

**GROUNDWATER  
TECHNOLOGY, INC.**

4080 Pike Lane, Suite D, Concord, CA 94520 (415) 671-2387

Fax: (415) 685-9148

July 5, 1988

Job No. 203 799 2728

Mr. Walt Kaczmarek  
Christie Avenue Partners  
6425 Christie Avenue, Suite 406  
Emeryville, CA 94608

Dear Mr. Kaczmarek:

This letter is to inform you of the status of the above-ground soil treatment activities being conducted by Groundwater Technology, Inc. (GTI) at the site near 64th Street and Christie Avenue in Emeryville, California. To date, the soil piles have been constructed and nutrient solution has been applied (completed June 3, 1988). Initial samples to be analyzed for total petroleum hydrocarbons-(TPH)-as-diesel fuel and TPH-as-gasoline were collected June 10, 1988, and the results are being sent with this letter along with a soil pile layout diagram.

Electricity was supplied to the blower on June 23, 1988 and the blower was started up on June 24, 1988 after notifying the Bay Area Air Quality Management District (BAAQMD). Permit applications have been submitted to the BAAQMD, and it is expected that the Permit To Operate will be received directly. Until then, the system will continue to operate under the variance with frequent monitoring of the abatement system (two carbon canisters in series) to ensure removal of any volatile hydrocarbons from the air stream before it is discharged to the atmosphere.

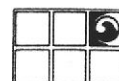
Mr. Kaczmarek  
July 5, 1988  
Page 2

The laboratory results indicate that the samples obtained from the gasoline pile contain TPH-as-gasoline levels ranging from 50 to 1300 parts per million (ppm). GTI expects that this pile will take up to 8 weeks to reduce the TPH-as-gasoline levels to below 100 ppm, which is the required level for removal to a Class III sanitary landfill. The samples obtained from the diesel piles are shown to contain relatively high levels of TPH-as-diesel which range from 500 to 4500 ppm. The highest of these levels were detected in the soils which were the last to be excavated (sampling points A, B, and C). These piles could take up to 18 weeks to reduce the levels to below 100 ppm for removal.

Emissions from the pile have been tested using a photo-ionization detector (PID), and during the first three days of operation the PID indicated approximately 200 ppm hydrocarbons (of an unspecified kind) in the air entering the first carbon canister (two in series), with 0 ppm in the air discharged to the second canister and in that being discharged to the atmosphere.

Physical measurement of the soil piles provided the following information:

1. The piles are all approximately 4-feet high
2. The volume of the gasoline pile is approximately 1200 cubic yards.
3. The volume of the diesel piles is approximately 1500 cubic yards.



GROUNDWATER  
TECHNOLOGY, INC.

Mr. Kaczmarek  
July 5, 1988  
Page 3

This brings the total volume of soil being treated on the site to approximately 2700 cubic yards. In accordance with the contract signed by you May 5, 1988, the total firm-fixed-price for GTI's remedial services will be \$153,000.00 (this includes \$3,000.00 for permitting services). Please sign on the next page to verify that you have been so informed of this amount. A copy of the signature page has been enclosed for your records, please return the original to GTI.

GTI has determined the cost for moving the soil piles to another location to be \$15,000 if heavy equipment is supplied, \$30,000 if GTI supplies the heavy equipment. These costs are estimated solely on a "Time-and-Materials" basis; they do not include charges based on technological methods, these having been included in the original contract of May 5, 1988.

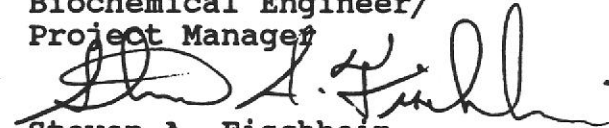
Please indicate which option you would prefer on the next page. These costs are based on a maximum of 4 days to complete this task.

Should you have any questions or concerns, please contact us at our Concord office (415) 671-2387.

Sincerely,  
GROUNDWATER TECHNOLOGY, INC.



David D. Drury  
Biochemical Engineer/  
Project Manager

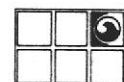


Steven A. Fischbein  
Industrial Group Manager

Enclosure

cc: Mr. Papineau

L2728B.DD



GROUNDWATER  
TECHNOLOGY, INC.

Mr. Kaczmarek  
July 5, 1988  
Page 4

Verification of total firm fixed price of remediation and  
permitting services by GTI for Earth Metrics, Inc. of  
\$153,000.00.

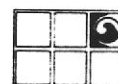
Accepted by: \_\_\_\_\_ Date: \_\_\_\_\_  
Signing for: \_\_\_\_\_

Acceptance to proceed with moving the soil with heavy equipment  
supplied by Christie Avenue Partners:

Accepted by: \_\_\_\_\_ Date: \_\_\_\_\_  
Signing for: \_\_\_\_\_

Acceptance to proceed with moving the soil with heavy equipment  
supplied by GTI:

Acceptance by: \_\_\_\_\_ Date: \_\_\_\_\_  
Signing for: \_\_\_\_\_



GROUNDWATER  
TECHNOLOGY, INC.

Mr. Kaczmarek  
July 5, 1988  
Page 4

Verification of total firm fixed price of remediation and  
permitting services by GTI for Earth Metrics, Inc. of  
\$153,000.00.

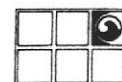
Accepted by: \_\_\_\_\_ Date: \_\_\_\_\_  
Signing for: \_\_\_\_\_

Acceptance to proceed with moving the soil with heavy equipment  
supplied by Christie Avenue Partners:

Accepted by: \_\_\_\_\_ Date: \_\_\_\_\_  
Signing for: \_\_\_\_\_

Acceptance to proceed with moving the soil with heavy equipment  
supplied by GTI:

Acceptance by: \_\_\_\_\_ Date: \_\_\_\_\_  
Signing for: \_\_\_\_\_

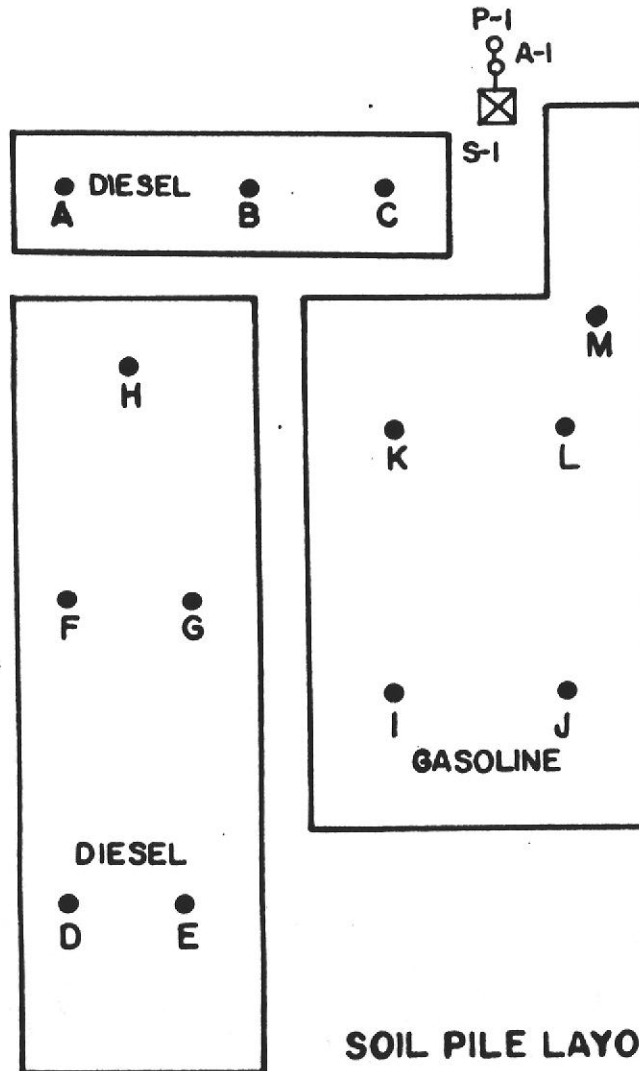


GROUNDWATER  
TECHNOLOGY, INC.

TO POWELL

CHRISTIE ST.

TO 64th



**LEGEND**

- CARBON CANISTERS
- SAMPLING LOCATIONS
- BLOWER LOCATION



EARTH METRICS, INC.  
64th & CHRISTIE ST.  
EMERYVILLE, CA.

SOIL PILE LAYOUT



GROUNDWATER  
TECHNOLOGY, INC.



A division of Groundwater Technology, Inc.

Western Region  
4080-C Pike Lane  
Concord, CA 94520  
(415) 685-7852  
(800) 544-3422 from inside California  
(800) 423-7143 from outside California

06/28/88 mh

Page 1 of 2

CLIENT: Dave Drury  
Groundwater Technology, Inc.  
4080-B Pike Lane  
Concord, CA 94520

PROJECT#: 203-799-2728-1  
LOCATION: Emeryville, CA.

SAMPLED: 06/10/88 BY: D. Drury  
RECEIVED: 06/10/88 BY: K. Fillingner  
ANALYZED: 06/27/88 BY: P. Sra  
MATRIX: Soil  
UNITS: mg/kg (ppm)

TEST RESULTS

PARAMETER	MDL	LAB # I. D. #	25069 A-1	25070 B-1	25071 C-1	25072 D-1	25073 E-1
Total Petroleum Hydrocarbons as Diesel	10		2500	3600	4500	4200	990

MDL = Method Detection Limit.  
METHOD: Modified EPA 8015.



A division of Groundwater Technology, Inc.

Western Region  
4080-C Pike Lane  
Concord, CA 94520  
(415) 685-7852  
(800) 544-3422 from inside California  
(800) 423-7143 from outside California

Page 2 of 2

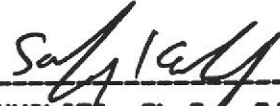
CLIENT: Dave Drury  
PROJECT#: 203-799-2728-1  
LOCATION: Emeryville, CA

MATRIX: Soil  
UNITS: mg/kg (ppm)

TEST RESULTS

PARAMETER	MDL	LAB # I.D.#	25074 F-1	25075 G-1	25076 H-1
Total Petroleum Hydrocarbons as Diesel	10		940	1000	500

MDL = Method Detection Limit.  
METHOD: Modified EPA 8015.

  
SAFY KHALIFA, Ph.D., Director





A division of Groundwater Technology, Inc.

Western Region  
 4080-C Pike Lane  
 Concord, CA 94520  
 (415) 685-7852  
 (800) 544-3422 from inside California  
 (800) 423-7143 from outside California

06/22/88 mh

Page 1 of 1

CLIENT: Dave Drury  
 Groundwater Technology, Inc.  
 4080-B Pike Lane  
 Concord, CA 94520

PROJECT#: 203-799-2728-2  
 LOCATION: Emeryville

SAMPLED: 06/10/88 BY: D. Drury  
 RECEIVED: 06/10/88 BY: K. Fillinger  
 ANALYZED: 06/20/88 BY: P. Sra  
 MATRIX: Soil  
 UNITS: mg/kg (ppm)

TEST RESULTS

COMPOUNDS	MDL	LAB #	25077	25078	25079	25080	25081
	I.I.D.#	I-1	J-1	K-1	L-1	M-1	
Benzene	0.5	<0.5	2	<0.5	2	3	
Toluene	0.5	<0.5	<0.5	1	3	4	
Ethylbenzene	0.5	<0.5	6	<0.5	5	8	
Xylenes	0.5	1	26	2	41	89	
Total BTEX	0.5	1	34	3	51	100	
Misc. Hydrocarbons (C4-C12)	1.0	120	1200	47	640	1200	
Total Petroleum Hydrocarbons as Gasoline	1.0	120	1300	50	690	1300	

MDL = Method Detection Limit; compound below this level would not be detected.  
 Results rounded to two significant figures.

METHOD:  
 Modified EPA Method 5030/8020/8015

  
 SAFY KHALIFA, Ph.D., Director