HAZ-OPS  
ALAMEDA COUNTY

510 337 9335

1996.06-17

17:11

#596 P.01/02

Public utility tax transmittal memo 7871 # of pages 2

## HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



To	JAMES CHERRY	From	SUSAN HUGO
Co.		Co.	ACDET
Dept.		Phone #	
Fax #	444-3667	Fax #	337-9335

June 17, 1996

1131 Harbor Bay Parkway  
Alameda, CA 94502-6577  
(510) 567-6777Mr. Eugene Teasley  
c/o Mr. Claude Ames  
3667 Shafter Avenue  
Oakland, California 94610RE: Custom Alloy Scrap Sales  
2711 Union Street, Oakland, CA 94607

Dear Mr. Teasley:

The Alameda County Department of Environmental Health, Environmental Protection Division has completed review of the Soil and Groundwater Assessment Report, dated April 23, 1996 and prepared by Aqua Science Engineers Inc. for the above referenced site.

The site was previously used by Gardiner Manufacturing as a machining and press operation. Custom Alloy Scrap, a metal scrap recycler is the current tenant.

A total of ten soil borings were drilled at the site. Five soil borings were drilled to five feet bgs with a hand auger and five soil borings were drilled to groundwater (approximately 10 feet bgs). Contamination was detected in soil as high as 7.6 ppm TPH gasoline, 4300 ppm TPH diesel, 4500 ppm TOG, 0.01 ppm toluene, 9.2 ppb ethylbenzene, 16 ppb xylene, 55 ppb cis-1,2 DCE, 18 ppb trans-1,2-DCE, 52 ppb TCE, 1.1 ppm cadmium, 46 ppm chromium, 150 ppm lead, 24 ppm nickel and 120 ppm zinc. Groundwater contamination was also detected at the following concentration: 95 ppb TPH gasoline, 7100 ppb TPH diesel, 8000 ppb TOG, 0.9 ppb ethylbenzene, 1.3 ppb xylenes, 43 ppb vinyl chloride, 2.1 ppb 1,1 DCE, 22 ppb 1,1 DCA, 78 ppb cis 1,2, DCE, 15 ppb trans 1,2 DCE, 100 ppb TCE, 1 ppb PCE, 21 ppb chlorobenzene, 39 ppb 1,2 dichlorobenzene, 2.3 ppb cadmium and 1000 ppb nickel.

Based on this review, the following items must be addressed regarding the contamination found at the site:

- 1) The lateral and vertical extent of the soil and groundwater contamination must be characterized.
- 2) The threat or impact to public, safety and environment including water quality must be determined.
- 3) Monitoring wells must be installed and groundwater flow direction must be established at the site.



Mr. Eugene Teasley  
RE: 2711 Union Street, Oakland, CA 94607  
June 17, 1996  
Page 2 of 2

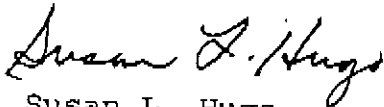
- 4) The source of the contamination must be identified.
- 5) Soil and groundwater samples must be analyzed for TPH gasoline, TPH diesel, TOG, BTEX, chlorinated solvents, polynuclear aromatic hydrocarbons (PAHs), lead, chromium, zinc, nickel and cadmium.
- 6) A health and safety plan must be submitted for the site.

A work plan which addresses the issues listed above should be submitted to this office no later than August 5, 1996.

All reports and proposals must be submitted under seal of a California Registered Geologists or Registered Civil Engineer with a statement of qualifications for each lead professionals involved with the project.

Please contact me at (510) 567-6780 if you have any questions concerning this letter.

Sincerely,



Susan L. Hugo  
Senior Hazardous Materials Specialist

c: Mee Ling Tung, Director, Environmental Health  
Gordon, Coleman, Acting Chief, Environmental Protection / file  
Sum Arigala, San Francisco Bay RWQCB  
Mr. James Cherry, 2030 Franklin Street, Fifth Floor,  
Oakland, CA 94612

# **APPENDIX B**

Permit



# ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE

PLEASANTON, CALIFORNIA 94588

VOICE (510) 484-2600

FAX (510) 462-3914

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT Custom Alloy Scrap Sales  
2711 Union Street, Oakland, CA

PERMIT NUMBER 96692

LOCATION NUMBER \_\_\_\_\_

### CLIENT

Name Gardner Mfg. Co. c/o Law Office of James Cherry  
Address 2030 Franklin St. #500 Voice 510-444-4022  
City Oakland, CA Zip 94612

### PERMIT CONDITIONS

Circled Permit Requirements Apply

### APPLICANT

Name Agua Sciences Engineers Inc.  
Attn: Robert Kitay Fax 510-837-4853  
Address 1411 Old Crow Canyon Rd. #4 Voice 510-820-9391  
City San Ramon, CA Zip 94583

### A. GENERAL

1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

### B. WATER WELLS, INCLUDING PIEZOMETERS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

### TYPE OF PROJECT

Well Construction	_____	Geotechnical Investigation	_____
Cathodic Protection	_____	General	_____
Water Supply	_____	Contamination	<u>X</u>
Monitoring	<u>X</u>	Well Destruction	_____

### PROPOSED WATER SUPPLY WELL USE

Domestic	_____	Industrial	_____	Other	_____
Municipal	_____	Irrigation	_____		

### DRILLING METHOD:

Mud Rotary	_____	Air Rotary	_____	Auger	<u>X</u>
Cable	_____	Other	_____		

DRILLER'S LICENSE NO. C-57 487000

### WELL PROJECTS

Drill Hole Diameter	<u>7</u> in.	Maximum	
Casing Diameter	<u>2</u> in.	Depth	<u>25</u> ft.
Surface Seal Depth	<u>3</u> ft.	Number	<u>4</u>

### GEOTECHNICAL PROJECTS

Number of Borings	_____	Maximum	
Hole Diameter	_____ in.	Depth	_____ ft.

ESTIMATED STARTING DATE 9-26-96

ESTIMATED COMPLETION DATE 9-27-96

Approved

Wyman Hong  
Wyman Hong

Date 26 Sep 96

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

### APPLICANT'S

SIGNATURE Robert C. Kitay Date 9-23-96

## **APPENDIX C**

Boring Logs and Well Construction Details

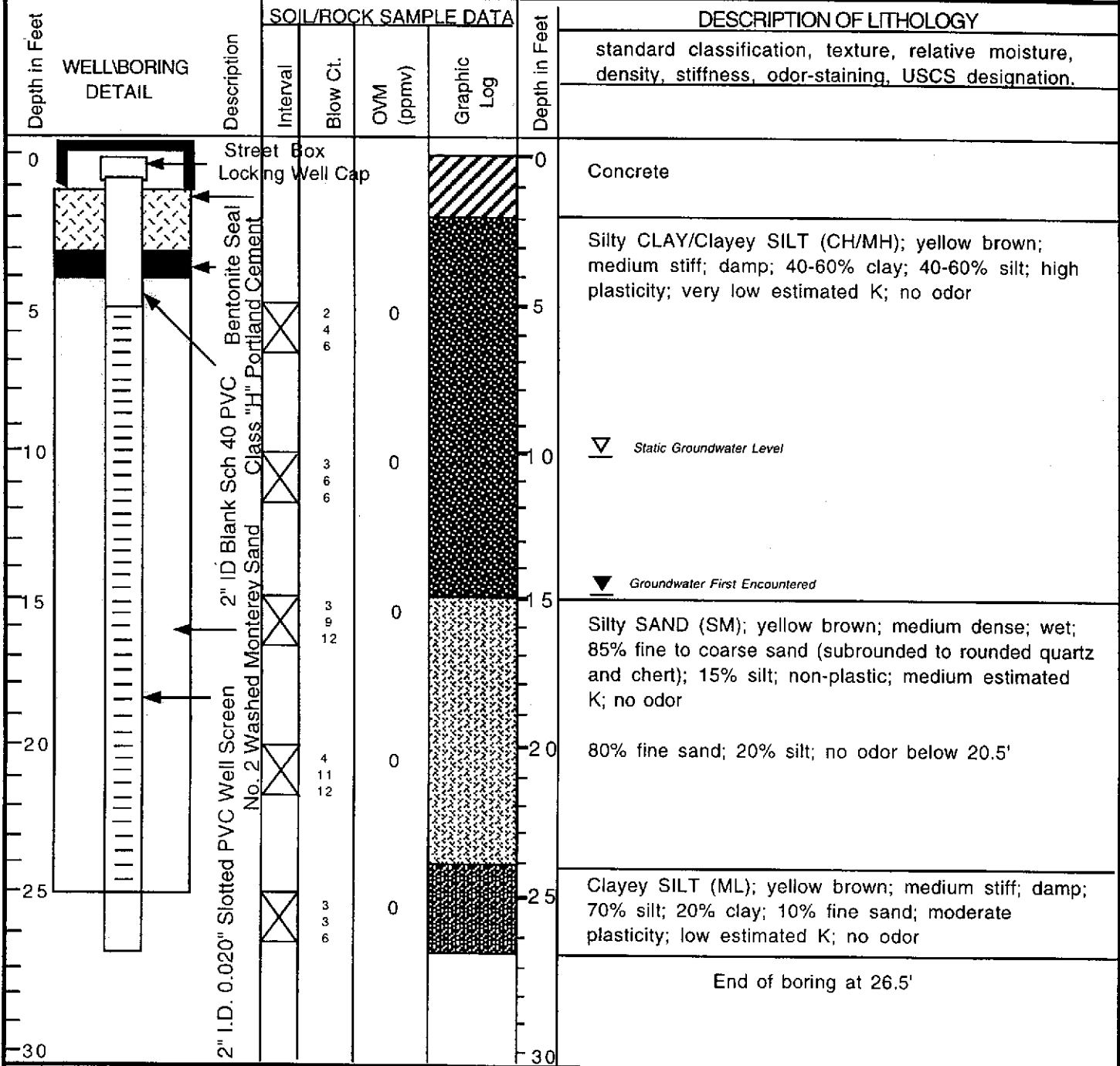
**SOIL BORING LOG AND WELL COMPLETION DETAILS** Monitoring Well: MW-1

Project Name: Custom Alloy Scrap Sales Project Location: 2711 Union Street, Oakland, CA Page 1 of 1

Driller: Soils Exploration Services Type of Rig: CME 55 Size of Drill: 8" O.D. Hollow-Stem Augers

Logged By: Robert E. Kitay Date Drilled: September 26, 1996 Checked By: David M. Schultz, P.E.

<b>WATER AND WELL DATA</b>	Total Depth of Well Completed: 25.0'
Depth of Water First Encountered: 15'	Well Screen Type and Diameter: 2" Diameter PVC
Static Depth of Water in Well: 10'	Well Screen Slot Size: 0.020"
Total Depth of Boring: 26.5'	Type and Size of Soil Sampler: 2.0" I.D. California Sampler



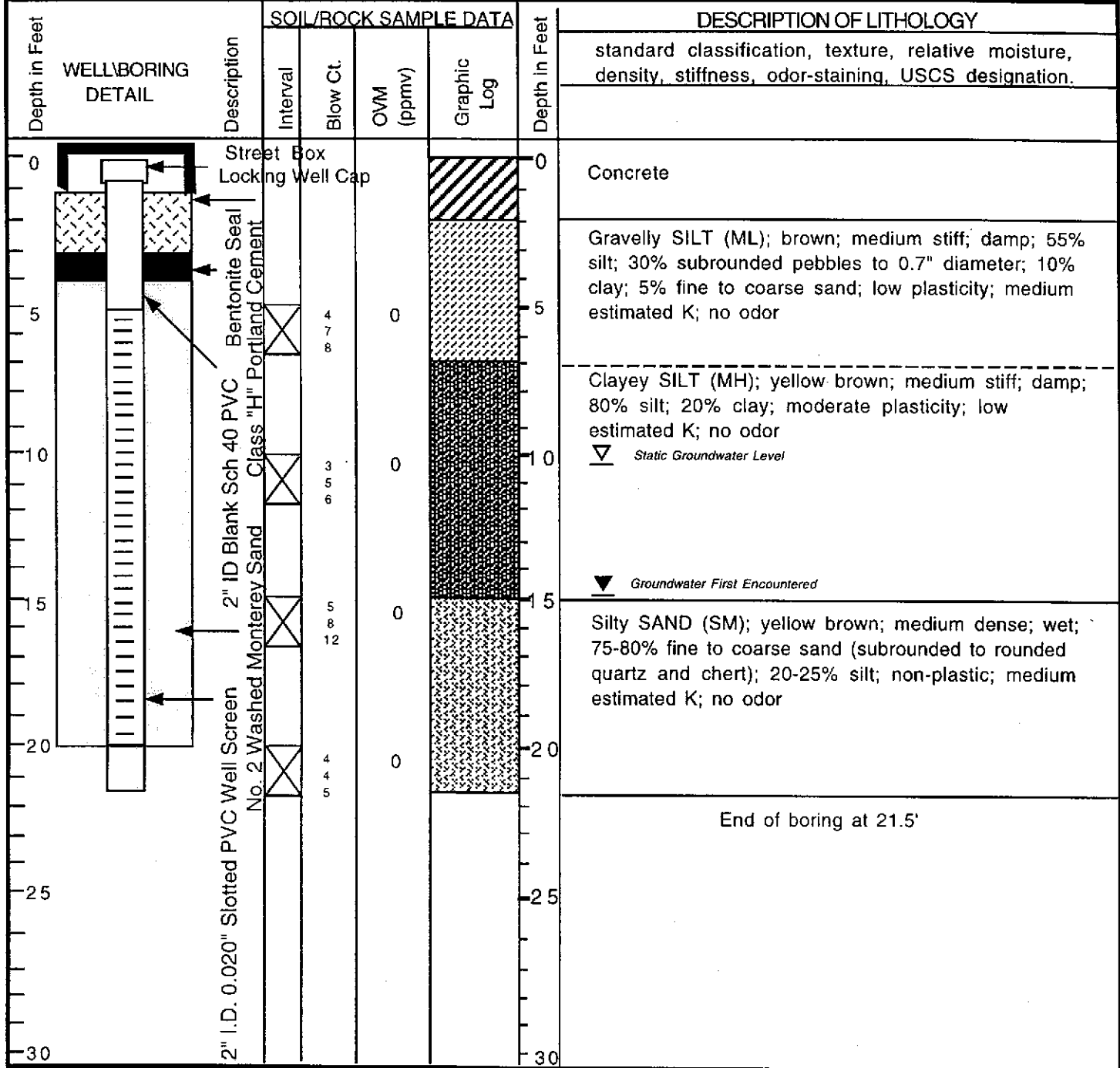
**SOIL BORING LOG AND WELL COMPLETION DETAILS** Monitoring Well: MW-2

Project Name: Custom Alloy Scrap Sales Project Location: 2711 Union Street, Oakland, CA Page 1 of 1

Driller: Soils Exploration Services Type of Rig: CME 55 Size of Drill: 8" O.D. Hollow-Stem Augers

Logged By: Robert E. Kitay Date Drilled: September 26, 1996 Checked By: David M. Schultz, P.E.

<b>WATER AND WELL DATA</b>	
Depth of Water First Encountered: 15'	Total Depth of Well Completed: 20.0'
Static Depth of Water in Well: 10'	Well Screen Type and Diameter: 2" Diameter PVC
Total Depth of Boring: 21.5'	Well Screen Slot Size: 0.020"
Type and Size of Soil Sampler: 2.0" I.D. California Sampler	



**SOIL BORING LOG AND WELL COMPLETION DETAILS**

Monitoring Well: MW-3

Project Name: Custom Alloy Scrap Sales

Project Location: 2711 Union Street, Oakland, CA

Page 1 of 1

Driller: Soils Exploration Services

Type of Rig: CME 55

Size of Drill: 8" O.D. Hollow-Stem Augers

Logged By: Robert E. Kitay

Date Drilled: September 26, 1996

Checked By: David M. Schultz, P.E.

**WATER AND WELL DATA**

Depth of Water First Encountered: 15'

Total Depth of Well Completed: 20.0'

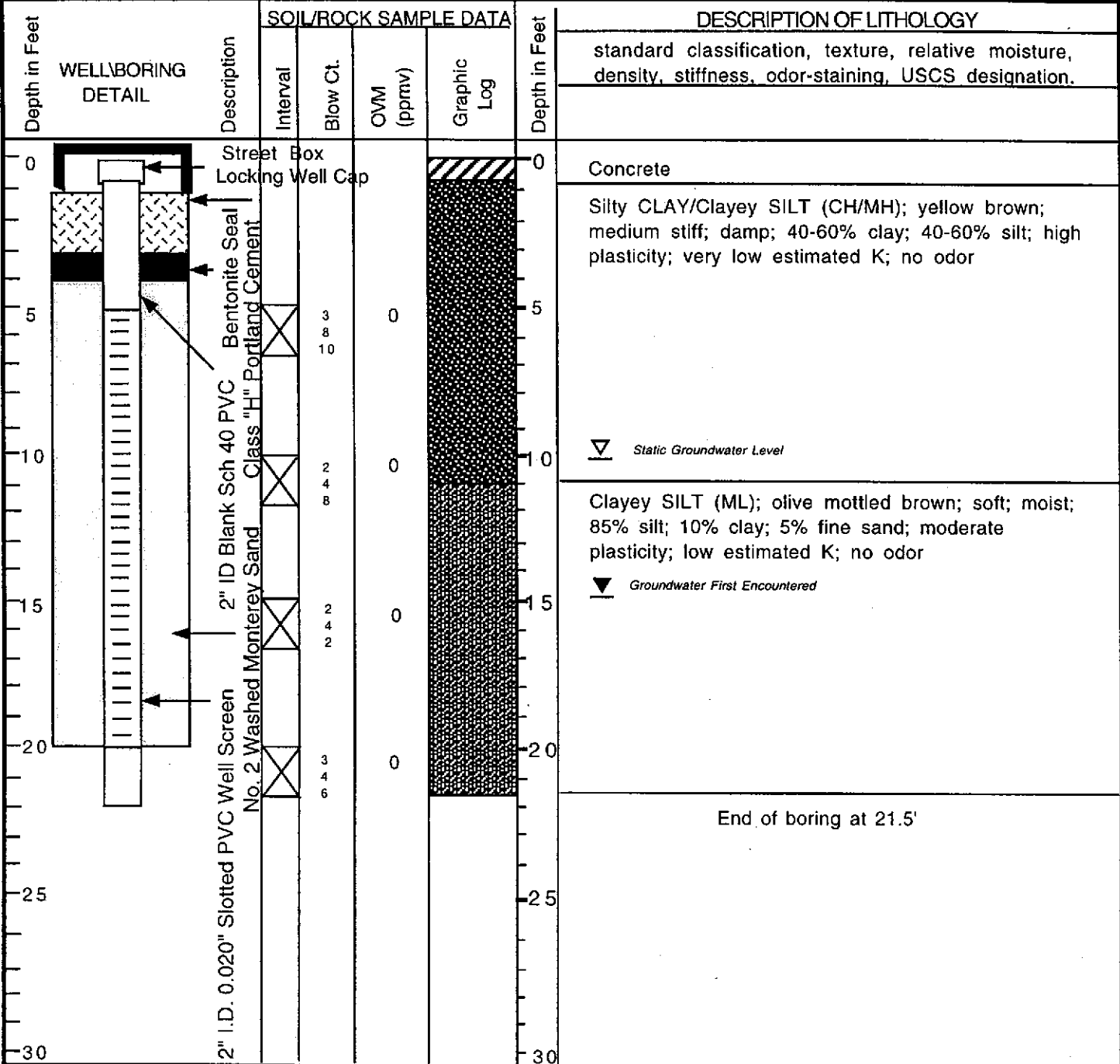
Well Screen Type and Diameter: 2" Diameter PVC

Static Depth of Water in Well: 10'

Well Screen Slot Size: 0.020"

Total Depth of Boring: 21.5'

Type and Size of Soil Sampler: 2.0" I.D. California Sampler



**SOIL BORING LOG AND WELL COMPLETION DETAILS**

Monitoring Well: MW-4

Project Name: Custom Alloy Scrap Sales

Project Location: 2711 Union Street, Oakland, CA

Page 1 of 1

Driller: Soils Exploration Services

Type of Rig: CME 55

Size of Drill: 8" O.D. Hollow-Stem Augers

Logged By: Robert E. Kitay

Date Drilled: September 27, 1996

Checked By: David M. Schultz, P.E.

**WATER AND WELL DATA**

Total Depth of Well Completed: 22.0'

Depth of Water First Encountered: 15'

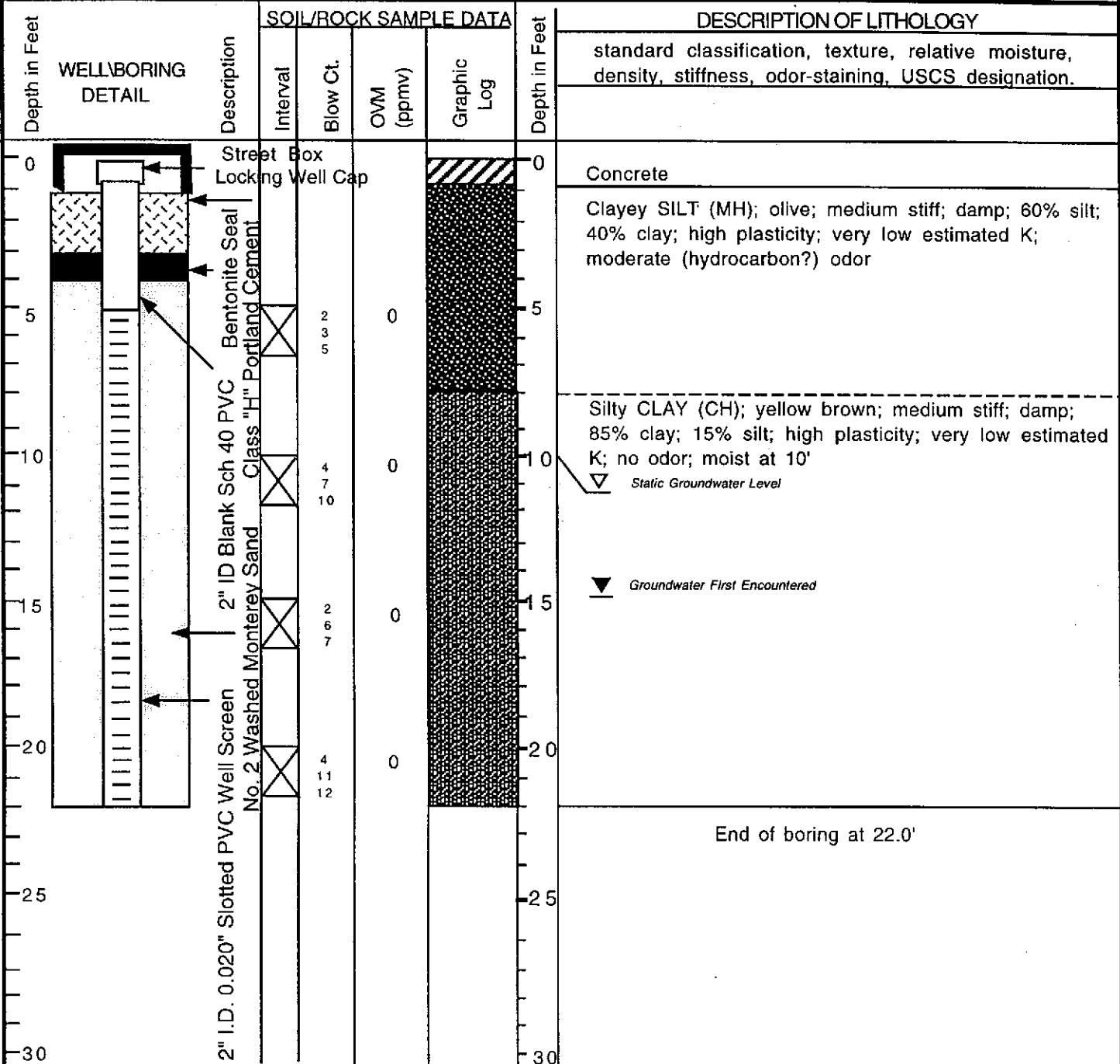
Well Screen Type and Diameter: 2" Diameter PVC

Static Depth of Water in Well: 10'

Well Screen Slot Size: 0.020"

Total Depth of Boring: 22'

Type and Size of Soil Sampler: 2.0" I.D. California Sampler





## **APPENDIX D**

Analytical Report and Chain of Custody Form  
For Soil Samples

# CHROMALAB, INC.

Environmental Services (SDB)

October 10, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC  
2411 OLD CROW CANYON RD #4  
SAN RAMON, CA 94583

Attn: Scott Ferriman/Robert Kitay

RE: Analysis for project CUSTOM ALLOY SCRAP SALES, number 2971.

## REPORTING INFORMATION

Samples were received cold and in good condition on October 2, 1996. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

*Hydrocarbon in the Motor oil range was found in sample MW-2 6.0'.*



Bruce Havlik  
Chemist



Alex Tam  
Semivolatiles Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 10, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman/Robert Kitay

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 2, 1996

Project#: 2971


re: 4 samples for TPH - Diesel analysis.  
Method: EPA 3510/8015M

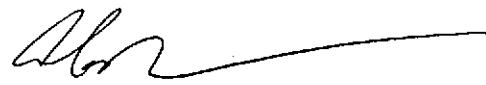
Matrix: SOIL  
Sampled: September 26, 1996 Run#: 3521  
Extracted: October 8, 1996  
Analyzed: October 9, 1996

Spl#	CLIENT SPL ID	DIESEL (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
102475	MW-1 6.0'	N.D.	1.0	N.D.	98.5	1
102476	MW-2 6.0'	350	10	N.D.	98.5	10
Note: Hydrocarbon reported as Diesel, is in the late Diesel range and does not match our Diesel standard.						
102477	MW-3 6.0'	N.D.	1.0	N.D.	98.5	1

Matrix: SOIL  
Sampled: September 27, 1996 Run#: 3521  
Extracted: October 8, 1996  
Analyzed: October 10, 1996

Spl#	CLIENT SPL ID	DIESEL (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
102478	MW-4 6.0'	280	10	N.D.	98.5	10
Note: Hydrocarbon reported as Diesel, is in the late Diesel range and does not match our Diesel standard.						

  
Bruce Havlik  
Chemist

  
Alex Tam  
Semivolatiles Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 9, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman/Robert Kitay

Project: CUSTOM ALLOY SCRAP SALES Project#: 2971  
Received: October 2, 1996

re: One sample for Gasoline and BTEX compounds analysis.  
Method: EPA 5030/8015M/8020

Client Sample ID: MW-1 6.0'

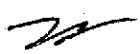
Spl#: 102475


Matrix: SOIL

Sampled: September 26, 1996 Run#: 3518

Analyzed: October 7, 1996

<u>ANALYTE</u>	<u>RESULT</u> (mg/Kg)	<u>REPORTING</u> <u>LIMIT</u> (mg/Kg)	<u>BLANK</u> <u>RESULT</u> (mg/Kg)	<u>BLANK</u> <u>SPIKE</u> (%)	<u>DILUTION</u> <u>FACTOR</u>
GASOLINE	N.D.	1.0	N.D.	79.0	1
BENZENE	N.D.	0.0050	N.D.	97.5	1
TOLUENE	N.D.	0.0050	N.D.	95.0	1
ETHYL BENZENE	N.D.	0.0050	N.D.	96.5	1
XYLENES	N.D.	0.0050	N.D.	96.5	1
MTBE	N.D.	0.0050	N.D.	80.0	1

  
June Zhao  
Chemist

  
Marianne Alexander  
Gas/BTEX Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 9, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman/Robert Kitay

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 2, 1996

Project#: 2971

re: One sample for Gasoline and BTEX compounds analysis.  
Method: EPA 5030/8015M/8020

Client Sample ID: MW-2 6.0'


Spl#: 102476

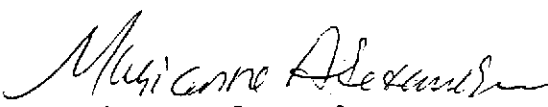
Matrix: SOIL

Sampled: September 26, 1996 Run#: 3518

Analyzed: October 7, 1996

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	79.0	1
BENZENE	N.D.	0.0050	N.D.	97.5	1
TOLUENE	N.D.	0.0050	N.D.	95.0	1
ETHYL BENZENE	N.D.	0.0050	N.D.	96.5	1
XYLENES	N.D.	0.0050	N.D.	96.5	1
MTBE	N.D.	0.0050	N.D.	80.0	1

  
June Zhao  
Chemist

  
Marianne Alexander  
Gas/BTEX Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 9, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman/Robert Kitay

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 2, 1996

Project#: 2971

re: One sample for Gasoline and BTEX compounds analysis.  
Method: EPA 5030/8015M/8020

Client Sample ID: MW-3 6.0'

Spl#: 102477


Matrix: SOIL

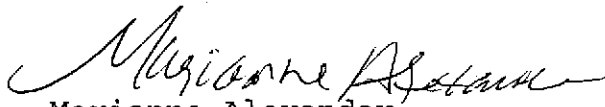
Sampled: September 26, 1996

Run#: 3518

Analyzed: October 7, 1996

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	79.0	1
BENZENE	N.D.	0.0050	N.D.	97.5	1
TOLUENE	N.D.	0.0050	N.D.	95.0	1
ETHYL BENZENE	N.D.	0.0050	N.D.	96.5	1
XYLENES	N.D.	0.0050	N.D.	96.5	1
MTBE	N.D.	0.0050	N.D.	80.0	1

  
June Zhao  
Chemist

  
Marianne Alexander  
Gas/BTEX Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 9, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman/Robert Kitay

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 2, 1996

Project#: 2971

re: One sample for Gasoline and BTEX compounds analysis.  
Method: EPA 5030/8015M/8020

Client Sample ID: MW-4 6.0'


Spl#: 102478

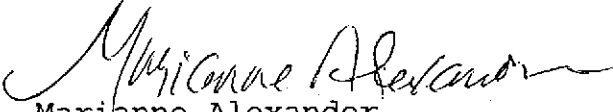
Matrix: SOIL

Sampled: September 27, 1996 Run#: 3518

Analyzed: October 7, 1996

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	79.0	1
BENZENE	N.D.	0.0050	N.D.	97.5	1
TOLUENE	N.D.	0.0050	N.D.	95.0	1
ETHYL BENZENE	N.D.	0.0050	N.D.	96.5	1
XYLENES	N.D.	0.0050	N.D.	96.5	1
MTBE	N.D.	0.0050	N.D.	80.0	1

  
June Zhao  
Chemist

  
Marianne Alexander  
Gas/BTEX Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 10, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman/Robert Kitay

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 2, 1996

Project#: 2971

re: One sample for Polynuclear Aromatics (PNAs) analysis.  
Method: EPA 8310

Client Sample ID: MW-1 6.0'

Spl#: 102475

Matrix: SOIL

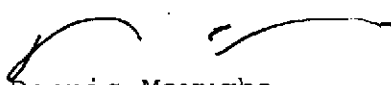
Extracted: October 8, 1996


Sampled: September 26, 1996

Run#: 3544

Analyzed: October 8, 1996

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	15	N.D.	96.6	1
ACENAPHTHENE	N.D.	5.0	N.D.	--	1
ACENAPHTHYLENE	N.D.	6.0	N.D.	--	1
FLUORENE	N.D.	5.0	N.D.	--	1
PHENANTHRENE	N.D.	5.0	N.D.	94.0	1
ANTHRACENE	N.D.	5.0	N.D.	--	1
FLUORANTHENE	N.D.	5.0	N.D.	--	1
PYRENE	N.D.	5.0	N.D.	113	1
BENZO (A) ANTHRACENE	N.D.	5.0	N.D.	--	1
CHRYSENE	N.D.	5.0	N.D.	95.9	1
BENZO (B) FLUORANTHENE	N.D.	5.0	N.D.	--	1
BENZO (K) FLUORANTHENE	N.D.	5.0	N.D.	--	1
BENZO (A) PYRENE	N.D.	5.0	N.D.	104	1
IDENO (1, 2, 3-CD) PYRENE	N.D.	10	N.D.	--	1
DIBENZO (A, H) ANTHRACENE	N.D.	10	N.D.	--	1
BENZO (GHI) PERYLENE	N.D.	10	N.D.	--	1

  
Dennis Mayugba  
Chemist

  
Alex Tam  
Semivolatiles Supervisor



# CHROMALAB, INC.

Environmental Services (SDB)

October 10, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman/Robert Kitay

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 2, 1996

Project#: 2971

re: One sample for Polynuclear Aromatics (PNAs) analysis.  
Method: EPA 8310

Client Sample ID: MW-2 6.0'

Spl#: 102476

Matrix: SOIL

Extracted: October 8, 1996

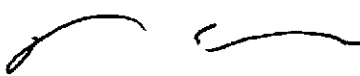
Sampled: September 26, 1996

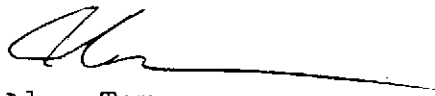
Run#: 3544

Analyzed: October 9, 1996

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	75	N.D.	96.6	5
ACENAPHTHENE	N.D.	25	N.D.	--	5
ACENAPHTHYLENE	N.D.	30	N.D.	--	5
FLUORENE	N.D.	25	N.D.	--	5
PHENANTHRENE	N.D.	25	N.D.	94.0	5
ANTHRACENE	N.D.	25	N.D.	--	5
FLUORANTHENE	N.D.	25	N.D.	--	5
PYRENE	N.D.	25	N.D.	113	5
BENZO (A) ANTHRACENE	N.D.	25	N.D.	--	5
CHRYSENE	N.D.	25	N.D.	95.9	5
BENZO (B) FLUORANTHENE	N.D.	25	N.D.	--	5
BENZO (K) FLUORANTHENE	N.D.	25	N.D.	--	5
BENZO (A) PYRENE	N.D.	25	N.D.	104	5
IDENO (1, 2, 3-CD) PYRENE	N.D.	50	N.D.	--	5
DIBENZO (A, H) ANTHRACENE	N.D.	50	N.D.	--	5
BENZO (GHI) PERYLENE	N.D.	50	N.D.	--	5

Note: Reporting limits raised 5x due to matrix interference.

  
Dennis Mayugba  
Chemist

  
Alex Tam  
Semivolatiles Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 10, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman/Robert Kitay

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 2, 1996

Project#: 2971

re: One sample for Polynuclear Aromatics (PNAs) analysis.  
Method: EPA 8310

Client Sample ID: MW-3 6.0'

Spl#: 102477

Matrix: SOIL


Extracted: October 8, 1996

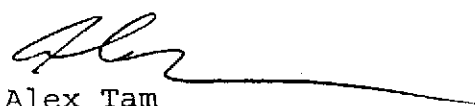
Sampled: September 26, 1996

Run#: 3544

Analyzed: October 9, 1996

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	15	N.D.	96.6	1
ACENAPHTHENE	N.D.	5.0	N.D.	--	1
ACENAPHTHYLENE	N.D.	6.0	N.D.	--	1
FLUORENE	N.D.	5.0	N.D.	--	1
PHENANTHRENE	N.D.	5.0	N.D.	94.0	1
ANTHRACENE	N.D.	5.0	N.D.	--	1
FLUORANTHENE	N.D.	5.0	N.D.	--	1
PYRENE	N.D.	5.0	N.D.	113	1
BENZO (A) ANTHRACENE	N.D.	5.0	N.D.	--	1
CHRYSENE	N.D.	5.0	N.D.	95.9	1
BENZO (B) FLUORANTHENE	N.D.	5.0	N.D.	--	1
BENZO (K) FLUORANTHENE	N.D.	5.0	N.D.	--	1
BENZO (A) PYRENE	N.D.	5.0	N.D.	104	1
IDENO (1, 2, 3-CD) PYRENE	N.D.	10	N.D.	--	1
DIBENZO (A, H) ANTHRACENE	N.D.	10	N.D.	--	1
BENZO (GHI) PERYLENE	N.D.	10	N.D.	--	1

  
Dennis Mayugba  
Chemist

  
Alex Tam  
Semivolatiles Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 10, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman/Robert Kitay

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 2, 1996

Project#: 2971

re: One sample for Polynuclear Aromatics (PNAs) analysis.  
Method: EPA 8310

Client Sample ID: MW-4 6.0'

Spl#: 102478

Matrix: SOIL

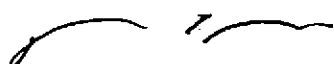
Extracted: October 8, 1996

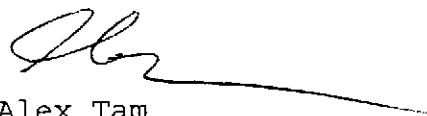
\*Sampled: September 27, 1996

Run#: 3544

Analyzed: October 9, 1996

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	75	N.D.	96.6	5
ACENAPHTHENE	N.D.	25	N.D.	--	5
ACENAPHTHYLENE	N.D.	30	N.D.	--	5
FLUORENE	48	25	N.D.	--	5
PHENANTHRENE	N.D.	25	N.D.	94.0	5
ANTHRACENE	N.D.	25	N.D.	--	5
FLUORANTHENE	N.D.	25	N.D.	--	5
PYRENE	N.D.	25	N.D.	113	5
BENZO (A) ANTHRACENE	N.D.	25	N.D.	--	5
CHRYSENE	N.D.	25	N.D.	95.9	5
BENZO (B) FLUORANTHENE	N.D.	25	N.D.	--	5
BENZO (K) FLUORANTHENE	N.D.	25	N.D.	--	5
BENZO (A) PYRENE	N.D.	25	N.D.	104	5
IDENO (1, 2, 3 - CD) PYRENE	N.D.	50	N.D.	--	5
DIBENZO (A, H) ANTHRACENE	N.D.	50	N.D.	--	5
BENZO (GHI) PERYLENE	N.D.	50	N.D.	--	5

  
Dennis Mayugba  
Chemist

  
Alex Tam  
Semivolatiles Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 11, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman/Robert Kitay

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 2, 1996

Project#: 2971

re: One sample for 8010 Purgeable Halocarbons by GC/MS analysis.  
Method: EPA 8240A July, 1992

Client Sample ID: MW-1 6.0'

Spl#: 102475

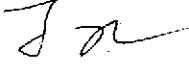
Matrix: SOIL


Sampled: September 26, 1996

Run#: 3548

Analyzed: October 10, 1996

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
CHLOROMETHANE	N.D.	10	N.D.	--	1
VINYL CHLORIDE	N.D.	5.0	N.D.	--	1
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--	1
CHLOROETHANE	N.D.	5.0	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	10	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	90.3	1
METHYLENE CHLORIDE	N.D.	10	N.D.	--	1
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--	1
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--	1
CHLOROFORM	N.D.	5.0	N.D.	--	1
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--	1
TRICHLOROETHENE	N.D.	5.0	N.D.	83.8	1
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--	1
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--	1
2-CHLOROETHYL VINYL ETHER	N.D.	10	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--	1
TETRACHLOROETHENE	N.D.	10	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--	1
CHLOROBENZENE	N.D.	5.0	N.D.	99.3	1
BROMOFORM	N.D.	5.0	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--	1

  
June Zhao  
Chemist

  
Chip Poalinelli  
Operations Manager

# CHROMALAB, INC.

Environmental Services (SDB)

October 11, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman/Robert Kitay

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 2, 1996

Project#: 2971

re: One sample for 8010 Purgeable Halocarbons by GC/MS analysis.  
Method: EPA 8240A July, 1992

Client Sample ID: MW-2 6.0'

Spl#: 102476

Matrix: SOIL

Sampled: September 26, 1996 Run#: 3548

Analyzed: October 10, 1996

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE SPIKE (%)	DILUTION FACTOR
CHLOROMETHANE	N.D.	10	N.D.	--	1
VINYL CHLORIDE	N.D.	5.0	N.D.	--	1
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--	1
CHLOROETHANE	N.D.	5.0	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	10	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	90.3	1
METHYLENE CHLORIDE	N.D.	10	N.D.	--	1
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--	1
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--	1
CHLOROFORM	N.D.	5.0	N.D.	--	1
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--	1
TRICHLOROETHENE	N.D.	5.0	N.D.	83.8	1
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--	1
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--	1
2-CHLOROETHYL VINYL ETHER	N.D.	10	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--	1
TETRACHLOROETHENE	N.D.	10	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--	1
CHLOROBENZENE	N.D.	5.0	N.D.	99.3	1
BROMOFORM	N.D.	5.0	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--	1



June Zhao  
Chemist



Chip Poalinelli  
Operations Manager

# CHROMALAB, INC.

Environmental Services (SDB)

October 11, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman/Robert Kitay

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 2, 1996

Project#: 2971

re: One sample for 8010 Purgeable Halocarbons by GC/MS analysis.  
Method: EPA 8240A July, 1992

Client Sample ID: MW-3 6.0'

Spl#: 102477


Matrix: SOIL

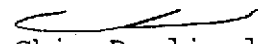
Sampled: September 26, 1996

Run#: 3548

Analyzed: October 10, 1996

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
CHLOROMETHANE	N.D.	10	N.D.	--	1
VINYL CHLORIDE	N.D.	5.0	N.D.	--	1
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--	1
CHLOROETHANE	N.D.	5.0	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	10	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	90.3	1
METHYLENE CHLORIDE	N.D.	10	N.D.	--	1
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--	1
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--	1
CHLOROFORM	N.D.	5.0	N.D.	--	1
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--	1
TRICHLOROETHENE	N.D.	5.0	N.D.	83.8	1
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--	1
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--	1
2-CHLOROETHYL VINYL ETHER	N.D.	10	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--	1
TETRACHLOROETHENE	N.D.	10	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--	1
CHLOROENZENE	N.D.	5.0	N.D.	99.3	1
BROMOFORM	N.D.	5.0	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--	1

  
June Zhao  
Chemist

  
Chip Poalinelli  
Operations Manager

# CHROMALAB, INC.

Environmental Services (SDB)

October 11, 1996

Submission #: 9610033

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman/Robert Kitay

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 2, 1996

Project#: 2971

re: One sample for 8010 Purgeable Halocarbons by GC/MS analysis.  
Method: EPA 8240A July, 1992

Client Sample ID: MW-4 6.0'

Spl#: 102478

Matrix: SOIL

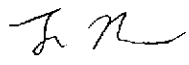
Sampled: September 27, 1996

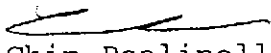
Run#: 3548

Analyzed: October 10, 1996

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
CHLOROMETHANE	N.D.	10	N.D.	--	1
VINYL CHLORIDE	N.D.	5.0	N.D.	--	1
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--	1
CHLOROETHANE	N.D.	5.0	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	10	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	90.3	1
METHYLENE CHLORIDE	N.D.	10	N.D.	--	1
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--	1
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--	1
CHLOROFORM	N.D.	5.0	N.D.	--	1
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--	1
TRICHLOROETHENE	N.D.	5.0	N.D.	83.8	1
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--	1
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--	1
2-CHLOROETHYL VINYL ETHER	N.D.	10	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--	1
TETRACHLOROETHENE	N.D.	10	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--	1
CHLOROBENZENE	N.D.	5.0	N.D.	99.3	1
BROMOFORM	N.D.	5.0	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--	1

Note: Estimated concentration due to matrix interference. Internal STD recovery was outside QA/QC limits.

  
June Zhao  
Chemist

  
Chip Poalinelli  
Operations Manager

CHROMALAB, INC.  
SAMPLE RECEIPT CHECKLIST

Client Name AQUA SCIENCE Date/Time Received 10/2/96 1130  
Project CUSTOM ALLOY Received by S. Antone / Date / Time  
Reference/Subm # 30022/9610033 Carrier name \_\_\_\_\_  
Checklist completed by: MP 10/3/96 Logged in by MP 10/2/96  
Signature / Date Initials / Date  
Matrix SOIL

Shipping container in good condition? NA \_\_\_ Yes \_\_\_ No \_\_\_  
Custody seals present on shipping container? Intact \_\_\_ Broken \_\_\_ Yes \_\_\_ No \_\_\_  
Custody seals on sample bottles? Intact \_\_\_ Broken \_\_\_ Yes \_\_\_ No \_\_\_  
Chain of custody present? Yes  No \_\_\_  
Chain of custody signed when relinquished and received? Yes  No \_\_\_  
Chain of custody agrees with sample labels? Yes  No \_\_\_  
Samples in proper container/bottle? Yes  No \_\_\_  
Samples intact? Yes  No \_\_\_  
Sufficient sample volume for indicated test? Yes  No \_\_\_  
VOA vials have zero headspace? NA  Yes \_\_\_ No \_\_\_  
Trip Blank received? NA  Yes \_\_\_ No \_\_\_  
All samples received within holding time? Yes  No \_\_\_  
Container temperature? 5.8°C  
pH upon receipt \_\_\_\_\_ pH adjusted \_\_\_\_\_ Check performed by: \_\_\_\_\_ NA

Any NO response must be detailed in the comments section below. If items are not applicable, they should be marked NA.

Client contacted? \_\_\_\_\_ Date contacted? \_\_\_\_\_

Person contacted? \_\_\_\_\_ Contacted by? \_\_\_\_\_

Regarding? \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Corrective Action: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



033/102475-102486

SUBM #: 9610033 REF: MV  
 CLIENT: ASE  
 DUE: 10/09/96  
 REF #: 30022

30022

Aqua Science Engineers, Inc.  
 2411 Old Crow Canyon Road, #4,  
 San Ramon, CA 94583  
 (510) 820-9391 - FAX (510) 837-4853

# Chain of Custody

DATE 9-26-96 PAGE 1 OF 2

SAMPLERS (SIGNATURE) Robert E. Kitey (PHONE NO.) (510) 820-9391 PROJECT NAME Custom Alloy Scrap Sales NO. 2971  
 ADDRESS 2711 Union Street, Oakland, CA

ANALYSIS REQUEST					TPH: GASOLINE (EPA 5030/8015)	TPH: GASOLINE/BTEX/MTBE (EPA 5030/8015-8020)	TPH: DIESEL (EPA 3510/8015)	PURGEABLE AROMATICS (EPA 602/0020)	PURGEABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NEUTRALS, ACIDS (EPA 625/6270)	OIL & GREASE (EPA 5520 EAF OF B&F)	LEAD METALS (5) (EPA 6010+7000)	TITLE 22 (CM 17) (EPA 6010+7000)	TCUP (EPA 1311/1310)	STLC: CAN WET (EPA 1312/1310)	REACTIVITY CORROSIVITY IGNITABILITY	PAHs mg/kg EPA 8160 8310 per Rk.	HOLD
SPECIAL INSTRUCTIONS:	SAMPLE ID.	DATE	TIME	MATRIX															
	MW-1 6.0'	9/26	10:10	Soil	1	X	X		X									X	
	MW-1 11.0'		10:18																X
	MW-1 15.0'		10:40																X
	MW-2 6.0'		13:05			X	X		X										X
	MW-2 11.0'		13:20																X
	MW-2 16.0'		13:25																X
	MW-3 6.0'		15:05			X	X		X										X
	MW-3 11.0'		15:15																X
	MW-3 15.0'	✓	15:20																X

RELINQUISHED BY: <u>Robert E. Kitey</u> (signature)	RECEIVED BY: <u>S. Antone</u> (signature)	RELINQUISHED BY: <u>S. Antone</u> (signature)	RECEIVED BY LABORATORY: <u>Mimie Pak</u> (signature)	COMMENTS:  <u>5-day T.A.T.</u>
11:30 (time)	10/2/96 (date)	10/2/96 (date)	1205 (time)	
ASE (printed name)	CHRMAI AB (printed name)	CHROMOLAB (printed name)	Chromalab (printed name)	

9610033

30022

Aqua Science Engineers, Inc.  
2411 Old Crow Canyon Road, #4,  
San Ramon, CA 94583  
(510) 820-9391 • FAX (510) 837-4853

# Chain of Custody

DATE 9-27-96 PAGE 2 OF 2

SAMPLERS (SIGNATURE) Robert C. Kitz (PHONE NO.) (510) 820-9391

PROJECT NAME Custom Alloy Scrap Sales NO. 2971  
ADDRESS 2711 Union Street, Oakland, CA

## ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRX	NO. OF SAMPLES	TPH- GASOLINE (EPA 5030/8015)	TPH- GASOLINE/BTEX/MX (EPA 5030/0015-0020)	TPH- DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/C-20)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NUTRIALS, ACIDS (EPA 623/6270)	OIL & GREASE (EPA 5520 REF OR B&F)	LUFT METALS (5) (EPA 6010-7000)	TITLE 22 (CAM 17) (EPA 6010-7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY	CORROSIIVITY	ICUTABILITY	REMARKS		
																				PAHS	OTHER	
MW-4 6.0'	9/27	10:40	Soil	1		X	X		X												X	
MW-4 10.0'	↓	10:48	↓	↓																	X	X
MW-4 16.0'	↓	11:00	↓	↓																		

RELINQUISHED BY:  
Robert E. Kitz 11-30  
(signature) (time)  
Robert E. Kitz 10-2-96  
(printed name) (date)

RECEIVED BY:  
Sammi Antone 11:20  
(signature) (time)  
Sammi Antone 10/2  
(printed name) (date)

RELINQUISHED BY:  
Sammi Antone  
(signature) (time)  
S. Antone 1205  
(printed name) (date)

RECEIVED BY LABORATORY:  
Mimie Pak 1205  
(signature) (time)  
Mimie Pak 10/2/96  
(printed name) (date)

COMMENTS:  
5-day T.A.T.

Company: ASE

Company: Chromalab

Company: Chromalab

Company: Chromalab

# **APPENDIX E**

Well Sampling Field Logs

# WELL SAMPLING FIELD LOG

Project Name and Address: Custom Alloy Scrap Sales, Oakland  
 Job #: 2971 Date of sampling: 10-3-96  
 Well Name: MW-1 Sampled by: SF  
 Total depth of well (feet): 24.73 Well diameter (inches): 2"  
 Depth to water before sampling (feet): 9.52  
 Thickness of floating product if any: None  
 Depth of well casing in water (feet): 15.21  
 Number of gallons per well casing volume (gallons): 2.6  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 10  
 Equipment used to purge the well: Dedicated Poly Bailer  
 Time Evacuation Began: 9:55 Time Evacuation Finished: 10:20  
 Approximate volume of groundwater purged: 10  
 Did the well go dry?: No After how many gallons: -  
 Time samples were collected: 10:30  
 Depth to water at time of sampling: 9.61  
 Percent recovery at time of sampling: 99%  
 Samples collected with: Dedicated Poly Bailer  
 Sample color: Cloudy Odor: none  
 Description of sediment in sample: Brown silt

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1</u>	<u>66.2</u>	<u>8.31</u>	<u>1120</u>
<u>2</u>	<u>65.9</u>	<u>8.18</u>	<u>1241</u>
<u>3</u>	<u>65.6</u>	<u>8.09</u>	<u>1208</u>
<u>4</u>	<u>65.5</u>	<u>8.05</u>	<u>1192</u>

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-1</u>	<u>2</u>	<u>40 ml VOAs</u>	<u>HEC</u>	<u>Yes</u>	<u>TPH, 1,2,4-D, MTBE</u>
<u>↓</u>	<u>2</u>	<u>40ml VOA</u>	<u>HEC</u>	<u>Yes</u>	<u>8010</u>
<u>↓</u>	<u>1</u>	<u>1 L Amber</u>	<u>-</u>	<u>Yes</u>	<u>TPH</u>
<u>↓</u>	<u>1</u>	<u>1 L Amber</u>	<u>-</u>	<u>Yes</u>	<u>8310</u>

# WELL SAMPLING FIELD LOG

Project Name and Address: Custom Alloy Scrap & Les, Oakland  
 Job #: 2971 Date of sampling: 10-3-96  
 Well Name: MW-2 Sampled by: sf  
 Total depth of well (feet): 19.23 Well diameter (inches): 2"  
 Depth to water before sampling (feet): 9.75  
 Thickness of floating product if any: none  
 Depth of well casing in water (feet): 9.48  
 Number of gallons per well casing volume (gallons): 1.6  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 6.5  
 Equipment used to purge the well: Dedicated Poly Bailer  
 Time Evacuation Began: 8:20 Time Evacuation Finished: 8:45  
 Approximate volume of groundwater purged: 7  
 Did the well go dry?: no After how many gallons: -  
 Time samples were collected: 8:50  
 Depth to water at time of sampling: 9.79  
 Percent recovery at time of sampling: 99%  
 Samples collected with: Dedicated Poly Bailer  
 Sample color: Cloudy Odor: none  
 Description of sediment in sample: Brown Silt

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1</u>	<u>66.1</u>	<u>8.32</u>	<u>1132</u>
<u>2</u>	<u>65.8</u>	<u>8.20</u>	<u>1260</u>
<u>3</u>	<u>65.4</u>	<u>8.14</u>	<u>1145</u>
<u>4</u>	<u>65.3</u>	<u>8.09</u>	<u>1141</u>

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-2</u>	<u>2</u>	<u>40 ml VOAs</u>	<u>HEI</u>	<u>Yes</u>	<u>TPH9/BTEX/MTBE</u>
<u>↓</u>	<u>2</u>	<u><del>40 ml VOAs</del></u>	<u>HEI</u>	<u>Yes</u>	<u>8010</u>
<u>↓</u>	<u>1</u>	<u>1 e Amber</u>	<u>-</u>	<u>Yes</u>	<u>TPHD</u>
<u>↓</u>	<u>1</u>	<u>1 e Amber</u>	<u>-</u>	<u>Yes</u>	<u>8310</u>

# WELL SAMPLING FIELD LOG

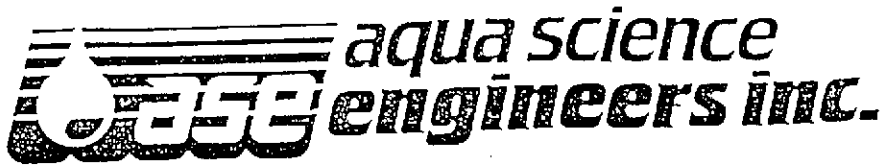
Project Name and Address: Custom Alloy Scrap Sales  
 Job #: 2971 Date of sampling: 10-3-96  
 Well Name: MW-3 Sampled by: SL  
 Total depth of well (feet): 24.78 Well diameter (inches): 2"  
 Depth to water before sampling (feet): 7.75  
 Thickness of floating product if any: none  
 Depth of well casing in water (feet): 17.03  
 Number of gallons per well casing volume (gallons): 2.9  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 12  
 Equipment used to purge the well: Dedicated Poly Bailer  
 Time Evacuation Began: 9:10 Time Evacuation Finished: 9:28  
 Approximate volume of groundwater purged: 12  
 Did the well go dry?: no After how many gallons: -  
 Time samples were collected: 9:35  
 Depth to water at time of sampling: 8.23  
 Percent recovery at time of sampling: 97%  
 Samples collected with: Dedicated Poly Bailer  
 Sample color: Cloudy Odor: none  
 Description of sediment in sample: none

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1</u>	<u>66.1</u>	<u>8.19</u>	<u>1048</u>
<u>2</u>	<u>65.9</u>	<u>8.02</u>	<u>1109</u>
<u>3</u>	<u>65.6</u>	<u>7.91</u>	<u>1121</u>
<u>4</u>	<u>65.5</u>	<u>7.98</u>	<u>1118</u>

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-3</u>	<u>2</u>	<u>40 ml VOAs</u>	<u>HP</u>	<u>Yes</u>	<u>TPH/SPEX/MTBE</u>
<u>↓</u>	<u>2</u>	<u>40 ml VOAs</u>	<u>HP</u>	<u>Yes</u>	<u>SO10</u>
<u>↓</u>	<u>1</u>	<u>1.2 Amber</u>	<u>-</u>	<u>Yes</u>	<u>TPH</u>
<u>↓</u>	<u>1</u>	<u>1.2 Amber</u>	<u>-</u>	<u>Yes</u>	<u>SO10</u>



# WELL SAMPLING FIELD LOG

Project Name and Address: Custom Alloy Scrap Sales  
 Job #: 2971 Date of sampling: 10-3-96  
 Well Name: MW-4 Sampled by: SL  
 Total depth of well (feet): 21.26 Well diameter (inches): 2"  
 Depth to water before sampling (feet): 8.73  
 Thickness of floating product if any: None  
 Depth of well casing in water (feet): 12.53  
 Number of gallons per well casing volume (gallons): 2.1  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 8.5  
 Equipment used to purge the well: Dedicated Poly Bailer  
 Time Evacuation Began: 10:40 Time Evacuation Finished: 11:02  
 Approximate volume of groundwater purged: \_\_\_\_\_  
 Did the well go dry?: No After how many gallons: -  
 Time samples were collected: 11:07  
 Depth to water at time of sampling: 8.98  
 Percent recovery at time of sampling: 98%  
 Samples collected with: Dedicated Poly Bailer  
 Sample color: Cloudy Odor: None  
 Description of sediment in sample: None

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1</u>	<u>66.2</u>	<u>8.25</u>	<u>1089</u>
<u>2</u>	<u>65.8</u>	<u>8.11</u>	<u>1122</u>
<u>3</u>	<u>65.6</u>	<u>8.08</u>	<u>1114</u>
<u>4</u>	<u>65.5</u>	<u>8.05</u>	<u>1109</u>

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-4</u>	<u>2</u>	<u>40 ml VOA's</u>	<u>Yes</u>	<u>Yes</u>	<u>TPH9/BTEX/MTBE</u>
<u>↓</u>	<u>2</u>	<u>40 ml VOA's</u>	<u>Yes</u>	<u>Yes</u>	<u>SO4</u>
<u>↓</u>	<u>1</u>	<u>1 e Amber</u>	<u>-</u>	<u>Yes</u>	<u>TPH0</u>
<u>↓</u>	<u>1</u>	<u>1 e Amber</u>	<u>-</u>	<u>Yes</u>	<u>SO4</u>

## **APPENDIX F**

Analytical Report and Chain of Custody Form  
For Groundwater Samples



# CHROMALAB, INC.

Environmental Services (SDB)

October 11, 1996

Submission #: 9610079

AQUA SCIENCE ENGINEERS INC  
2411 OLD CROW CANYON RD #4  
SAN RAMON, CA 94583

Attn: Scott Ferriman

RE: Analysis for project CUSTOM ALLOY SCRAP SALES, number 2971.

## REPORTING INFORMATION

Samples were received cold and in good condition on October 4, 1996. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

*Hydrocarbon in the Motor oil range was found in sample MW-2.*

*Hydrocarbon in the Motor oil range was found in sample MW-4.*



Bruce Havlik  
Chemist



Alex Tam  
Semivolatiles Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 11, 1996

Submission #: 9610079

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman


Project: CUSTOM ALLOY SCRAP SALES  
Received: October 4, 1996

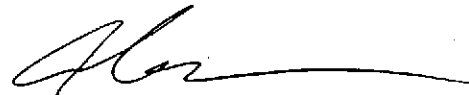
Project#: 2971

re: 4 samples for TPH - Diesel analysis.  
Method: EPA 3510/8015M

Matrix: WATER                      Extracted: October 8, 1996  
Run#: 3520                          Analyzed: October 11, 1996  
Sampled: October 3, 1996

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
102831	MW-1	N.D.	50	N.D.	82.0	1
102832	MW-2	2000	50	N.D.	82.0	1
<i>Note: Hydrocarbon reported is in the late Diesel range and does not match the pattern of our Diesel standard.</i>						
102833	MW-3	53	50	N.D.	82.0	1
<i>Note: Hydrocarbon reported does not match the pattern of our Diesel standard.</i>						
102834	MW-4	1400	50	N.D.	82.0	1
<i>Note: Hydrocarbon reported is in the late Diesel range and does not match our Diesel standard.</i>						

  
Bruce Havlik  
Chemist

  
Alex Tam  
Semivolatiles Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 11, 1996

Submission #: 9610079

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 4, 1996

Project#: 2971

re: One sample for Gasoline, BTEX & MTBE analysis.  
Method: EPA 5030/8015M/8020

Client Sample ID: MW-2

Spl#: 102832


Matrix: WATER

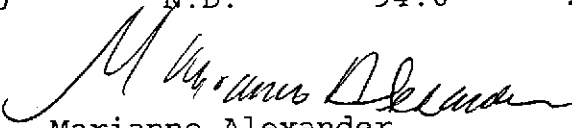
Sampled: October 3, 1996

Run#: 3546

Analyzed: October 10, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	210	50	N.D.	105	1
BENZENE	1.1	0.50	N.D.	107	1
TOLUENE	N.D.	0.50	N.D.	104	1
ETHYL BENZENE	N.D.	0.50	N.D.	100	1
XYLENES	N.D.	0.50	N.D.	103	1
MTBE	130	100	N.D.	94.0	20

  
June Zhao  
Chemist

  
Marianne Alexander  
Gas/BTEX Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 11, 1996

Submission #: 9610079

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 4, 1996

Project#: 2971

re: One sample for Gasoline, BTEX & MTBE analysis.  
Method: EPA 5030/8015M/8020

Client Sample ID: MW-3

Spl#: 102833

Matrix: WATER

Sampled: October 3, 1996

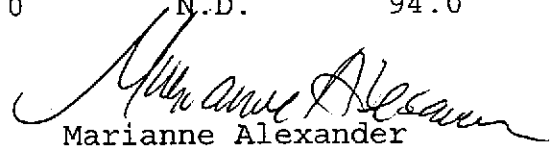
Run#: 3546

Analyzed: October 11, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	200	50	N.D.	105	1
BENZENE	N.D.	0.50	N.D.	107	1
TOLUENE	1.4	0.50	N.D.	104	1
ETHYL BENZENE	N.D.	0.50	N.D.	100	1
XYLENES	N.D.	0.50	N.D.	103	1
MTBE	N.D.	5.0	N.D.	94.0	1

2

June Zhao  
Chemist

  
Marianne Alexander  
Gas/BTEX Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 11, 1996

Submission #: 9610079

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 4, 1996

Project#: 2971

re: One sample for Gasoline, BTEX & MTBE analysis.  
Method: EPA 5030/8015M/8020

Client Sample ID: MW-1

Spl#: 102831


Matrix: WATER

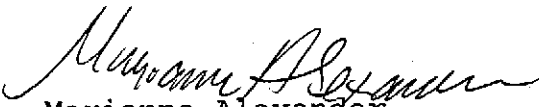
Sampled: October 3, 1996

Run#: 3546

Analyzed: October 10, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	83	50	N.D.	105	1
BENZENE	N.D.	0.50	N.D.	107	1
TOLUENE	N.D.	0.50	N.D.	104	1
ETHYL BENZENE	N.D.	0.50	N.D.	100	1
XYLENES	N.D.	0.50	N.D.	103	1
MTBE	N.D.	5.0	N.D.	94.0	1

  
June Zhao  
Chemist

  
Marianne Alexander  
Gas/BTEX Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 11, 1996

Submission #: 9610079

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 4, 1996

Project#: 2971

re: One sample for Gasoline, BTEX & MTBE analysis.  
Method: EPA 5030/8015M/8020

Client Sample ID: MW-4

Spl#: 102834


Matrix: WATER

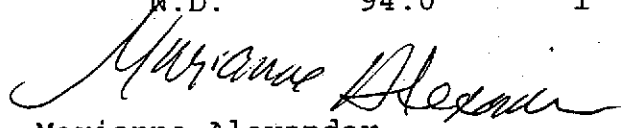
Sampled: October 3, 1996

Run#: 3546

Analyzed: October 11, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	120	50	N.D.	105	1
BENZENE	N.D.	0.50	N.D.	107	1
TOLUENE	3.8	0.50	N.D.	104	1
ETHYL BENZENE	N.D.	0.50	N.D.	100	1
XYLENES	N.D.	0.50	N.D.	103	1
MTBE	N.D.	5.0	N.D.	94.0	1

  
June Zhao  
Chemist

  
Marianne Alexander  
Gas/BTEX Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 15, 1996

Submission #: 9610079

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 4, 1996

Project#: 2971

re: One sample for Volatile Halogenated Organics analysis.  
Method: SW846 METHOD 8010A JULY, 1992

Client Sample ID: MW-1

Spl#: 102831

Matrix: WATER

Sampled: October 3, 1996

Run#: 3596

Analyzed: October 14, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
VINYL CHLORIDE	N.D.	20	N.D.	--	1
CHLOROETHANE	N.D.	20	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	20	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	20	N.D.	104	1
METHYLENE CHLORIDE	N.D.	200	N.D.	--	1
TRANS-1,2-DICHLOROETHENE	N.D.	20	N.D.	--	1
CIS-1,2-DICHLOROETHENE	61	20	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	20	N.D.	--	1
CHLOROFORM	N.D.	80	N.D.	--	1
1,1,1-TRICHLOROETHANE	N.D.	20	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	20	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	20	N.D.	--	1
TRICHLOROETHENE	2200	20	N.D.	98.0	1
1,2-DICHLOROPROPANE	N.D.	20	N.D.	--	1
BROMODICHLOROMETHANE	N.D.	20	N.D.	--	1
2-CHLOROETHYL VINYL ETHER	N.D.	20	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	20	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	20	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	20	N.D.	--	1
TETRACHLOROETHENE	N.D.	20	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	20	N.D.	--	1
CHLOROBENZENE	N.D.	20	N.D.	97.0	1
BROMOFORM	N.D.	20	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	20	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	20	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	20	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	20	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	20	N.D.	--	1
CHLOROMETHANE	N.D.	40	N.D.	--	1
BROMOMETHANE	N.D.	40	N.D.	--	1

Note: SAMPLE WAS ANALYZED USING EPA METHOD 8240



Oleg Nemtsov  
Chemist



Chip Poalinelli  
Operations Manager

# CHROMALAB, INC.

Environmental Services (SDB)

October 15, 1996

Submission #: 9610079

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 4, 1996

Project#: 2971

re: One sample for Volatile Halogenated Organics analysis.  
Method: SW846 METHOD 8010A JULY, 1992

Client Sample ID: MW-2

Spl#: 102832

Sampled: October 3, 1996

Matrix: WATER

Run#: 3596

Analyzed: October 14, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE FACTOR (%)	DILUTION FACTOR
VINYL CHLORIDE	160	20	N.D.	--	1
CHLOROETHANE	N.D.	20	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	20	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	20	N.D.	104	1
METHYLENE CHLORIDE	N.D.	200	N.D.	--	1
TRANS-1,2-DICHLOROETHENE	47	20	N.D.	--	1
CIS-1,2-DICHLOROETHENE	200	20	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	20	N.D.	--	1
CHLOROFORM	N.D.	80	N.D.	--	1
1,1,1-TRICHLOROETHANE	N.D.	20	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	20	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	20	N.D.	--	1
TRICHLOROETHENE	220	20	N.D.	98.0	1
1,2-DICHLOROPROPANE	N.D.	20	N.D.	--	1
BROMODICHLOROMETHANE	N.D.	20	N.D.	--	1
2-CHLOROETHYL VINYL ETHER	N.D.	20	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	20	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	20	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	20	N.D.	--	1
TETRACHLOROETHENE	N.D.	20	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	20	N.D.	--	1
CHLOROBENZENE	32	20	N.D.	97.0	1
BROMOFORM	N.D.	20	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	20	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	20	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	20	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	20	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	20	N.D.	--	1
CHLOROMETHANE	N.D.	40	N.D.	--	1
BROMOMETHANE	N.D.	40	N.D.	--	1

Note: SAMPLE WAS ANALYZED USING EPA METHOD 8240

*Oleg Nemtsov*

Oleg Nemtsov  
Chemist

*Chip Poalinelli*  
Chip Poalinelli  
Operations Manager



# CHROMALAB, INC.

Environmental Services (SDB)

October 15, 1996

Submission #: 9610079

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 4, 1996

Project#: 2971

re: One sample for Volatile Halogenated Organics analysis.  
Method: SW846 METHOD 8010A JULY, 1992

Client Sample ID: MW-3

Spl#: 102833

Matrix: WATER

Sampled: October 3, 1996

Run#: 3596

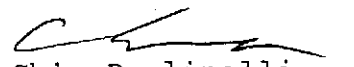
Analyzed: October 14, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
VINYL CHLORIDE	N.D.	20	N.D.	--	1
CHLOROETHANE	N.D.	20	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	20	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	20	N.D.	104	1
METHYLENE CHLORIDE	N.D.	200	N.D.	--	1
TRANS-1,2-DICHLOROETHENE	N.D.	20	N.D.	--	1
CIS-1,2-DICHLOROETHENE	N.D.	20	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	20	N.D.	--	1
CHLOROFORM	N.D.	80	N.D.	--	1
1,1,1-TRICHLOROETHANE	N.D.	20	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	20	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	20	N.D.	--	1
TRICHLOROETHENE	120	20	N.D.	98.0	1
1,2-DICHLOROPROPANE	N.D.	20	N.D.	--	1
BROMODICHLOROMETHANE	N.D.	20	N.D.	--	1
2-CHLOROETHYL VINYL ETHER	N.D.	20	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	20	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	20	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	20	N.D.	--	1
TETRACHLOROETHENE	520	20	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	20	N.D.	--	1
CHLORO BENZENE	N.D.	20	N.D.	97.0	1
BROMOFORM	N.D.	20	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	20	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	20	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	20	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	20	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	20	N.D.	--	1
CHLOROMETHANE	N.D.	40	N.D.	--	1
BROMOMETHANE	N.D.	40	N.D.	--	1

Note: SAMPLE WAS ANALYZED USING EPA METHOD 8240



Oleg Nemtsov  
Chemist



Chip Poalinelli  
Operations Manager

# CHROMALAB, INC.

Environmental Services (SDB)

October 15, 1996

Submission #: 9610079

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 4, 1996

Project#: 2971

re: One sample for Volatile Halogenated Organics analysis.  
Method: SW846 METHOD 8010A JULY, 1992

Client Sample ID: MW-4

Spl#: 102834

Matrix: WATER

Sampled: October 3, 1996

Run#: 3596

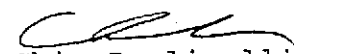
Analyzed: October 14, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
VINYL CHLORIDE	N.D.	20	N.D.	--	1
CHLOROETHANE	N.D.	20	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	20	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	20	N.D.	104	1
METHYLENE CHLORIDE	N.D.	200	N.D.	--	1
TRANS-1,2-DICHLOROETHENE	N.D.	20	N.D.	--	1
CIS-1,2-DICHLOROETHENE	28	20	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	20	N.D.	--	1
CHLOROFORM	N.D.	80	N.D.	--	1
1,1,1-TRICHLOROETHANE	N.D.	20	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	20	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	20	N.D.	--	1
TRICHLOROETHENE	270	20	N.D.	98.0	1
1,2-DICHLOROPROPANE	N.D.	20	N.D.	--	1
BROMODICHLOROMETHANE	N.D.	20	N.D.	--	1
2-CHLOROETHYL VINYL ETHER	N.D.	20	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	20	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	20	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	20	N.D.	--	1
TETRACHLOROETHENE	N.D.	20	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	20	N.D.	--	1
CHLOROBENZENE	N.D.	20	N.D.	97.0	1
BROMOFORM	N.D.	20	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	20	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	20	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	20	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	20	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	20	N.D.	--	1
CHLOROMETHANE	N.D.	40	N.D.	--	1
BROMOMETHANE	N.D.	40	N.D.	--	1

Note: SAMPLE WAS ANALYZED USING EPA METHOD 8240



Oleg Nemtsov  
Chemist

  
Chip Poalinelli  
Operations Manager

# CHROMALAB, INC.

Environmental Services (SDB)

October 11, 1996

Submission #: 9610079

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 4, 1996

Project#: 2971

re: One sample for Polynuclear Aromatics (PNAs) analysis.  
Method: EPA 8310

Client Sample ID: MW-1

Spl#: 102831

Matrix: WATER

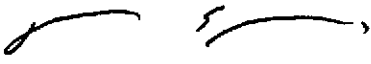
Extracted: October 9, 1996

Sampled: October 3, 1996

Run#: 3567

Analyzed: October 9, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	2.0	N.D.	100	1
ACENAPHTHENE	N.D.	3.5	N.D.	--	1
ACENAPHTHYLENE	N.D.	1.7	N.D.	--	1
FLUORENE	N.D.	0.30	N.D.	--	1
PHENANTHRENE	N.D.	0.15	N.D.	96.0	1
ANTHRACENE	N.D.	0.070	N.D.	--	1
FLUORANTHENE	N.D.	0.15	N.D.	--	1
PYRENE	N.D.	0.32	N.D.	101	1
BENZO (A) ANTHRACENE	N.D.	0.15	N.D.	--	1
CHRYSENE	N.D.	0.35	N.D.	102	1
BENZO (B) FLUORANTHENE	N.D.	0.050	N.D.	--	1
BENZO (K) FLUORANTHENE	N.D.	0.050	N.D.	--	1
BENZO (A) PYRENE	N.D.	0.15	N.D.	87.6	1
IDENO (1, 2, 3-CD) PYRENE	N.D.	0.16	N.D.	--	1
DIBENZO (A, H) ANTHRACENE	N.D.	4.6	N.D.	--	1
BENZO (GHI) PERYLENE	N.D.	0.67	N.D.	--	1

  
Dennis Mayugba  
Chemist

  
Alex Tam  
Semivolatiles Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 11, 1996

Submission #: 9610079

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 4, 1996

Project#: 2971

re: One sample for Polynuclear Aromatics (PNAs) analysis.  
Method: EPA 8310

Client Sample ID: MW-2

Spl#: 102832

Sampled: October 3, 1996


Matrix: WATER


Run#: 3567

Extracted: October 9, 1996

Analyzed: October 9, 1996

<u>ANALYTE</u>	<u>RESULT</u> (ug/L)	<u>REPORTING</u> <u>LIMIT</u> (ug/L)	<u>BLANK</u> <u>RESULT</u> (ug/L)	<u>BLANK</u> <u>SPIKE</u> (%)	<u>DILUTION</u> <u>FACTOR</u>
NAPHTHALENE	N.D.	2.0	N.D.	100	1
ACENAPHTHENE	N.D.	3.5	N.D.	--	1
ACENAPHTHYLENE	N.D.	1.7	N.D.	--	1
FLUORENE	N.D.	0.30	N.D.	--	1
PHENANTHRENE	N.D.	0.15	N.D.	96.0	1
ANTHRACENE	N.D.	0.070	N.D.	--	1
FLUORANTHENE	N.D.	0.15	N.D.	--	1
PYRENE	N.D.	0.32	N.D.	101	1
BENZO (A) ANTHRACENE	N.D.	0.15	N.D.	--	1
CHRYSENE	N.D.	0.35	N.D.	102	1
BENZO (B) FLUORANTHENE	N.D.	0.050	N.D.	--	1
BENZO (K) FLUORANTHENE	N.D.	0.050	N.D.	--	1
BENZO (A) PYRENE	N.D.	0.15	N.D.	87.6	1
IDENO (1, 2, 3-CD) PYRENE	N.D.	0.16	N.D.	--	1
DIBENZO (A, H) ANTHRACENE	N.D.	4.6	N.D.	--	1
BENZO (GHI) PERYLENE	N.D.	0.67	N.D.	--	1

  
Dennis Mayugba  
Chemist

  
Alex Tam  
Semivolatiles Supervisor

# CHROMALAB, INC.

Environmental Services (SDB)

October 11, 1996

Submission #: 9610079

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: CUSTOM ALLOY SCRAP SALES  
Received: October 4, 1996

Project#: 2971

re: One sample for Polynuclear Aromatics (PNAs) analysis.  
Method: EPA 8310

Client Sample ID: MW-3

Spl#: 102833

Sampled: October 3, 1996


Matrix: WATER

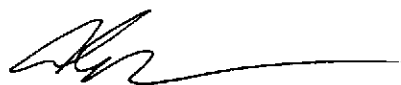
Run#: 3567

Extracted: October 9, 1996

Analyzed: October 10, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	2.0	N.D.	100	1
ACENAPHTHENE	N.D.	3.5	N.D.	--	1
ACENAPHTHYLENE	N.D.	1.7	N.D.	--	1
FLUORENE	N.D.	0.30	N.D.	--	1
PHENANTHRENE	N.D.	0.15	N.D.	96.0	1
ANTHRACENE	N.D.	0.070	N.D.	--	1
FLUORANTHENE	N.D.	0.15	N.D.	--	1
PYRENE	N.D.	0.32	N.D.	101	1
BENZO (A) ANTHRACENE	N.D.	0.15	N.D.	--	1
CHRYSENE	N.D.	0.35	N.D.	102	1
BENZO (B) FLUORANTHENE	N.D.	0.050	N.D.	--	1
BENZO (K) FLUORANTHENE	N.D.	0.050	N.D.	--	1
BENZO (A) PYRENE	N.D.	0.15	N.D.	87.6	1
IDENO (1, 2, 3-CD) PYRENE	N.D.	0.16	N.D.	--	1
DIBENZO (A, H) ANTHRACENE	N.D.	4.6	N.D.	--	1
BENZO (GHI) PERYLENE	N.D.	0.67	N.D.	--	1

  
Dennis Mayugba  
Chemist

  
Alex Tam  
Semivolatiles Supervisor

079/102831-102834

30092

Aqua Science Engineers, Inc.  
2411 Old Crow Canyon Road, #4,  
San Ramon, CA 94583  
(510) 820-9391 - FAX (510) 837-4853

# Chain of Custody

DATE 10-3-96 PAGE 1 OF 1

SAMPLERS (SIGNATURE) Scott T. Ferriman (PHONE NO.) 510-820-9391 PROJECT NAME Custom Alloy Sarge Sales NO. 2971  
ADDRESS 2711 Union Street, Oakland, CA

## ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

5-Day

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-CASOLINE (EPA 5030/8015)	TPH-CASOLINE/BTEX/MTBE (EPA 5030/8015-0020)	TPH-DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/6020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGNICS (EPA 624/8240)	BASE/NEUTRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 EAF OF B&F)	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC-CAM MET (EPA 1311/1310)	REACTIVITY CORROSIIVITY IGTABILITY	EPA 8310
<del>Mw-1</del>																		
Mw-1	10-3-96	10:30	Water	6	X	X	X	X	X									X
Mw-2	↓	8:50	↓	↓	X	X	X	X	X									X
Mw-3	↓	9:35	↓	↓	X	X	X	X	X									X
Mw-4	↓	10:07	↓	↓	X	X	X	X	X									X

SUBM #: 9610079 REP: MV  
CLIENT: ASE  
DUE: 10/11/96  
REF #: 30092

RELINQUISHED BY: <u>Scott T. Ferriman</u> (signature) (time) <u>10:50</u>	RECEIVED BY: <u>S. Antone</u> (signature) (time) <u>10:50</u>	RELINQUISHED BY: <u>S. Antone</u> (signature) (time) <u>17:45</u>	RECEIVED BY LABORATORY: <u>Minnie Pak</u> (signature) (time) <u>17:45</u>	COMMENTS:
(printed name) (date) <u>Scott T. Ferriman 10-4-96</u>	(printed name) (date) <u>S. Antone 10/4/96</u>	(printed name) (date) <u>S. Antone 10/4/96</u>	(printed name) (date) <u>Minnie Pak 10/4/96</u>	
Company: <u>ASE, Inc.</u>	Company: <u>Chromalab</u>	Company: <u>Chromalab</u>	Company: <u>Chromalab</u>	