



ENVIRONMENTAL
PROTECTION

97 JUL 24 PM 2: 38

July 22, 1997

Mr. Tadashi Nakadegawa
Division of Facilities Planning and Management
Oakland Unified School District
955 High Street
Oakland, California 94601

RE: Results of Temporary Observation Well Sampling
McClymonds High School, 2607 Myrtle Street, Oakland, California
ACC Project No. 96-6287-4.0

Dear Mr. Nakadegawa:

At the request of the Alameda County Health Care Services Agency (ACHCSA) in a letter dated May 20, 1997, ACC Environmental Consultants, Inc., (ACC) sampled the observation well at McClymonds High School on June 26, 1997. Due to the presence of free-phase floating product in the former underground storage tank (UST) excavation, ACHCSA requested that a water sample from the temporary observation well be analyzed for diesel fuel constituents.

BACKGROUND

One 5,000-gallon heating oil UST was removed from the subject site on December 23, 1996. The former UST was used to fuel a boiler which heated an outside, below ground swimming pool. Soil was overexcavated for the purpose of source removal and verification soil samples indicated that impact to soil was minor and largely removed with excavation. Approximately 130 cubic yards of excavated soil was disposed properly off site.

During UST removal in December 1996, free-phase floating diesel product (free product) was observed in the excavation and was removed via vacuum pump on five occasions. ACC estimates approximately 200 gallons of free product were removed with approximately 21,800 gallons of water. The excavation was backfilled with new drainrock and soil, compacted, and restored on January 24, 1997. During backfilling, a 4-inch-diameter temporary observation well was placed in the excavation drainrock.

FIELD WORK

On June 26, 1997, water in the temporary observation well located in the backfilled excavation was evaluated with a clear interface sampler. **No free product was observed in the groundwater.** A groundwater sample was collected using a disposable polyethylene bailer and laboratory supplied sample containers. The sample was preserved in a pre-chilled, insulated container and submitted to Chromalab, Inc., (Chromalab) following chain of custody protocol for analysis of diesel constituents.

ANALYTICAL RESULTS

The groundwater sample was submitted to Chromalab for analysis of total petroleum hydrocarbons as diesel (TPHd) by EPA Method 8015 Modified and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method SW846 8020A Nov 1990. Analytical results from the groundwater sample are summarized in Table 1. Analytical results and chain of custody record for the groundwater sample are attached.

TABLE 1 - GROUNDWATER SAMPLE ANALYTICAL RESULTS

Well No.	Date Sampled	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
OB-1	6-26-97	130,000	3.3	4.7	9.6	40

Notes: µg/L = micrograms per liter, approximately equivalent to parts per billion (ppb)

DISCUSSION

The observation well was installed in the former UST excavation in order to observe and sample groundwater in the backfilled excavation of the former heating oil UST. In addition, the observation well was installed to evaluate how effective dewatering and overexcavation activities were as a means of source removal.

During dewatering and overexcavation activities, ACC believed that fine-grained soils at the site confined the majority of the heating oil product to the porous backfill material in the excavation. Therefore, the removal of floating product and impacted water and soil constituted effective source removal. Any remaining heating oil residues in soil and groundwater should degrade through natural attenuation and bioremedial processes.

On June 26, 1997, ACC noted that the observation well contained only 1 to 2 feet of water. During observation well sampling, fine-grained, discolored silt was mixed with the water and the sample was highly turbid. Little or no diesel odor was noted during sampling indicating the TPHd impact detected by analysis was primarily in the silts. ACC believes that groundwater analytical results were skewed due to contact of the water with discolored silts present in the turbid sample. BTEX analytical results were similar to BTEX results from a groundwater sample collected in the open excavation, and indicate that the BTEX levels are minor and largely degraded. Longer-chain hydrocarbons, like those found in heating oil, naturally degrade at a slower rate. Therefore, risk to human health and the environment is minimal and additional site investigation is not warranted.

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CONCLUSIONS

Based on previously performed source removal activity and analytical results from sampling water in the observation well, ACC concludes:

- Source removal activity performed during UST removal has been highly successful and floating product was not observed on water in the former UST excavation;
- Residual impact to shallow groundwater exist in the excavation but this impact is minor and has limited migration potential;
- BTEX appears to be degrading due to natural attenuation and bioremedial processes based on analytical results of the groundwater sample collected during UST removal and from the groundwater sample result from the temporary observation well;
- Diesel constituents reported in the water sample may be largely due to silts present in the observation well since no evidence of free product was observed and field evidence of groundwater impact as odor and discoloration was low; and
- No further site investigation is warranted at this time.

RECOMMENDATIONS

Based on the initial temporary observation well sampling results, ACC recommends the following actions be performed to remediate and evaluate groundwater conditions in the former UST excavation at McClymonds High School:

- Introduce oxygen releasing compound into groundwater in the temporary observation well to enhance natural biodegradation of residual diesel constituents;
- Collect one additional groundwater sample after properly purging the temporary observation well and filter the water sample prior to filling sample containers, and
- Summarize analytical results and pursue regulatory site closure.

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If you have any questions or comments, please call me.

Sincerely,

A handwritten signature in black ink, appearing to read "D. DeMent". The signature is stylized with a large initial "D" and a long horizontal stroke.

David R. DeMent, RG
Senior Geologist

/drd:mcr

cc: ✓Ms. Jennifer Eberle, ACHCSA
Mr. Steve Ng, OUSD

CHROMALAB, INC.

Environmental Services (SDB)

July 9, 1997

Submission #: 9706373

ACC ENVIRONMENTAL CONSULTANTS

Atten: David DeMent

Project: MC CLYMONDS
Received: June 30, 1997

Project#: 6287-4.0

re: One sample for BTEX analysis.
Method: SW846 8020A Nov 1990

Client Sample ID: OB-1

Spl#: 137762


Sampled: June 26, 1997

Matrix: WATER

Run#: 7668

Analyzed: July 8, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
BENZENE	3.3	0.50	N.D.	96	1
TOLUENE	4.7	0.50	N.D.	100	1
ETHYL BENZENE	9.6	0.50	N.D.	107	1
XYLENES	40	0.50	N.D.	109	1


Kayvan Kimyai
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 8, 1997

Submission #: 9706373

ACC ENVIRONMENTAL CONSULTANTS

Atten: David DeMent


Project: MC CLYMONDS
Received: June 30, 1997

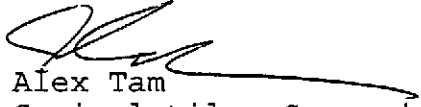
Project#: 6287-4.0

re: 1 sample for TPH - Diesel analysis.
Method: EPA 8015M

Sampled: June 26, 1997 Matrix: WATER Extracted: July 3, 1997
Run#: 7613 Analyzed: July 5, 1997

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
137762	OB-1	130000 ✓	2200	N.D.	88.0	20


Bruce Havlik
Chemist


Alex Tam
Semivolatiles Supervisor

06373/137762

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

JOB #: 9706373 REP: PM
CLIENT: ACC
UE: 07/08/97
EF #: 34425

Chain of Custody

DATE 6/26/97 PAGE 1 OF 1

ANALYSIS REPORT

PROJ. MGR David DeMent
COMPANY ACC Environmental
ADDRESS 7977 Capwell Drive
OAKLAND CA 94621

SAMPLERS (SIGNATURE) [Signature] (PHONE NO.) (510) 638-8400
(FAX NO.) 638-8404

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	LUFT METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)	NUMBER OF CONTAINERS	
OB-1	6/26/97	16:00	WATER	HCl/Co2			X	X														4

PROJECT INFORMATION		SAMPLE RECEIPT			
PROJECT NAME <u>McClymonds</u>	TOTAL NO. OF CONTAINERS <u>4</u>				
PROJECT NUMBER <u>6287-4.0</u>	HEAD SPACE				
P.O.# <u>6287-004.00</u>	REC'D GOOD CONDITION/COLD				
TAT	STANDARD 5-DAY	24	48	72	OTHER

SPECIAL INSTRUCTIONS/COMMENTS:
SAMPLES COLLECTED 6/26/97
Please watch holding time

RELINQUISHED BY 1. <u>[Signature]</u> David DeMent ACC Environmental	RELINQUISHED BY 2.	RELINQUISHED BY 3. <u>[Signature]</u> M. Morrow Chromalab
RECEIVED BY 1. <u>[Signature]</u> M. Morrow Chromalab	RECEIVED BY 2.	RECEIVED BY (LABORATORY) 3. <u>[Signature]</u> Mike Norman [LAB]

CHROMALAB, INC.

Environmental Service (SDB)

Sample Receipt Checklist

Client Name: ACC ENVIRONMENTAL CONSULTANTS Date/Time Received: 06/30/97 | 1148

Reference/Submis: 34425 | 9706373 Received by: BM

Checklist completed by: Chris Rowley Signature Date: 7/1/97 Reviewed by: AN 7/1 Initials Date

Matrix: H2O Carrier name: Client - (C/L)

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- 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
- Sample containers intact? Yes No
- *Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Temp: 5.5 °C Yes No
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? YES Adjusted? Checked by CR Chemist for VOAs

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: LIMITED SAMPLE FOR DIESEL ANALYSIS ONLY (2) 802 JARS PROVIDED BY CLIENT

Corrective Action: _____