

MacKinnon Environmental Consulting

2834 San Antonio Drive
Walnut Creek, CA 94598
(415) 930-9272

March 9, 1992

CALIFORNIA REGIONAL WATER

MAR 16 1992

QUALITY CONTROL BOARD

01
Mr. Lester Feldman
California Regional Water Quality
Control Board
1800 Harrison Street
Oakland, CA 94621

Dear Mr. Feldman,

As your office recently requested, I am enclosing a copy of the January 1992 report on the Custom Alloy Scrap Sales (CASS) facility in Oakland. 2739 PERALTA, OAK

If you have any additional questions, please get in touch with me.

Sincerely,

Cinda MacKinnon
Cinda C. MacKinnon, R.G.

enclosure

MacKinnon Environmental Consulting

2834 San Antonio Drive
Walnut Creek, CA 94598
(415) 930-9272

January 31, 1992

Mr. Dennis Byrne
ACHA
Hazardous Materials Program
80 Swan Way #200
Oakland, CA 94621

SUBJECT: 1st QUARTER REPORT AT CASS FACILITY, OAKLAND

Dear Mr. Byrne:

This letter reports the analytical results of the latest monitor well water sampling, updates remediation, and addresses other general issues. The number of analyses for the first quarter report are more extensive than the standard quarterly analyses; these additional analyses are performed annually.

SAMPLING

On December 11, 1991 the wells at Custom Alloy Sales and Service (CASS) were purged and sampled. Purged water was stored in separate drums on site and labeled. Sampling equipment was carefully decontaminated before initial use and between each well. Ground water samples were withdrawn from the wells by bailers which had been steam cleaned before arriving at the site. The bailers were scrubbed before each use with a TSP solution and a bottle brush. They were then rinsed with clean tap water, rinsed with reagent-grade methanol and finally, rinsed with distilled water. A new rope was tied to the end of each bailer and every effort was made to keep the rope above the water in the well. As an extra precaution a separate teflon bailer was assigned to MW5 (the clean well) and the remaining wells were sampled from "clean to dirty," i.e. as contamination was anticipated to be low in MW4 it was sampled first and wells with higher levels of contamination were sampled last. MW1 and MW2 were not sampled due to the presence of free product.

Ground water was transferred, with minimal agitation, into glass bottles certified clean by the laboratory doing the analysis. The bottles for volatile organic analyses were checked to ensure that air bubbles were not present. Sample containers were immediately sealed, labeled, and placed on ice. All samples were delivered under chain-of custody procedures.

RESULTS OF ANALYSES

The water samples were sent to Superior Analytical Laboratory in Martinez, California. This laboratory is certified by the state of California for drinking water and hazardous waste testing and analysis. Samples were analyzed following procedures developed

and verified by the Environmental Protection Agency (EPA) or the California Department of Health Services (DHS) as follows:

- EPA 8015 - Total petroleum hydrocarbons as diesel
- EPA 8020/5030 - Benzene, toluene, ethylbenzene, and xylene (BTEX)
- EPA 5030/8015 - Total petroleum hydrocarbons as gasoline
- EPA SW-846/6010 - Metals

Metals and TPH as gasoline are additional analyses performed annually for all tested wells. Normally only MW6, in the front yard, is analyzed quarterly for gasoline.

The analytical results shown in the tables below include both previous and recent results. Complete laboratory reports for the recent tests are attached.

RESULTS FOR GROUND WATER SAMPLES
 TABLE 1

<u>Well</u>	<u>Gasoline</u> mg/L	<u>Diesel</u> mg/L	<u>Benzn</u>	<u>Toluene</u>	<u>Ethylbnzn</u>	<u>Xylenes</u>	
			-----ug/L-----				
06/90 MW1	ND	ND	0.4	ND	1.0	0.7	
MW3	ND	ND	1.8	ND	0.5	ND	
Duplicate(MW3)	NA	NA	1.8	ND	0.5	ND	
							TOG
10/90 MW3	ND	0.27	0.9	ND	ND	1.6	ND
MW4	ND	0.35	0.3	ND	ND	0.4	ND
MW5	ND	ND	ND	ND	ND	ND	ND
MW6	0.22	0.80	4.9	4.6	0.9	4.8	ND
01/91 MW3	ND	0.32	2.1	ND	ND	ND	NA
MW4	ND	0.18	ND	ND	ND	ND	ND
MW5	ND	0.05	ND	ND	ND	ND	ND
MW6	1.7	5.3	43.0	6.0	4.3	12.0	NA
05/91 MW3	NA	0.22	3.3	ND	ND	ND	
MW4	NA	0.08	ND	ND	ND	ND	
MW5	NA	ND	ND	ND	ND	ND	
MW6	0.88	5.1	11.0	2.2	2.1	4.8	
08/91 MW3	NA	ND	8.6	ND	ND	1.0	
MW4	NA	0.130	ND	ND	ND	ND	
MW5	NA	ND	ND	ND	ND	ND	
MW6	120.0	26	12,000	20,000	2,200	12,000	

Well	Gasoline mg/L	Diesel mg/L	Benzn	Toluene	Ethylbnzn	Xylenes
	-----ug/L-----					
12/91 (current)						
MW3	ND	0.07	3.3	ND	ND	1.0
MW4	ND	ND	ND	ND	ND	ND
MW5	ND	ND	ND	ND	ND	ND
MW6	*1.1	5.2	6.3	2.1	1.8	3.3
RW1	*0.21	9.5	2.4	ND	1.9	0.8

- a) Results for diesel and gasoline are expressed in milligrams per liter (mg/L). Mg/L is roughly equivalent to parts per million (ppm).
 b) BTEX results are expressed in micrograms per liter (ug/L).
 c) ND = not detected NA = not analyzed

* {The chemist notes that the chromatogram for gasoline was "non-standard". This is probably due to either the presence of diesel or to the degradation of gasoline to resemble diesel.}

TABLE 2

	Nickel	Chromium	Lead	Zinc	Cadmium	
10/90						
MW3	ND	ND	ND	ND	NA	
MW4	ND	ND	ND	ND	NA	
MW5	ND	NA	ND	ND	ND	
1/91						<u>Copper</u>
MW5	ND	ND	ND	ND	ND	ND
MW6	ND	ND	ND	0.3	ND	0.3
1/92						
MW3		ND	ND	0.25	ND	
MW4		ND	ND	0.10	ND	
MW5		ND	ND	ND	ND	
MW6		ND	ND	ND	ND	

- a) Results are expressed in milligrams per liter (mg/L). Mg/L is roughly equivalent to parts per million (ppm).
 b) ND = not detected
 NA = not analyzed

Diesel, the main contaminant of concern, generally shows moderately low concentrations consistent with previous results. No significant change was noted in MW3. MW4 has consistently been low (<.5ppm) for diesel and is now below detection limits; aromatics (BTEX) remain non-detected in MW4. MW5, the

downgradient well, continues to test non-detect for all constituents. (Well locations are given on Figure 1.)

The gasoline chromatogram pattern (MW6 and RW1) was noted by the chemist to be non-standard. This may well be due to degradation of gasoline in MW6 (in the front yard, where gasoline is expected due to the former gasoline tank). Gasoline has never been detected in previous testings of the other wells in the ITP yard. Thus the trace reported in RW1 is probably due to a lighter fraction of diesel yielding a slight spike in the chromatogram.

Lead, cadmium, and chromium remain undetected in the ground water. The absence of lead in MW6 is significant because the detection of gasoline in that well suggested the potential presence of lead. Trace amounts of zinc and copper have been detected, however, at levels below even drinking water standards (DHS 1988 maximum contaminant level=5000ug/L for Zn and 1000 for Cu).

The recent tests actually show an improvement over previous tests most notably in MW6. MW6 showed a dramatic increase in all contaminant constituents last quarter, however current analyses have returned to previous low levels. This well was thoroughly purged prior to the last sampling; 55 gallons were removed over a 16 hr period. The high concentrations can probably be disregarded as they appeared in only one out of five samplings.

PRODUCT REMOVAL (ITP YARD)

The main extraction wells for removal of free product were initially planned to be wells RW1 or RW2 in the trench. The trench was elected over pumping MW2 and other wells alone partly because MW2 pumped dry so quickly. The trench was to intercept product moving with the ground water from either the former diesel pit or the former piping. Unfortunately only a thin layer of product is present in the trench whereas MW2 contained 11 inches of product in August 1991.

MW2 in the ITP yard has been pumped or bailed periodically (almost weekly) since August. A total of 22 gallons of diesel product have been removed in that time. MW1 also contains product although generally less than MW2. Thus we propose to pump or bail product from both MW1 and MW2 periodically. CASS has refined the float-skimmer system in RW1 and it can continue to skim product as it accumulates in the trench. A CASS contractor maintains the extraction system and volume records (to be included in the next report).

Product is stored in drums in the steel containment box and will be disposed through the services of an oil recycler. Water purged from the monitoring wells will also be disposed of.

Mr. Dennis Byrne
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CONCLUSIONS

1. ITP Yard: The diesel product in MW2 was initially almost 3 feet thick. It has since been reduced to 6-11 inches. A total of ~39 gallons of product have been removed since late 1990. Surrounding wells are also used to monitor progress.
2. Front Yard: Contaminant levels in MW6 have returned to their previous low levels. The high concentrations reported last quarter are presumed to be a lab error or some other discrepancy. The thorough purging may also have lowered contaminant levels, however, and MW6 will be carefully monitored.

At present our efforts are focused on removal of free product and disposal of the excavated soils in the ITP yard where the diesel leakage occurred. We anticipate the soil pile has been sufficiently bioremediated to dispose of and plan final sampling in the next week. The latest analyses will be submitted to your office along with our proposal for on-site disposal.

Sincerely,

Cinda Crabbe MacKinnon
Registered Geologist

cc: P. O'Brien, CASS



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 84654
CLIENT: Mackinnon Environmental
CLIENT JOB NO.: 1291

DATE RECEIVED: 12/13/91
DATE REPORTED: 12/23/91
DATE SAMPLED : 12/11/91

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS by Modified EPA SW-846 Method 8015

LAB #	Sample Identification	Concentration (mg/L) Diesel Range
1	W3	0.07
2	W4	ND<0.05
3	W5	ND<0.05
4	W6	5.2
5	RW1	9.5

mg/L - parts per million (ppm)

Method Detection Limit for Diesel in Water: 0.05 mg/L

QAQC Summary:

Daily Standard run at 200mg/L: RPD Gasoline = NA
RPD Diesel = 2
MS/MSD Average Recovery =123%: Duplicate RPD = 4

Richard Srna, Ph.D.


Laboratory Director



Superior Precision Analytical, Inc.

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C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 84654
CLIENT: Mackinnon Environmental
CLIENT JOB NO.: 1291

DATE RECEIVED: 12/13/91
DATE REPORTED: 12/23/91

ANALYSIS FOR CADMIUM, CHROMIUM, LEAD & ZINC by EPA SW-846 Method 6010

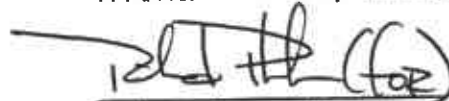
LAB #	Sample Identification	Concentration (mg/L)			
		Cadmium	Chromium	Lead	Zinc
1	W3	ND<0.05	ND<0.05	ND<0.2	0.25
2	W4	ND<0.05	ND<0.05	ND<0.2	0.10
3	W5	ND<0.05	ND<0.05	ND<0.2	ND<0.05
4	W6	ND<0.05	ND<0.05	ND<0.2	ND<0.05

mg/L - parts per million (ppm)

Method Detection Limit for Cadmium in Water: 0.05 mg/L
Method Detection Limit for Chromium in Water: 0.05 mg/L
Method Detection Limit for Lead in Water: 0.2 mg/L
Method Detection Limit for Zinc in Water: 0.05 mg/L

QAQC Summary: MS/MSD Average Recovery :93%
Duplicate RPD : 4

Richard Srna, Ph.D.


Laboratory Manager



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C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 84654
CLIENT: Mackinnon Environmental
CLIENT JOB NO.: 1291

DATE RECEIVED: 12/13/91
DATE REPORTED: 12/23/91
DATE SAMPLED : 12/11/91

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/L)			
		Benzene	Toluene	Ethyl Benzene	Xylenes
1	W3	3.3	ND<0.3	ND<0.3	1.0
2	W4	ND<0.3	ND<0.3	ND<0.3	ND<0.3
3	W5	ND<0.3	ND<0.3	ND<0.3	ND<0.3
4	W6	6.3	2.1	1.8	3.3
5	RW1	2.4	ND<0.3	1.9	0.8

ug/L - parts per billion (ppb)

Method Detection Limit in Water: 0.3 ug/L

QAQC Summary:

Daily Standard run at 20ug/L: RPD = <15%
MS/MSD Average Recovery = 98%: Duplicate RPD = <5

Richard Srna, Ph.D.

Laboratory Director



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C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 84654
CLIENT: Mackinnon Environmental
JOB NO.: 1291

DATE RECEIVED: 12/13/91
DATE REPORTED: 12/23/91
DATE SAMPLED : 12/11/91

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by MODIFIED EPA SW-846 METHOD 5030 and 8015

Sample Identification	Concentration (mg/L) Gasoline Range
W3	ND<0.05
W4	ND<0.05
3 W5	ND<0.05
4 W6	* 1.1
5 RW1	* 0.21

* - Gasoline range concentration reported. A non-standard gasoline pattern was observed in the chromatogram.

mg/L - parts per million (ppm)

Method Detection Limit for Gasoline in Water: 0.05 mg/L

QAQC Summary:

Daily Standard run at 2mg/L: RPD Gasoline = <15
MS/MSD Average Recovery = 96%: Duplicate RPD = 6

Richard Srna, Ph.D.


Laboratory Director