JOHN H. SAMMONS, Ph.D.
2011 Feliz Road, Novato, CA 94945
[415] 892 8005

3 May 1995

Ms Susan Hugo
Alameda County Health Agency
Division of Environmental Protection
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

RE: Custom Alloy Scrap Sales, Oakland, CA

Dear Ms Hugo:

Enclosed are copies of the analytical results from monitoring wells 5, 6, 7, 8, 9 at the site.

At the time these samples were taken wells 3 and 4 were inaccessible due to stored material. These wells will be sampled on 5/5/95 and the results furnished to you before the formal report is prepared.

No product was detected by the Keck Interface Probe.

Sincerely,

John H. Sammons, Ph.D.

Encl: Laboratory results

CC: CASS
File

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

John H. Sammons, Ph.D. 2011 Feliz Road Novato, CA 94945	Client Project ID: CASS	Date Sampled: 04/13/95
		Date Received: 04/13/95
	Client Contact: John Sammons / Pat O'Brien	Date Extracted: 04/14/95
	Client P.O:	Date Analyzed: 04/14-04/15/95

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

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

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
51641	MW5	W	ND	97
51642	MW6	W	720,a	98
51643	MW7	W	ND	96
51644	MW8	W	ND	103
51645	MW9	W	ND	103
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

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

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

DHS Certification No. 1644

Edward Hamilton, Lab Director

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	Client Contact: John Sammons / Pat O'Brien	Date Extracted: 04/13-04/14/95
	Client P.O:	Date Analyzed: 04/13-04/14/95

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

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

Lab ID	Client ID	Matrix	TPH(g)+	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
51641	MW5	W	ND	ND	ND	ND	ND	95
51642	MW6	W	300,c/d,g	ND	ND	ND	0.98	107
51643	MW7	W	ND	ND	ND	ND	ND	92
51644	MW8	W	ND	ND	ND	ND	ND	91
51645	MW9	W	ND	ND	ND	ND	ND	94
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

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

cluttered chromatogram; sample peak coelutes with surrogate peak

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

DHS Certification No. 1644

Edward Hamilton, Lab Director

PRODUCT RECOVERY RECORDS			
MW-1			
DATE	% SATURATED	PRODUCT QUARTS	CHANGED
7/28/94	10		N
8/2/94	10		N
8/4/94	15		N
8/9/94	25		N
8/11/94	25		N
8/15/94	30		N
		0	
9/15/94	30		N
9/22/94	30		N
9/27/94	30		N
10/5/94	40		N
10/12/94	50		N
10/20/94	50		N
10/31/94	70		N
		0	
11/4/94	100		N
11/10/94	50		N
11/17/94	60		N
11/27/94	70		N
		0	
12/1/94	100	4	Y
12/20/94	70		N
		4	
1/2/95	100	4	Y
1/10/95	50		N
1/14/95	100	4	Y
1/26/95	70	4	N
		12	
2/7/95	100	4	Y
2/15/95	70		N

Recd fr. John Sammons 2/27/95 at meeting

[redacted] (415) 897-5845

John H. Sammons, Ph.D.
Environmental Science
Site Remediation
Soil Vapor Extraction

2011 Feliz Road • Novato, CA 94945
Registered Environmental Health Specialist
Registered Hazardous Substances Professional

5 gallons over 8 months

= .6/month

Custom Alloy Scrap Sales, Inc.
Robert Dake
M.R.O. - Purchasing Agent

(510) 893-6476
FAX No. (510) 893-2012

2730 PERALTA STREET
OAKLAND, CALIFORNIA 94607

Custom Alloy Scrap Sales, Inc.
Patrick R. O'Brien
General Manager

(510) 893-6476
FAX No. (510) 893-2012

2730 PERALTA STREET
OAKLAND, CALIFORNIA 94607

PRODUCT RECOVERY RECORDS			
MW-2			
DATE	% SATURATED	PRODUCT QUARTS	CHANGED
7/28/94	50		N
8/2/94	75		N
8/4/94	100	4	Y
8/9/94	50		N
8/11/94	75		N
8/15/94	100	4	Y
8/18/94	50		N
8/22/94	100	4	Y
		12	
9/15/94	100	4	Y
9/22/94	30		N
9/27/94	50		N
10/5/94	50		N
10/12/94	75		N
10/20/94	100	4	Y
10/31/94	25		N
		8	
11/4/94	50		N
11/10/94	100	4	Y
11/17/94	50		N
11/27/94	75		N
		4	
12/4/94	100	4	Y
12/12/94	50		N
12/19/94	75		N
12/20/94	100	4	Y
		8	
1/3/95	100	4	Y
1/3/95	100	4	Y
1/5/95	50		N
1/10/95	100	4	Y
1/12/95	100	4	Y
1/14/95	100	4	Y
1/20/95	100	4	Y
1/27/95	100	4	Y
		28	
2/7/95	100	4	Y
2/14/95	100	4	Y

17 gallons over 8 months ~ 2.1/month

1. INTRODUCTION

This report summarizes the methods and results of sampling conducted in July, 1994 at the Custom Alloy Scrap Sales (CASS) facility located at 2730 Peralta Street in Oakland, California (Figure 1). This report is the second in a series of four quarterly monitoring reports planned for this site.

1.1 Background

One diesel underground storage tank (UST) was removed from the backyard and one gasoline UST was removed from the front yard on April 9 and 11 in 1990 (MacKinnon, 1990a). Although the diesel UST passed an integrity test in 1989, the piping which extended from the tank to the dispenser did not. Previous UST locations, piping, and the dispenser are shown on Figure 2. The Alameda County Department of Environmental Health (ACDEH) required additional investigation of the site because elevated total petroleum hydrocarbon (TPH) concentrations were identified in soil samples from each UST excavation. In response to this requirement CASS has performed two site investigations which has included the drilling and installation of eleven borings and six monitoring wells (MacKinnon, 1990a,c).

Site monitoring was initiated in May, 1990 and has continued until the present although monitoring was discontinued between August, 1992 and August, 1993.

The sampling effort consisted of the following activities:

- Measuring water levels in monitoring wells MW3, MW4, MW5 and MW6;
- Sampling of wells MW3, MW4, MW5, and MW6 and submittal of groundwater samples for laboratory analyses.

In April, 1991, a trench backfilled with gravel was constructed to a depth of 20 to 25 feet between these wells in the locations shown on Figure 2 to accumulate and recover the product (MacKinnon, 1991b). Although soil samples collected from the trench indicated up to 8,800 mg/kg, free product has not been observed in the trench (DBA, August, 1993) or in two recovery wells (RW1 and RW2) installed within the trench. Recovery well RW1 has been sampled several times between the period of 1991 and 1993 and has been found to contain between 7.7 mg/l and 82 mg/l of TPHD during that time. In July, 1993, RW1 contained 0.01 foot of floating product and no product was observed in RW2 (McDonald, September, 1993). These wells have been covered by site equipment since that time and have not been monitored. Approximately 100 cubic yards of soils removed from the trench was bioremediated. CASS is currently evaluating methods for disposal of this soil.

This report presents the methods and results of these activities and summarizes product recovery activities conducted by CASS since submittal of the last monitoring report to ACDEH in April, 1994.

2. WATER LEVEL ELEVATIONS AND PRODUCT THICKNESSES

Monitoring wells and soil borings at the CASS facility are shown on Figure 2. Water levels were measured in wells MW3, MW4, MW5 and MW6 prior to sampling on July 12, 1994. Water level measurements were made using an electronic water level device from the top of casing and were converted to elevations by subtracting the depth of water from top of casing elevations.

Water level measurements for July, 1994, along with previous measurements made at these wells, are included in Table 1. Water level measurements made in July, 1994 indicate groundwater elevations ranging from 0.02 foot to -2.68 feet below mean sea level across the site.

In July, 1994, groundwater flow across the site was toward the west. A water level contour map showing water level contours for July, 1994 is included in Figure 3. These data indicate that MW3 and MW5 are cross-gradient of the previous diesel UST and that MW4 is upgradient of the diesel UST. Groundwater flow direction will be further refined in October when quarterly monitoring will include the three new wells MW7, MW8, and MW9.

Product thicknesses have been measured during the four-year monitoring program by CASS personnel and are available in DBA's report dated April 6, 1994. In accordance with requests made by ACDEH, DBA has measured product thicknesses as part of the quarterly monitoring program. The most recent measurements, made on July 12, 1994, indicated 2 inches of product in MW1 and 1/4-inch of product in well MW2 (See Appendix A). Product thicknesses were also measured on September 14, 1994 when the new wells MW7, MW8, and MW9 were installed. At that time, product thickness at MW1 was not observed and was measured at 1/16-inch at MW2. Daily Field Records describing measurements made is included in Appendix A, along with an annotated cumulative record of product thickness measurements at both wells.

3. GROUNDWATER SAMPLING

3.1 Sampling and Analytical Methods

Groundwater samples were collected from wells MW3, MW4, MW5 and MW6 on July 12, 1994. Wells MW1 and MW2 were not sampled because of the presence of product.

Prior to sampling, each of the wells was purged of approximately four casing volumes using a dedicated submersible pump. Well MW6 went dry after pumping 18 gallons (approximately 3 casing volumes) and was sampled after water levels recovered. Sampling data sheets are included in Appendix B.

Groundwater samples from each well were collected using the dedicated submersible pumps and pouring directly into the sample containers. Volatile organics (TPHG/BTEX) were collected in 40-milliliter jars and TPHD was collected in amber liter jars. Sample containers were placed in a cooler with blue ice for shipment to the analytical laboratory.

Groundwater samples were submitted for total petroleum hydrocarbons (TPH) as gasoline and diesel (EPA Method 8015M), and benzene, toluene, ethylbenzene and xylenes (BTEX; EPA Method 8020M).

3.2 Analytical Results

A summary of sample results for July, 1994, in addition to previous sampling periods, are included in Table 2 and copies of original laboratory data are included in Appendix C. In July, 1994, TPH as gasoline and BTEX were not present above laboratory detection limits in any of the wells except MW6. In MW6, TPH as gasoline was detected at 0.52 parts per million (ppm). Benzene was detected at 0.6 parts per billion (ppb). Concentrations of toluene, ethylbenzene and xylenes were not present above laboratory detection limits. TPH as diesel was detected at 2.0 ppm, 1.9 ppm, ND, and 4.6 ppm in MW3, MW4, MW5 and MW6, respectively.

The detection of TPH as diesel at MW6 is unexplained as the adjacent, previous gasoline tank is not reported to have contained diesel. The presence of benzene in groundwater collected at MW3 (adjacent to the previous diesel tank) is also unexplained as this constituent is highly volatile and is usually associated with gasoline rather than diesel. However, benzene concentrations have decreased over time in this well and were not present above laboratory detection limits during the August, 1993 and March, 1994 sampling periods. Additionally, TPH as diesel, along with isolated occurrences of benzene and toluene, have been detected in MW4 which is located to the east (up-gradient) of the previous diesel tank. These data suggest that petroleum hydrocarbons in groundwater could be migrating on site from upgradient facilities. A previous environmental survey report, prepared by VISTA Environmental Information, Inc. indicates the presence of several listed sites to the east of CASS (See Appendix D).

Of the petroleum constituents tested for, maximum contaminant levels (MCLs) designated by the U.S. Environmental Protection Agency (EPA) exist for benzene, ethylbenzene and xylene at 1 ppb, 680 ppb, and 1,750 ppb, respectively. A state action (defined by the California Department of Health Services; DOHS) level of 100 ppb exists for toluene. MCLs for TPH as gasoline or diesel do not exist. Review of these data indicate that none of the petroleum constituents listed above were present in concentrations equal or above MCLs in the July, 1994 sampling period.

It should be noted, that TPH as gasoline and diesel and BTEX constituents at MW6 were detected at higher concentrations in August, 1991 than any other sampling period (McDonald, September, 1993). For instance, benzene was detected at 12,000 ppb in August, 1991 (See Table 3). Examination of all historic sampling data at MW6 suggest that the high concentrations observed in August, 1991 were anomalous because concentrations were significantly lower during all other sampling periods. For instance, benzene was detected at 11 ppb and 6.3 ppb in May and December, 1991, respectively.

4. PRODUCT RECOVERY

Product has been regularly recovered from wells MW1 and MW2 by CASS personnel on a weekly to bi-weekly basis since December, 1992. Product recovery methodology is reported as follows:

- Measuring the depth to the top of the product using a tape measure;

- Bailing to remove visible product;
- Measuring the depth to the water surface after product removal is completed.

Product recovery data sheets for February 1993 through March, 1994 are included in Appendix A of the DBA, April, 1994 report. Overall, product thickness has reduced in MW1 from approximately 5 inches in March, 1993 to approximately 0 to 1/4-inch in March, 1994. In July, DBA representatives measured 2 inches of product in MW1. In MW2, product thickness has increased from approximately 1/4 to 1/2-inch in early 1993 to approximately 4 inches in mid to late 1993. Product thicknesses decreased to approximately 1 inch in early 1994 in MW2. DBA representatives measured 1/4-inch product in July, 1994 in MW2.

On July 12, 1994, a product recovery system, called the Soak-ease oil absorbent kit, was installed inside monitoring wells MW1 and MW2. The Soak-ease kit consists of a disposable sorbent material designed to absorb and contain petroleum-based constituents, which is held inside a stainless steel, refillable canister. To use, the Soak-ease canister is lowered into the well so that the lower half of the canister is below the water/product interface. The tube absorbs product throughout its entire length. Tubes require replacement when saturated and can be dried and re-used later on.

During the Soak-ease installation, a CASS personnel was instructed by a DBA representative on the monitoring and replacement of Soak-ease tubes. On September 14, product thickness was recorded in each well and the tube replacement schedule was described by CASS personnel (See Appendix A).

5. CONCLUSIONS AND RECOMMENDATIONS

This quarterly monitoring report presents the methods and results of the most recent sampling period at the CASS facility. Chemical trends in groundwater include an overall increase in TPH diesel and decrease in BTEX constituents in MW3; an overall increase in TPH diesel in MW4 with no BTEX detected; no TPH or BTEX detections in MW5; and fluctuating TPH gasoline and diesel, and BTEX concentrations in MW6.

To better investigate potential downgradient migration of hydrocarbons from MW1 and MW2, where floating product has been observed, two additional monitoring wells, MW8 and MW9 were installed along 26th Street in August, 1994. The newly installed wells will better define potential downgradient migration from MW1 and MW2 where floating product has been documented. To investigate potential downgradient migration of hydrocarbons from the previous gasoline tank, an additional monitoring well, MW7, was also installed in August of 1994, downgradient of MW6.

Based on discussions presented in this report, DBA concludes that petroleum hydrocarbons detected in well MW4 could be migrating on site from upgradient facilities. Monitoring well MW5 is located cross-gradient of the facility, and as such, has not been reported to contain any of the constituents tested for during any of the sampling periods. Monitoring well MW3 is also located cross-gradient of the diesel pit.

Thus, DBA recommends that monitoring wells MW3, MW4 and MW5, which are located upgradient or cross-gradient of the previous diesel UST be omitted from the monitoring program and properly abandoned.

6. REFERENCES

Dennis Bates Associates, Inc., August 31, 1993, "Summary Report of Previous Activities and Workplan for Additional Site Investigation".

Dennis Bates Associates, Inc. April 6, 1994, "Quarterly Monitoring Report, Custom Alloy Scrap Sales".

MacKinnon, Cinda, June 22, 1990a, "Preliminary Subsurface Investigation for a Metal Recycling Yard, Oakland, California".

MacKinnon, Cinda, December 3, 1990b, "Phase II Subsurface Investigation for a Metal Recycling Yard, Oakland, California".

McDonald, Mary Lucas, September 2, 1993, "Quarterly Monitoring Report, Custom Alloy Scrap Sales, 2730 Peralta Street, Oakland, California".

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL DATA - PETROLEUM HYDROCARBONS
CUSTOM ALLOY SCRAP SALES
2730 Peralta Street
Oakland, California

WELL #	DATE	TPHg ppm	TPHd ppm	BENZENE ppb	TOLUENE ppb	ETHYLBENZENE ppb	XYLENES ppb
MW1 (1)	06/90	ND	ND	0.4	ND	1	0.7
	03/94	NA	NA	NA	NA	NA	NA
MW2 (2)	03/94	NA	NA	NA	NA	NA	NA
MW3	06/90	ND	ND	1.8	ND	0.5	ND
	10/90	ND	0.27	0.9	ND	ND	1.6
	01/91	ND	0.32	2.1	ND	ND	ND
	05/91	NA	0.22	3.3	ND	ND	ND
	08/91	NA	ND	8.6	ND	ND	1
	12/91	ND	0.07	3.3	ND	ND	1
	05/92	ND	1.4	2.2	ND	ND	0.6
	08/92	ND	1.9	1.8	ND	ND	ND
	08/93	ND	1	ND	ND	ND	ND
	03/94	ND	1.6	ND	ND	ND	ND
	07/94	[illegible]	2.0	ND	ND	ND	ND
MW4	10/90	ND	0.35	0.3	ND	ND	0.4
	01/91	ND	0.18	ND	ND	ND	ND
	05/91	NA	0.08	ND	ND	ND	ND
	08/91	NA	0.13	ND	ND	ND	ND
	12/91	ND	ND	ND	ND	ND	ND
	05/92	ND	0.86	1.3	ND	ND	ND
	08/92	ND	0.86	ND	1.4	ND	ND
	08/93	ND	1.1	ND	ND	ND	ND
	03/94	ND	3.1	ND	ND	ND	ND
	07/94	[illegible]	1.9	ND	ND	ND	ND
MW5	10/90	ND	ND	ND	ND	ND	ND
	01/91	ND	ND	ND	ND	ND	ND
	05/91	NA	ND	ND	ND	ND	ND
	08/91	NA	ND	ND	ND	ND	ND
	12/91	ND	ND	ND	ND	ND	ND
	05/92	ND	ND	ND	ND	ND	ND
	08/92	ND	ND	ND	ND	ND	ND
	07/93	ND	ND	ND	ND	ND	ND
	03/94	ND	ND	ND	ND	ND	ND
	07/94	[illegible]	ND	ND	ND	ND	ND
MW6	10/90	0.22	0.8	4.9	4.6	0.9	4.8
	01/91	1.7	5.3	43	6	4.3	12
	05/91	0.88	5.1	11	2.2	2.1	4.8
	08/91	120	26	12000	20000	2200	12000
	12/91	1.1	5.2	6.3	2.1	1.8	3.3
	05/92	0.69	13	2.2	1.4	0.6	ND
	08/92	1.2	12	5.6	2.3	1.3	0.89
	07/93	0.51	2.9	2	0.5	ND	0.9
	03/94	1.9	0.58	0.8	2.9	0.7	ND
	07/94	0.52	4.6	0.6	ND	ND	ND

Notes:
PPM = Parts per million/milligrams per liter
PPB = Parts per billion/micrograms per liter
ND = Constituent was not detected in this sample
NA = Constituent was not analyzed in this sample

(1) Well contains Free Product
(2) Well contains Free Product

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TABLE 1

WATER LEVEL ELEVATIONS
CUSTOM ALLOY SCRAP SALES
2730 Peralta Street
Oakland, California

rels to Oak City Datu

DATE	MW3	MW4	MW5	MW6
5/18/90	-5.24	NA	NA	NA
6/18/90	-4.46	NA	NA	NA
10/30/90	-5.62	-5.06	-6.1	-4.32
12/17/90	-5.26	-4.54	-5.69	-2.76
12/17/90	NA	-4.53	NA	-2.74
1/28/91	-5.15	-4.62	-5.61	-3.54
1/28/91	-5.17	-4.61	-5.61	-3.58
2/25/91	-4.69	-4.16	-5.46	-2.78
2/25/91	-4.67	-4.16	-5.43	-2.75
4/17/91	-3.79	-3.32	-4.82	NA
5/2/91	-5.73	-3.86	-4.92	-1.59
6/19/91	-4.31	-4.12	-5.37	-3.16
8/7/91	-4.9	-4.33	-5.47	-3.64
8/13/91	-4.79	NA	NA	NA
8/15/91	-5.01	-4.39	-5.61	NA
9/6/91	-5.01	NA	NA	NA
10/23/91	-5.44	-4.95	-5.65	NA
12/11/91	-5.11	-4.7	-5.59	NA
5/1/92	-4.36	-3.44	-5.07	-1.79
5/19/92	-4.47	-3.9	-5.79	-2.78
7/9/93	-4.77	-4.16	-5.58	-2.78
7/9/93	-2.96	-2.93	-3.19	-0.115
3/3/94	-2.96	-2.93	-5.43	-0.115
7/12/94	-4.94 ✓	-4.37 ✓	-5.68 ✓	-2.98 ✓
	(-1.94 MSL)	(-1.37 MSL)	(-2.68 MSL)	(.02 MSL)
DTW	10.78	9.77	9.50	9.04

Note:

TOP OF CASING ELEVATION FEET ABOVE CITY OF OAKLAND DATUM	(3' below msl)
MW1	5.64
MW2	4.19
MW3	5.84
MW4	5.4
MW5	3.82
MW6	6.06

NA = Not available
MSL = MEAN SEA LEVEL

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