BLYMYER
ENGINEERS, INC.

BEI

August 7, 1989
BEI Job No. 89445

Mr. Scott Hugenberger
SAN FRANCISCO BAY REGIONAL
WATER QUALITY CONTROL BOARD
1111 Jackson Street
Room 6000
Oakland, CA 94607

CALIFORNIA REGIONAL WATER
AUG 08 1989 SH
QUALITY CONTROL BOARD

SUBJECT: POWELL STREET PLAZA
5500 EASTSHORE HIGHWAY
EMERYVILLE, CALIFORNIA

Dear Mr. Hugenberger:

In accordance with my conversation with Ms. Jan Baxter of your department, enclosed is a copy of the Subsurface Investigation Report associated with the environmental site assessment at the subject site. As required, this report is submitted for your review. No additional work is planned in association with this site assessment.

If you have any questions, please contact the undersigned at: 415/521-3773.

Cordially,

BLYMYER ENGINEERS, INC.

Michael S. Lewis
Environmental Specialist

MSL/ds
Attachment

cc: Mr. Tom Gram -The Martin Group
Mr. Dennis Byrne-Alameda County Health Agency
(w/enclosure)

• 1829 Clement Avenue, Alameda California 94501-1395 • FAX (415) 865-2594

BLYMYER
ENGINEERS, INC.

LETTER REPORT

OF

SUBSURFACE INVESTIGATION

AT

POWELL STREET PLAZA
5500 EASTSHORE HIGHWAY
EMERYVILLE, CA

PREPARED FOR:

THE MARTIN GROUP
6475 CHRISTIE AVENUE
SUITE 500
EMERYVILLE, CA

BLYMYER
ENGINEERS, INC

July 7, 1989
BEI Job No. 89447

Mr. Tom Gram
THE MARTIN GROUP
6475 Christie Avenue
Suite #500
Emeryville, CA 94608

SUBJECT: ADDITIONAL SUBSURFACE INVESTIGATIVE WORK
5500 EASTSHORE HIGHWAY
EMERYVILLE, CALIFORNIA

Dear Mr. Gram:

Based upon the results of the environmental site assessment conducted at the subject site by Blymyer Engineers, Inc. (BEI), it was recommended that additional subsurface investigative work be performed. The purpose of this work was to further assess the possibility of on-site contamination. The scope of work for this further investigation comprised the following tasks:

- Installation of two groundwater monitoring wells.
- Chemical analysis of both soil and water samples for potential contaminants.

The purpose of this correspondence is to convey the results of these investigative tasks.

Monitoring Well Installation and Soil Sampling

On May 4, 1989, Groundwater Technology, Inc., installed two 2-inch diameter groundwater monitoring wells at the site. Soil samples were collected with a California split-spoon sampler at 6.5 and 11.5 feet below ground surface from each bore hole prior to well installation. The samples were packaged on ice and shipped to Trace Analysis Laboratory, a California certified laboratory. Details of the well construction and the soil stratigraphy are contained on the well logs in Appendix A.

Monitoring Well Development, Surveying and Gauging

The wells were developed on May 12, 1989. In addition, the well locations were surveyed and the depth to water in each of the two wells was measured. The well locations are indicated on Figure 1. [illegible] water in MW-1 and MW-2 were 9.17 feet and [illegible] respectively.

Groundwater Sampling and Analysis

[illegible] were collected on May 15, 1989, in accordance with [illegible] (Appendix B). The samples were packed on ice and [illegible] Trace Analysis Laboratory, a State-certified analytical laboratory.

Analytical Results

The soil samples were analyzed for halogenated volatile organics, volatile aromatic organics, extractable organics, and the eight EPA priority pollutant heavy metals. The results of these analyses (Appendix C) indicate that some heavy metals are present. Table I summarizes the results.

TABLE I: SOIL SAMPLE ANALYTICAL RESULTS (ug/kg, ppb)

	MW-1		MW-2	
	6.5'	11.5'	6.5'	11.5'
As (Arsenic)	1,600	1,000	1,000	900
Ba (Barium)	51,000	ND	ND	ND
Cr (Chromium)	59,000	29,000	25,000	20,000
Pb (Lead)	28,000	21,000	ND	1,900
Hg (Mercury)	56	280	8.2	8.3
Se (Selenium)	ND	ND	ND	2,300

ND =Not Detected
PPB=Parts Per Billion
NOTE: ALL OTHER CONSTITUENTS WERE NOT DETECTED.

The water samples were analyzed for halogenated volatile organics, volatile aromatic organics, extractable organics, and the eight EPA priority pollutant heavy metals. Two metals and two extractable organic compounds were detected. The results of these analyses (Appendix D) are summarized in Table II.

TABLE II: WATER SAMPLE ANALYTICAL RESULTS (ug/l, ppb)

	MW-1	MW-2
Butylbenzylphthalate	16	ND
bis(2-Ethylhexyl)Phthalate	7	5.7
As	7.3	6.5
Se	19	ND

ND=Not Detected
NOTE: ALL OTHER CONSTITUENTS WERE NOT DETECTED.

The concentrations of all heavy metals detected in the samples (arsenic, barium, chromium, lead, mercury, and selenium) are below their respective Total Threshold Limit Concentrations (TTLC) as designated in CAC Title 22 (Appendix E). However, lead, mercury and selenium were detected in concentrations above their Soluable Threshold Limit Concentrations (STLC) as designated in CAC Title 22 (Appendix E).

The groundwater concentrations of butylbenzylphthalate and bis(2-ethylhexyl)phthalate were above detectable limits. There are no existing action levels for these compounds in groundwater. If groundwater remediation is required, the Regional Water Quality Control Board will set clean up levels for these compounds on a case-by-case basis. The groundwater concentration of arsenic is below the EPA Maximum Contaminant Level (MCL) of 50 ppb for drinking water, while that of selenium is above the current EPA MCL of 10 ppb, but below the proposed Maximum Contaminant Level Goal (MCLG) of 50 ppb for drinking water. Due to the close proximity of the site to San Francisco Bay, groundwater is not expected to be of drinking water quality.

Recommendations

The results of this investigation are required to be submitted to the Regional Water Quality Control Board and Alameda County Health Agency.

If you have any questions, please contact Mike Lewis at 521-3773.

Cordially,

BLYMYER ENGINEERS, INC.

Robert Gailey
Geologist

RG/ds

Attachments

NORTH

CHRISTIE AVE.

MW-1

POWELL ST.

CIRCUIT CITY

NEW YORK FABRICS

MW-2

EASTSHORE FWY.

NONE	THE MART GROUP EMERYVILLE, CA
LW 6/13/89	
	SITE PLAN
89447	FIGURE 1

APPENDIX A

BORING AND WELL LOGS

Blymyer Engineers, Inc.

Exploratory Bore Log

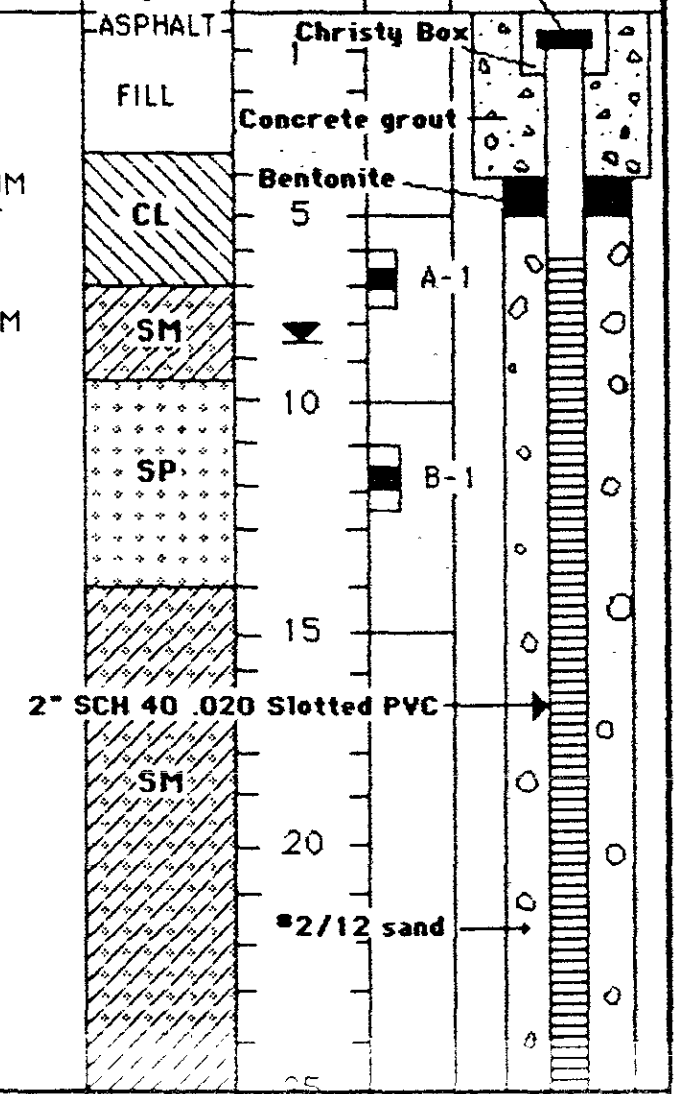
Client THE MARTIN COMPANY
Site POWELL STREET PLAZA
EMERYVILLE, CALIFORNIA

Date 5-4-89
Job# 89447
Rig HOLLOW STEM AUGER
Diameter 8"
Boring No.: MW-1

Driller GROUNDWATER TECHNOLOGY, INC.
Logged by C DeSOCIO

Description and Classification

Description and Remarks	Color	Blow Counts	Consist.	Soil Type
				ASPHALT
FILL GRAVEL BASE COURSE				FILL
SILTY CLAY SLIGHTLY MOIST, SOME FINE GRAVEL, GRADES WITH INCREASING SAND	GREEN GRAY		MEDIUM STIFF	CL
SLIGHTLY SILTY CLAY SLIGHTLY MOIST, NO ODOR	BROWN	10-11-24	MEDIUM DENSE	SM
SAND WET, ORGANIC ODOR	BLACK GREY	1-2-3	VERY LOOSE	SP
SLIGHTLY SILTY SAND WET, ORGANIC ODOR, GRADES TO MORE SILTY	BLACK		LOOSE	SM
BOTTOM OF BOR NG AT 25 FEET				



Blymyer Engineers, Inc.

Client THE MARTIN COMPANY
Site POWELL STREET PLAZA
EMERYVILLE, CALIFORNIA

Driller: GROUNDWATER TECHNOLOGY, INC.
Logged by: C. DeSOCIO

Exploratory Bore Log
Date 5-4-89
Job#. 89447
Rig HOLLOW STEM AUGER
Diameter. 8"
Boring No.: MW-2

Description and Classification					Depth	Sample	Notes
Description and Remarks	Color	Blow Counts	Consist.	Soil Type			
FILL GRAVEL, SAND, SILT				FILL			Locking Cap; Christy Box; Concrete grout; Bentonite
SAND SLIGHTLY MOIST, NO ODOR, GRADES WITH INCREASING SILT	BROWN	6-8-10	LOOSE	SP	5	A-2	
VERY SILTY SAND VERY MOIST, NO ODOR	BROWN		LOOSE	SP	10		
SLIGHTLY SILTY SAND WET, NO ODOR		8-12-14	MEDIUM DENSE	SM		B-2	
GRADES WITH MORE SILT					15		2" SCH 40 .020 Slotted PVC
SILTY SAND WET, NO ODOR	BLACK		MEDIUM DENSE		20		#2/12 sand
BOTTOM OF BORING AT 25 FEET					25		
					30		

APPENDIX B

GROUNDWATER SAMPLING PROTOCOL

BEI
FIELD SERVICES

1.0 GROUNDWATER SAMPLING PROTOCOL

1.1 Decontamination

Prior to commencing sampling or purging, all bailers, pumps, tubing, cables and lines will be decontaminated. Decontamination will include trisodium phosphate wash, tap water rinse and deionized water final rinse. A bailer blank will be taken after initial decontamination is performed. The bailer blank is obtained by filling the bailer with deionized water and transferring the water into appropriate containers. The sample is to be labelled "Bailer Blank" and "Hold" is to be indicated in the analysis sections of the label and the Chain of Custody Record.

All equipment will be thoroughly decontaminated after sampling each well.

1.2 Gauging

Each well will be gauged prior to purging. An oil/water interface probe will be used to determine the depth to water, depth to product and total well depth. The data collected will be recorded on the Groundwater Monitoring Data form. The interface probe and tape will be decontaminated prior to gauging each well.

1.3 Purging

The well will be bailed or pumped to remove at least three well casing volumes prior to sampling or until the pH, temperature and conductivity have stabilized. "Stabilized" is defined as three consecutive readings within 15 percent of one another. Temperature, pH and conductivity will be measured with field instruments after each well casing volume is removed. The data will be recorded on the Purge Data form. A casing volume will be based on actual measurements made on the day of sampling.

If the well is purged dry before three well casing volumes are removed, the sample will be taken when the water level in the well recovers to 80 percent of its initial water level. If the length of time [illegible] level exceed [illegible] sufficient [illegible]

All water [illegible] will be placed in labelled, 55 gallon [illegible]

1.4 Sampling

Following the removal of the required volume from the well, the sample will be obtained with a clean, teflon or stainless steel bailer. All samples will be logged on the Chain of Custody Record form. Samples will be placed in appropriate containers provided by the laboratory. Labels specifying project name, project number, date, sample identification, sampler, and analytical parameters will be affixed to each sample container. The samples will be placed in a cooler with dry or blue ice for delivery to the analytical laboratory.

[illegible] • [illegible] Avenue Alameda California 94501-1336 • FAX (415) 865-1694

APPENDIX C

SOIL SAMPLE ANALYTICAL RESULTS

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545 (415) 783-6960

TAL

DATE: 6/5/89

LOG NO.: 7342

DATE SAMPLED: 5/4/89

DATE RECEIVED: 5/4/89

CUSTOMER: Blymyer Engineers, Inc.

REQUESTER: Chris Falbo

PROJECT: No. 89447

		Sample Type: Soil			
		A-1		A-2	
Method and Constituent	Units	Concentration	Detection Limit	Concentration	Detection Limit
EPA Method 8010:					
Benzyl chloride	ug/kg	< 20	20	< 20	20
Bis (2-chloroethoxy) methane	ug/kg	< 20	20	< 20	20
Bis (2-chloroisopropyl) ether	ug/kg	< 20	20	< 20	20
Bromobenzene	ug/kg	< 20	20	< 20	20
Bromodichloromethane	ug/kg	< 20	20	< 20	20
Bromoform	ug/kg	< 20	20	< 20	20
Bromomethane	ug/kg	< 20	20	< 20	20
Carbon tetrachloride	ug/kg	< 20	20	< 20	20
Chloroacetaldehyde	ug/kg	< 20	20	< 20	20
Chloral	ug/kg	< 20	20	< 20	20
	ug/kg	< 20	20	< 20	20
	ug/kg	< 20	20	< 20	20
	ug/kg	< 20	20	< 20	20
	ug/kg	< 20	20	< 20	20
	ug/kg	< 20	20	< 20	20

DATE: 6/5/89
LOG NO.: 7342
DATE SAMPLED: 5/4/89
DATE RECEIVED: 5/4/89
PAGE: Two

Sample Type: Soil

Method and Constituent	Units	A-1 Concentration	A-1 Detection Limit	A-2 Concentration	A-2 Detection Limit
EPA Method 8010, Continued:					
Chloromethane	ug/kg	< 20	20	< 20	20
Chloromethyl methyl ether	ug/kg	< 20	20	< 20	20
Chlorotoluene	ug/kg	< 20	20	< 20	20
Dibromochloromethane	ug/kg	< 20	20	< 20	20
Dibromomethane	ug/kg	< 20	20	< 20	20
1,2-Dichlorobenzene	ug/kg	< 20	20	< 20	20
1,3-Dichlorobenzene	ug/kg	< 20	20	< 20	20
1,4-Dichlorobenzene	ug/kg	< 20	20	< 20	20
Dichlorodifluoromethane	ug/kg	< 20	20	< 20	20
1,1-Dichloroethane	ug/kg	< 20	20	< 20	20
1,2-Dichloroethane	ug/kg	< 20	20	< 20	20
1,1-Dichloroethylene	ug/kg	< 20	20	< 20	20
trans-1,2-Dichloroethylene	ug/kg	< 20	20	< 20	20
Dichloromethane	ug/kg	< 20	20	< 20	20
1,2-Dichloropropane	ug/kg	< 20	20	< 20	20
1,3-Dichloropropylene	ug/kg	< 20	20	< 20	20
1,1,2,2-Tetrachloroethane	ug/kg	< 20	20	< 20	20
1,1,1,2-Tetrachloroethane	ug/kg	< 20	20	< 20	20
Tetrachloroethylene	ug/kg	< 20	20	< 20	20
1,1,1-Trichloroethane	ug/kg	< 20	20	< 20	20
1,1,2-Trichloroethane	ug/kg	< 20	20	< 20	20
Trichloroethylene	ug/kg	< 20	20	< 20	20
Trichlorofluoromethane	ug/kg	< 20	20	< 20	20
Trichloropropane	ug/kg	< 20	20	< 20	20
Vinyl chloride	ug/kg	< 20	20	< 20	20

DATE: 6/5/89
LOG NO.: 7342
DATE SAMPLED: 5/4/89
DATE RECEIVED: 5/4/89
PAGE: Three

Method and Constituent	Units	Sample Type: Soil B-1 Concentration	B-1 Detection Limit	B-2 Concentration	B-2 Detection Limit
EPA Method 8010:					
Benzyl chloride	ug/kg	< 20	20	< 20	20
Bis (2-chloroethoxy) methane	ug/kg	< 20	20	< 20	20
Bis (2-chloroisopropyl) ether	ug/kg	< 20	20	< 20	20
Bromobenzene	ug/kg	< 20	20	< 20	20
Bromodichloromethane	ug/kg	< 20	20	< 20	20
Bromoform	ug/kg	< 20	20	< 20	20
Bromomethane	ug/kg	< 20	20	< 20	20
Carbon tetrachloride	ug/kg	< 20	20	< 20	20
Chloracetaldehyde	ug/kg	< 20	20	< 20	20
Chloral	ug/kg	< 20	20	< 20	20
Chlorobenzene	ug/kg	< 20	20	< 20	20
Chloroethane	ug/kg	< 20	20	< 20	20
Chloroform	ug/kg	< 20	20	< 20	20
1-Chlorohexane	ug/kg	< 20	20	< 20	20
2-Chloroethyl vinyl ether	ug/kg	< 20	20	< 20	20
Chloromethane	ug/kg	< 20	20	< 20	20
Chloromethyl methyl ether	ug/kg	< 20	20	< 20	20
Dibromobenzene	ug/kg	< 20	20		20
Dibromochloromethane	ug/kg	< 20	20		20
Dibromoethane	ug/kg	< 20	20		20
1,2-Dichlorobenzene	ug/kg	< 20	20		20
1,3-Dichlorobenzene	ug/kg	< 20	20		20
1,4-Dichlorobenzene	ug/kg	< 20	20		20

DATE: 6/5/89
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Sample Type: Soil

Method and Constituent	Units	B-1 Concentration	B-1 Detection Limit	B-2 Concentration	B-2 Detection Limit
EPA Method 8010, Continued:					
Dichlorodifluoromethane	ug/kg	< 20	20	< 20	20
1,1-Dichloroethane	ug/kg	< 20	20	< 20	20
1,2-Dichloroethane	ug/kg	< 20	20	< 20	20
1,1-Dichloroethylene	ug/kg	< 20	20	< 20	20
trans-1,2-Dichloro-ethylene	ug/kg	< 20	20	< 20	20
Dichloromethane	ug/kg	< 20	20	< 20	20
1,2-Dichloropropane	ug/kg	< 20	20	< 20	20
1,3-Dichloropropylene	ug/kg	< 20	20	< 20	20
1,1,2,2-Tetrachloro-ethane	ug/kg	< 20	20	< 20	20
1,1,1,2-Tetrachloro-ethane	ug/kg	< 20	20	< 20	20
Tetrachloroethylene	ug/kg	< 20	20	< 20	20
1,1,1-Trichloroethane	ug/kg	< 20	20	< 20	20
1,1,2-Trichloroethane	ug/kg	< 20	20	< 20	20
Trichloroethylene	ug/kg	< 20	20	< 20	20
Trichlorofluoro-methane	ug/kg	< 20	20	< 20	20
Trichloropropane	ug/kg	< 20	20	< 20	20
Vinyl chloride	ug/kg	< 20	20	< 20	20

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Sample Type: Soil

Method and Constituent	Units	A-1 Concentration	A-1 Detection Limit	A-2 Concentration	A-2 Detection Limit
EPA Method 8020:					
Benzene	ug/kg	< 20	20	< 20	20
Chlorobenzene	ug/kg	< 20	20	< 20	20
1,2-Dichlorobenzene	ug/kg	< 40	40	< 40	40
1,3-Dichlorobenzene	ug/kg	< 40	40	< 40	40
1,4-Dichlorobenzene	ug/kg	< 40	40	< 40	40
Ethyl benzene	ug/kg	< 30	30	< 30	30
Toluene	ug/kg	< 30	30	< 20	20
Xylenes	ug/kg	< 40	40	< 40	40

		B-1		B-2	
EPA Method 8020:					
Benzene	ug/kg	< 20	20	< 20	20
Chlorobenzene	ug/kg	< 20	20	< 20	20
1,2-Dichlorobenzene	ug/kg	< 40	40	< 40	40
1,3-Dichlorobenzene	ug/kg	< 40	40	< 40	40
1,4-Dichlorobenzene	ug/kg	< 40	40	< 40	40
Ethyl benzene	ug/kg	< 30	30	< 30	30
Toluene	ug/kg	< 20	20	< 20	20
Xylenes	ug/kg	< 40	40	< 40	40

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Sample Type: Soil

Method and Constituent	Units	A-1 Concentration	A-1 Detection Limit	A-2 Concentration	A-2 Detection Limit
EPA Method 8270:					
N-Nitrosodimethylamine	ug/kg	< 330	330	< 330	330
Phenol	ug/kg	< 330	330	< 330	330
bis(-2-Chloroethyl) Ether	ug/kg	< 330	330	< 330	330
2-Chlorophenol	ug/kg	< 330	330	< 330	330
1,3-Dichlorobenzene	ug/kg	< 330	330	< 330	330
1,4-Dichlorobenzene	ug/kg	< 330	330	< 330	330
1,2-Dichlorobenzene	ug/kg	< 330	330	< 330	330
N-Nitroso-Di-n-Propylamine	ug/kg	< 330	330	< 330	330
Hexachloroethane	ug/kg	< 330	330	< 330	330
Nitrobenzene	ug/kg	< 330	330	< 330	330
Isophorone	ug/kg	< 330	330	< 330	330
2-Nitrophenol	ug/kg	< 1,650	1,650	< 1,650	1,650
2,4-Dimethylphenol	ug/kg	< 330	330	< 330	330
bis(-2-Chloroethoxy) Methane	ug/kg	< 330	330	< 330	330
2,4-Dichlorophenol	ug/kg	< 330	330	< 330	330
1,2,4-Trichlorobenzene	ug/kg	< 330	330	< 330	330
Naphthalene	ug/kg	< 330	330	< 330	330
Hexachlorobutadiene	ug/kg	< 330	330	< 330	330
4-Chloro-3-Methyl-[illegible]	ug/kg	< 330	330	< 330	[illegible]
[illegible]-pentadiene	ug/kg	< 330	330		
2,4,6-Trichlorophenol	ug/kg	< 330	330		
2-Chloronaphthalene	ug/kg	< 330	330		
Dimethyl Phthalate	ug/kg	< 330	330		

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Method and Constituent	Units	Sample Type: Soil A-1 Concentration	A-1 Detection Limit	A-2 Concentration	A-2 Detection Limit
EPA Method 8270, Continued:					
Acenaphthylene	ug/kg	< 330	330	< 330	330
Acenapnthene	ug/kg	< 330	330	< 330	330
2,4-Dinitrophenol	ug/kg	< 1,650	1,650	< 1,650	1,650
4-Nitrophenol	ug/kg	< 1,650	1,650	< 1,650	1,650
2,4-Dinitrotoluene	ug/kg	< 330	330	< 330	330
2,6-Dinitrotoluene	ug/kg	< 330	330	< 330	330
Diethylphthalate	ug/kg	< 330	330	< 330	330
4-Chlorophenyl-phenylether	ug/kg	< 330	330	< 330	330
Fluorene	ug/kg	< 330	330	< 330	330
N-Nitrosodiphenylamine	ug/kg	< 330	330	< 330	330
4-Bromophenyl-phenylether	ug/kg	< 330	330	< 330	330
Hexachlorobenzene	ug/kg	< 330	330	< 330	330
Pentachlorophenol	ug/kg	< 1,650	1,650	< 1,650	1,650
Phenanthrene	ug/kg	< 330	330	< 330	330
Anthracene	ug/kg	< 330	330	< 330	330
Di-n-Butylphthalate	ug/kg	< 330	330	< 330	330
Fluoranthene	ug/kg	< 330	330	< 330	330
Benzidine	ug/kg	< 1,650	1,650	< 1,650	1,650
Pyrene	ug/kg	< 330	330	< 330	330
Butylbenzylphthalate	ug/kg	< 330	330	< 330	330
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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Sample Type: Soil

Method and Constituent	Units	A-1 Concentration	A-1 Detection Limit	A-2 Concentration	A-2 Detection Limit
EPA Method 8270, Continued:					
Di-n-Octyl Phthalate	ug/kg	< 330	330	< 330	330
Benzo(b)Fluoranthene	ug/kg	< 330	330	< 330	330
Benzo(k)Fluoranthene	ug/kg	< 330	330	< 330	330
Benzo(a)Pyrene	ug/kg	< 330	330	< 330	330
Indeno(1,2,3-cd)Pyrene	ug/kg	< 330	330	< 330	330
Dibenzo(a,h)Anthracene	ug/kg	< 330	330	< 330	330
Benzo(g,h,i)Perylene	ug/kg	< 330	330	< 330	330

Other Constituents Identified:

None

DATE REVISED: 6/27/89
LOG NO.: 7342
DATE SAMPLED: 5/4/89
DATE RECEIVED: 5/4/89
PAGE: Nine

		Sample Type: Soil			
		B-1		B-2	
Method and Constituent	Units	Concentration	Detection Limit	Concentration	Detection Limit
EPA Method 8270:					
N-Nitrosodimethylamine	ug/kg	< 330	330	< 330	330
Phenol	ug/kg	< 330	330	< 330	330
bis(-2-Chloroethyl) Ether	ug/kg	< 330	330	< 330	330
2-Chlorophenol	ug/kg	< 330	330	< 330	330
1,3-Dichlorobenzene	ug/kg	< 330	330	< 330	330
1,4-Dichlorobenzene	ug/kg	< 330	330	< 330	330
1,2-Dichlorobenzene	ug/kg	< 330	330	< 330	330
N-Nitroso-Di-n-Propylamine	ug/kg	< 330	330	< 330	330
Hexachloroethane	ug/kg	< 330	330	< 330	330
Nitrobenzene	ug/kg	< 330	330	< 330	330
Isophorone	ug/kg	< 330	330	< 330	330
2-Nitrophenol	ug/kg	< 1,650	1,650	< 1,650	1,650
2,4-Dimethylphenol	ug/kg	< 330	330	< 330	330
bis(-2-Chloroethoxy) Methane	ug/kg	< 330	330	< 330	330
2,4-Dichlorophenol	ug/kg	< 330	330	< 330	330
1,2,4-Trichlorobenzene	ug/kg	< 330	330	< 330	330
Naphthalene	ug/kg	< 330	330	< 330	330
Hexachlorobutadiene	ug/kg	< 330	330	< 330	330
4-Chloro-3-Methyl-phenol	ug/kg	< 330	330	< 330	330
Hexachlorocyclo-pentadiene	ug/kg		330	< 330	330
2,4,6-Trichlorophenol	ug/kg		330	< 330	330
2-Chloronaphthalene	ug/kg		330	< 330	330
Dimethyl Phthalate	ug/kg		330	< 330	330

DATE REVISED: 6/27/89
LOG NO.: 7342
DATE SAMPLED: 5/4/89
DATE RECEIVED: 5/4/89
PAGE: Ten

Method and Constituent	Units	Sample Type: Soil B-1 Concentration	B-1 Detection Limit	B-2 Concentration	B-2 Detection Limit
EPA Method 8270, Continued:					
Acenaphthylene	ug/kg	< 330	330	< 330	330
Acenaphthene	ug/kg	< 330	330	< 330	330
2,4-Dinitrophenol	ug/kg	< 1,650	1,650	< 1,650	1,650
4-Nitrophenol	ug/kg	< 1,650	1,650	< 1,650	1,650
2,4-Dinitrotoluene	ug/kg	< 330	330	< 330	330
2,6-Dinitrotoluene	ug/kg	< 330	330	< 330	330
Diethylphthalate	ug/kg	< 330	330	< 330	330
4-Chlorophenyl-phenylether	ug/kg	< 330	330	< 330	330
Fluorene	ug/kg	< 330	330	< 330	330
N-Nitrosodiphenylamine	ug/kg	< 330	330	< 330	330
4-Bromophenyl-phenylether	ug/kg	< 330	330	< 330	330
Hexachlorobenzene	ug/kg	< 330	330	< 330	330
Pentachlorophenol	ug/kg	< 1,650	1,650	< 1,650	1,650
Phenanthrene	ug/kg	< 330	330	< 330	330
Anthracene	ug/kg	< 330	330	< 330	330
Di-n-Butylphthalate	ug/kg	< 330	330	< 330	330
Fluoranthene	ug/kg	< 330	330	< 330	330
Benzidine	ug/kg	< 1,650	1,650	< 1,650	1,650
Pyrene	ug/kg	< 330	330	< 330	330
Butylbenzylphthalate	ug/kg	< 330	330	< 330	330
[illegible]	ug/kg	< 1,650	1,650	< 1,650	1,650
[illegible]	ug/kg	< 330	330	< 330	330
[illegible]	ug/kg	< 330	330	< 330	330
[illegible]	ug/kg	< 330	330	< 330	330

DATE REVISED: 6/27/89
LOG NO.: 7342
DATE SAMPLED: 5/4/89
DATE RECEIVED: 5/4/89
PAGE: Eleven

Sample Type: Soil

Method and Constituent	Units	B-1 Concentration	B-1 Detection Limit	B-2 Concentration	B-2 Detection Limit
EPA Method 8270, Continued:					
Di-n-Octyl Phthalate	ug/kg	< 330	330	< 330	330
Benzo(b)Fluoranthene	ug/kg	< 330	330	< 330	330
Benzo(k)Fluoranthene	ug/kg	< 330	330	< 330	330
Benzo(a)Pyrene	ug/kg	< 330	330	< 330	330
Indeno(1,2,3-cd)Pyrene	ug/kg	< 330	330	< 330	330
Dibenzo(a,h)Anthracene	ug/kg	< 330	330	< 330	330
Benzo(g,h,i)Perylene	ug/kg	< 330	330	< 330	330

Other Constituents Identified:

None

Pages six through eleven are revised to correct a typographical error in the detection limit of sample A-1 and B-1 from "300" to "330" ug/kg. The results are the same as previously reported.

Dan Farah

Dan Farah, Ph.D.
Supervisory Chemist

DATE: 5/5/89
LOG NO.: 7342
DATE SAMPLED: 5/4/89
DATE RECEIVED: 5/4/89
PAGE: Twelve

Sample Type: Soil

Method and Constituent	Units	A-1 Concentration	A-1 Detection Limit	A-2 Concentration	A-2 Detection Limit
EPA Method 7061:					
As	ug/kg	1,600	4	1,000	4
EPA Method 7080:					
Ba	ug/kg	51,000	20,000	< 20,000	20,000
EPA Method 7130:					
Cd	ug/kg	< 300	300	< 200	200
EPA Method 7190:					
Cr	ug/kg	59,000	800	25,000	800
EPA Method 7420:					
Pb	ug/kg	28,000	1,000	< 900	900
EPA Method 7471:					
Hg	ug/kg	56	3	8.2	3
EPA Method 7741:					
Se	ug/kg	< 20	20	< 20	20
EPA Method 7760:					
Ag	ug/kg	< 800	800	< 800	800

DATE: 6/5/89
LOG NO.: 7342
DATE SAMPLED: 5/4/89
DATE RECEIVED: 5/4/89
PAGE: Thirteen

Sample Type: Soil

Method and Constituent	Units	B-1 Concentration	B-1 Detection Limit	B-2 Concentration	B-2 Detection Limit
EPA Method 7061:					
As	ug/kg	1,000	4	900	4
EPA Method 7080:					
Ba	ug/kg	< 20,000	20,000	< 20,000	20,000
EPA Method 7130:					
Cd	ug/kg	< 300	300	< 300	300
EPA Method 7190:					
Cr	ug/kg	29,000	800	20,000	800
EPA Method 7420:					
Pb	ug/kg	21,000	900	1,900	1,000
EPA Method 7471:					
Hg	ug/kg	280	3	8.3	3
EPA Method 7741:					
Se	ug/kg	< 20	20	2,300	20
EPA Method 7760:					
Ag	ug/kg	< 800	800	< 800	800

Dan Faran

Dan Faran, Ph.D.
Supervisory Chemist

DF:ls

GTEL Environmental Laboratories Inc.

4080 C Pike Lane
Concord, CA 94520
415 685 7852

800 544 3422 (In CA)
800 423 7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: [illegible]

Phone #. (415) 521-3773

Address: [illegible] Ave Alameda CA 94501

FAX #.

Project Number: 55447

Project Name: [illegible]

Project Location: Powell St & Christy Ave

Sampler Signature: [signature]

Sample ID	Lab # (Lab use only)	Volume Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
A-1		1		X						X	X		4 May 89	
A-2		1		X						X	X		4 May 89	
B-1		1		X						X	X		4 May 89	
B-2		1		X						X	X		4 May 89	

ANALYSIS REQUEST

Sample ID	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625 8270 + 10 Peak	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD 7420/7421/239.2	ORGANIC LEAD
A-1	X							X					X		X			
A-2	X							X					X		X			
B-1	X							X					X		X			
B-2	X							X					X		X			

OTHER / **SPECIAL HANDLING**

Sample ID	OTHER: Reg. TAT					PRIORITY ONE SERVICE 24 hr	EXPEDITED SERVICE 2-3 days	VERBAL FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
A-1	X									
A-2	X									
B-1	X									
B-2	X									

Relinquished by	Date / Time	Received by
[signature]	May/89	[signature]
Relinquished by: [illegible]	Date / Time: May 89	Received by
	Date / Time: 5/9 1045	Received by Laboratory: [signature]

Remarks:

APPENDIX D

WATER SAMPLE ANALYTICAL RESULTS

Trace Analysis Laboratory, Inc.
3473 Investment Boulevard, #8 • Hayward, California 94545 (415) 783-6960

TAL

DATE: 6/5/89

LOG NO.: 7378

DATE SAMPLED: 5/12/89

DATE RECEIVED: 5/15/89

CUSTOMER: Blymyer Engineers, Inc.

REQUESTER: Mike Lewis

PROJECT: No. 88447, Martin Co. - Emeryville

Sample Type: Water

Method and Constituent	Units	MW-1 Concentration	MW-1 Detection Limit	MW-2 Concentration	MW-2 Detection Limit
EPA Method 8010:					
Benzyl chloride	ug/l	< 0.2	0.2	< 0.2	0.2
Bis (2-chloroethoxy) methane	ug/l	< 0.2	0.2	< 0.2	0.2
Bis (2-chloroisopropyl) ether	ug/l	< 0.2	0.2	< 0.2	0.2
Bromobenzene	ug/l	< 0.2	0.2	< 0.2	0.2
Bromodichloromethane	ug/l	< 0.2	0.2	< 0.2	0.2
Bromoform	ug/l	< 0.2	0.2	< 0.2	0.2
Bromomethane	ug/l	< 0.2	0.2	< 0.2	0.2
Carbon tetrachloride	ug/l	< 0.2	0.2	< 0.2	0.2
Chloracetaldehyde	ug/l	< 0.2	0.2	< 0.2	0.2
Chloral	ug/l	< 0.2	0.2	< 0.2	0.2
Chlorobenzene	ug/l	< 0.2	0.2	< 0.2	0.2
Chloroethane	ug/l	< 0.2	0.2	< 0.2	0.2
Chloroform	ug/l	< 0.2	0.2	< 0.2	0.2
1-Chloropentane	ug/l	< 0.2	0.2	< 0.2	0.2
2-Chloroethyl vinyl ether	ug/l	< 0.2	0.2	< 0.2	0.2
Chloromethane	ug/l	< 0.2	0.2	< 0.2	0.2

DATE: 6/5/89
LOG NO.: 7378
DATE SAMPLED: 5/12/89
DATE RECEIVED: 5/15/89
PAGE: Two

Sample Type: Water

Method and Constituent	Units	MW-1 Concentration	MW-1 Detection Limit	MW-2 Concentration	MW-2 Detection Limit
EPA Method 8010, Continued:					
Chloromethyl methyl ether	ug/l	< 0.2	0.2	< 0.2	0.2
Chlorotoluene	ug/l	< 0.2	0.2	< 0.2	0.2
Dibromochloromethane	ug/l	< 0.2	0.2	< 0.2	0.2
Dibromomethane	ug/l	< 0.2	0.2	< 0.2	0.2
1,2-Dichlorobenzene	ug/l	< 0.2	0.2	< 0.2	0.2
1,3-Dichlorobenzene	ug/l	< 0.2	0.2	< 0.2	0.2
1,4-Dichlorobenzene	ug/l	< 0.2	0.2	< 0.2	0.2
Dichlorodifluoromethane	ug/l	< 0.2	0.2	< 0.2	0.2
1,1-Dichloroethane	ug/l	< 0.2	0.2	< 0.2	0.2
1,2-Dichloroethane	ug/l	< 0.2	0.2	< 0.2	0.2
1,1-Dichloroethylene	ug/l	< 0.2	0.2	< 0.2	0.2
trans-1,2-Dichloro-ethylene	ug/l	< 0.2	0.2	< 0.2	0.2
Dichloromethane	ug/l	< 0.2	0.2	< 0.2	0.2
1,2-Dichloropropane	ug/l	< 0.2	0.2	< 0.2	0.2
1,3-Dichloropropylene	ug/l	< 0.2	0.2	< 0.2	0.2
1,1,2,2-Tetrachloro-ethane	ug/l	< 0.2	0.2	< 0.2	0.2
1,1,1,2-Tetrachloro-ethane	ug/l	< 0.2	0.2	< 0.2	0.2
Tetrachloroethylene	ug/l	< 0.2	0.2	< 0.2	0.2
1,1,1-Trichloroethane	ug/l	< 0.2	0.2	< 0.2	0.2
1,1,2-Trichloroethane	ug/l	< 0.2	0.2	< 0.2	0.2
Trichloroethylene	ug/l	< 0.2	0.2	< 0.2	0.2
Trichlorofluoro-methane	ug/l	< 0.2	0.2	< 0.2	0.2
Trichloropropane	ug/l	< 0.2	0.2	< 0.2	0.2
Vinyl chloride	ug/l	< 0.2	0.2	< 0.2	0.2

DATE: 6/5/89
LOG NO.: 7378
DATE SAMPLED: 5/12/89
DATE RECEIVED: 5/15/89
PAGE: Three

Sample Type: Water

Method and Constituent	Units	MW-1 Concentration	MW-1 Detection Limit	MW-2 Concentration	MW-2 Detection Limit
EPA Method 8020:					
Benzene	ug/l	< 0.2	0.2	< 0.2	0.2
Chlorobenzene	ug/l	< 0.3	0.3	< 0.3	0.3
1,2-Dichlorobenzene	ug/l	< 0.4	0.4	< 0.4	0.4
1,3-Dichlorobenzene	ug/l	< 0.4	0.4	< 0.4	0.4
1,4-Dichlorobenzene	ug/l	< 0.3	0.3	< 0.3	0.3
Ethyl benzene	ug/l	< 0.3	0.3	< 0.3	0.3
Toluene	ug/l	< 0.2	0.2	< 0.2	0.2
Xylenes	ug/l	< 0.4	0.4	< 0.4	0.4

DATE: 6/5/89
LOG NO.: 7378
DATE SAMPLED: 5/12/89
DATE RECEIVED: 5/15/89
PAGE: Four

Sample Type: Water

Method and Constituent	Units	MW-1 Concentration	MW-1 Detection Limit	MW-2 Concentration	MW-2 Detection Limit
EPA Method 8270:					
N-Nitrosodimethylamine	ug/l	< 5	5	< 5	5
Phenol	ug/l	< 5	5	< 5	5
bis(-2-Chloroethyl) Ether	ug/l	< 5	5	< 5	5
2-Chlorophenol	ug/l	< 5	5	< 5	5
1,3-Dichlorobenzene	ug/l	< 5	5	< 5	5
1,4-Dichlorobenzene	ug/l	< 5	5	< 5	5
1,2-Dichlorobenzene	ug/l	< 5	5	< 5	5
N-Nitroso-Di-n-Propylamine	ug/l	< 5	5	< 5	5
Hexachloroethane	ug/l	< 5	5	< 5	5
Nitrobenzene	ug/l	< 5	5	< 5	5
Isophorone	ug/l	< 5	5	< 5	5
2-Nitrophenol	ug/l	< 25	25	< 25	25
2,4-Dimethylphenol	ug/l	< 5	5	< 5	5
bis(-2-Chloroethoxy) Methane	ug/l	< 5	5	< 5	5
2,4-Dichlorophenol	ug/l	< 5	5	< 5	5
1,2,4-Trichlorobenzene	ug/l	< 5	5	< 5	5
Naphthalene	ug/l	< 5	5	< 5	5
Hexachlorobutadiene	ug/l	< 5	5	< 5	5
4-Chloro-3-Methyl-	ug/l	< 5	5	< 5	5
[illegible]	ug/l	< 5	5	< 5	5
[illegible]	ug/l	< 5	5	< 5	5
[illegible]	ug/l	< 5	5	< 5	5
[illegible] Phthalate	ug/l	< 5	5	< 5	5

DATE: 6/5/89
LOG NO.: 7378
DATE SAMPLED: 5/12/89
DATE RECEIVED: 5/15/89
PAGE: Five

Sample Type: Water

Method and Constituent	Units	MW-1 Concentration	MW-1 Detection Limit	MW-2 Concentration	MW-2 Detection Limit
EPA Method 8270, Continued:					
Acenaphthylene	ug/l	< 5	5	< 5	5
Acenaphthene	ug/l	< 5	5	< 5	5
2,4-Dinitrophenol	ug/l	< 25	25	< 25	25
4-Nitrophenol	ug/l	< 25	25	< 25	25
2,4-Dinitrotoluene	ug/l	< 5	5	< 5	5
2,6-Dinitrotoluene	ug/l	< 5	5	< 5	5
Diethylphthalate	ug/l	< 5	5	< 5	5
4-Chlorophenyl-phenylether	ug/l	< 5	5	< 5	5
Fluorene	ug/l	< 5	5	< 5	5
N-Nitrosodiphenylamine	ug/l	< 5	5	< 5	5
4-Bromophenyl-phenylether	ug/l	< 5	5	< 5	5
Hexachlorobenzene	ug/l	< 5	5	< 5	5
Pentachlorophenol	ug/l	< 25	25	< 25	25
Phenanthrene	ug/l	< 5	5	< 5	5
Anthracene	ug/l	< 5	5	< 5	5
Di-n-Butylphthalate	ug/l	< 5	5	< 5	5
Fluoranthene	ug/l	< 5	5	< 5	5
Benzidine	ug/l	< 25	25	< 25	25
Pyrene	ug/l	< 5	5	< 5	5
Butylbenzylphthalate	ug/l	16	5	< 5	5
3,3'-Dichlorobenzidine	ug/l	< 25	25	< 25	25
Benzo(a)Anthracene	ug/l	< 5	5	< 5	5
bis 2-Ethylhexyl, Phthalate	ug/l	7	5	6.7	5
Chrysene	ug/l	< 5	5	< 5	5
Di-n-Octyl Phthalate	ug/l	< 5	5	< 5	5

DATE: 6/5/89
LOG NO.: 7378
DATE SAMPLED: 5/12/89
DATE RECEIVED: 5/15/89
PAGE: Six

Sample Type: Water

Method and Constituent	Units	MW-1 Concentration	MW-1 Detection Limit	MW-2 Concentration	MW-2 Detection Limit
EPA Method 8270, Continued:					
Benzo(b)Fluoranthene	ug/l	< 5	5	< 5	5
Benzo(k)Fluoranthene	ug/l	< 5	5	< 5	5
Benzo(a)Pyrene	ug/l	< 5	5	< 5	5
Indeno(1,2,3-cd)Pyrene	ug/l	< 5	5	< 5	5
Dibenzo(a,h)Anthracene	ug/l	< 5	5	< 5	5
Benzo(g,h,i)Perylene	ug/l	< 5	5	< 5	5

Other Constituents Identified:

None

DATE: 6/5/89
LOG NO.: 7378
DATE SAMPLED: 5/12/89
DATE RECEIVED: 5/15/89
PAGE: Seven

Sample Type: Water

Method and Constituent	Units	MW-1 Concentration	MW-1 Detection Limit	MW-2 Concentration	MW-2 Detection Limit
EPA Method 7061:					
As	ug/l	7.3	2	6.5	2
EPA Method 7080:					
Ba	ug/l	< 3,000	3,000	< 3,000	3,000
EPA Method 7130:					
Cd	ug/l	< 20	20	< 20	20
EPA Method 7190:					
Cr	ug/l	< 70	70	< 70	70
EPA Method 7420:					
Pb	ug/l	< 100	100	< 100	100
EPA Method 7471:					
Hg	ug/l	< 3	3	< 3	3
EPA Method 7741:					
Se	ug/l	19	0.8	< 0.8	0.8
EPA Method 7760:					
Ag	ug/l	< 90	90	< 90	90

Dan Faran, Ph.D.
Supervisory Chemist

DF:vs

BEI Field Services
1829 Clement Avenue
Alameda, CA 94501

CHAIN OF CUSTODY RECORD

PROJ NO	PROJECT NAME
4 1	

SAMPLERS (Signature)

DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO OF CONTAINERS	TPH as gasoline + BTXE	TPH as diesel	Oil & Grease (SM503E)	VOC (EPA 624/8240)	Semi-VOC (EPA 625/8270	EPA 8 METALS	HOLD	[illegible]	9270 w/ 10 PNA			REMARKS
											X		X	X			TO PAY [illegible]
											X		X	X			
												X					

Relinquished by (Signature)	Date/Time	Received by : (Signature)	Relinquished by : (Signature)	Date/Time	Received by : (Signature)
[signature]	[illegible] 1-15	[signature] TAL			
Relinquished by (Signature)	Date/Time	Received by : (Signature)	Relinquished by : (Signature)	Date/Time	Received by (Signature)
Relinquished by (Signature)	Date/Time	Received for Laboratory by : (Signature)	Date/Time	Remarks	

APPENDIX E

CAC TITLE 22
STLC AND TTLC

$$\text{Calculated oral or dermal } LD_{50} = \frac{100}{\sum_{x=1}^{n} \frac{\%Ax}{T_{Ax}}}$$

where %Ax is the weight percent of each component in the waste mixture and T_{Ax} is the acute oral or dermal LD_{50} or the acute oral LD_{LO} of each component.

NOTE: Authority cited: Sections 208, 25141 and 25150, Health and Safety Code. Reference: Section 25141, Health and Safety Code.

HISTORY:

1. Editorial correction filed 10-5-84; designated effective 10-27-84 (Register 84, No. 41)

66699. Persistent and Bioaccumulative Toxic Substance.

(a) Any waste is a hazardous waste which contains a substance listed in subsections (b) or (c) of this section:

(1) at a concentration in milligrams per liter as determined pursuant to Section 66700 which exceeds its listed soluble threshold limit concentration, or

(2) at a concentration in milligrams per kilogram in the waste which exceeds its listed total threshold limit concentration.

(b) List of Inorganic Persistent and Bioaccumulative Toxic Substances and Their Soluble Threshold Limit Concentration (STLC) and Total Threshold Limit Concentration (TTLC) Values.

	STLC	*TTLC*
Substance	*mg/l*	*Wet-Weight mg/kg*
Antimony and/or antimony compounds	15	500
Arsenic and/or arsenic compounds	5.0	500
Asbestos	–	1.0 (as percent)
Barium and/or barium compounds (excluding barite)	100	10,000††
Beryllium and/or beryllium compounds	0.75	75
Cadmium and/or cadmium compounds	1.0	100
Chromium (VI) compounds	5	500
Chromium and/or chromium (III) compounds	560	2,500
Cobalt and/or cobalt compounds	80	8,000
Copper and/or copper compounds	25	2,500
Fluoride salts	180	18,000
Lead and/or lead compounds	5.0	1,000
Mercury and/or mercury compounds	0.2	20
Molybdenum and/or molybdenum compounds	350	3,500
Nickel and/or nickel compounds	20	2,000
Selenium and/or selenium compounds	1.0	100
Silver and/or silver compounds	5	500
Thallium and/or thallium compounds	7.0	700
Vanadium and/or vanadium compounds	24	2,400
Zinc and/or zinc compounds	250	5,000

* STLC and TTLC values are calculated on the concentrations of the elements, not the compounds

† In the case of asbestos and elemental metals, applies only if they are in a friable, powdered or finely divided state. Asbestos includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite

†† Excluding barium sulfate