

✓
 *toxic technology services inc.*

January 15, 1990
File No. 89-14

Mr. Verl Rothlisberger
753 Peralta
San Leandro, California 94577

Subject: Chemical Results of Soil Samples
From 342 105th Avenue, Oakland

Dear Verl:


Enclosed is the data from two samples taken from 342 105th Avenue, Oakland. As suspected, the soil near the underground tank is contaminated with heavy petroleum hydrocarbons.

With your approval, a copy of this report will be sent to Mr. Levi of the Alameda County Environmental Health Department, Hazardous Materials Division. In a conversation with Mr. Levy, he will be glad to expedite his role, where possible, in this project if results of analyses could be forwarded to him as soon as possible.

After receiving a copy of this report, Mr. Levi and I agreed that it would be wise for all parties involved to meet and appropriately kick-off this project.

Gary, Jack and I look forward to working with you on this project. If you have any questions, please call me at (415) 799-1140.

Sincerely,


Lisa A. Polos
Senior Scientist
CTTS, Inc.

Jurvené Nursery

CHEMICAL RESULTS OF SOIL SAMPLES
TAKEN FROM 342 - 105TH AVENUE, OAKLAND, CALIFORNIA

On December 18, 1989, Mr. Verl Rothlisberger, of Verl's Construction requested CTTs, Inc. (Toxic Technology Services), to collect two soil samples the property located at 342 - 105th Avenue in Oakland, California.

This property is currently occupied by one house. Prior to 1970, the site was used not only as a residence, but also a nursery for the cultivation of cut flowers, including carnations, dahlias, snap dragons, gladiolus and asters.

On the northwest side of the property, approximately five feet from the sidewalk, is an underground storage tank. This tank was used to store heavy fuel oil for the boiler that generated steam to the on-site greenhouses.

On December 18, 1989, Lisa A. Polos of Toxic Technology Services collected two soil samples from the subject site with the assistance of one employee from Verl's Construction.

Using a backhoe, a trench was made on the west side of the underground tank, between the sidewalk and the tank (Plate 1). This trench was running parallel to the tank. At a depth of approximately 7 feet from the ground surface, a soil sample was collected and analyzed for the following:

- Total Petroleum Hydrocarbons, gas and diesel
- Petroleum Hydrocarbons as Oil and Grease
- California Title 22 Total Metals
- Semivolatle Organics by Method 8270
- Halogenated Volatile Organics by Method 8010
- Chlorinated Pesticides and PCB's by Method 8080

The soil in the trench and the backhoe bucket was stained and had a heavy hydrocarbon odor. There was distinct color variation in the trench.

A second soil sample was taken in the area formerly occupied by the greenhouses. The backhoe operator was directed to dig a trench approximately 18" in depth in the center of a cleared, tilled area on the property where the greenhouses existed. The collected sample was analyzed for:

- Chlorinated Pesticides and PCB's by Method 8080

All soil samples were collected in two brass tubes. The ends of the tubes were wrapped in aluminum foil and covered with plastic caps. The samples were placed on ice and delivered to a State of California certified hazardous waste laboratory under Chain of

Custody procedures. Samples were analyzed on a rush (<1 working week) as requested by Mr. Rothlisberger.

02 TCG? The chemical data from the soil near the underground tank, indicates that the sample is contaminated with a heavy petroleum hydrocarbon, such as a mix of diesel and heavier oil. ~~Diesel hydrocarbons were found at 2500 parts per million (ppm), petroleum hydrocarbons heavier than diesel at 100 and total petroleum hydrocarbons at 4370 ppm.~~ Compounds typically associated with petroleum products, such as methylnaphthalene, naphthalene, pentadecane and cholestane were each found at 100 parts per million (ppm) or less. The halogenated volatile hydrocarbons, such as the chlorinated solvents are non-detectable in this sample, however the detection limits are higher than normally found, due to interferences encountered. The sample is non-detectable for chlorinated pesticides, PCB's, and petroleum hydrocarbons as gasoline. A number of unidentifiable hydrocarbon compounds were found, each at 10 ppm or less. Some heavy metals were found, but none are above the state limits for total metals or approaching ten times the state limits for soluble metals.

The soil sample taken from the former greenhouse area is non-detectable for chlorinated pesticides and PCB's.

A copy of the laboratory report and chain of custody sheet is attached.

From the data received, there is now evidence that the subject site is contaminated with heavy petroleum hydrocarbons. Be forewarned that one data point does not adequately characterize a site. Samples taken at the time of tank removal will supply further data as to the extent and level of contamination.

A copy of this report should be sent to:

Mr. Ariu Levi
Alameda County Department of Environmental Health
Hazardous Materials Division
80 Swan Way
Oakland, California 94621

**EPA METHOD 8080
TARGET ANALYTE RESULTS**

TMA/Norcal

Client: TOXIC TECHNOLOGY SERVICES
 Client Sample ID: NW SIDE TANK
 TMA/Norcal SAMPLE ID: 6721-7-1
 Extract.Method: SONICATION

Date Received: 12/18/89
 Date Extracted: 12/26/89
 Date Analyzed: 12/27/89

CAS No	COMPOUND	SOIL RESULTS (ug/Kg)	SOIL DETECTION LIMITS (ug/Kg)
319-84-6	alpha-BHC	< 8.0	8.0
319-85-7	beta-BHC	< 8.0	8.0
319-86-8	delta-BHC	< 8.0	8.0
58-89-9	gamma-BHC(Lindane)	< 8.0	8.0
76-44-8	Heptachlor	< 8.0	8.0
309-00-2	Aldrin	< 8.0	8.0
1024-57-3	Heptachlor Epoxide	< 8.0	8.0
959-98-8	Endosulfan I	< 8.0	8.0
60-57-1	Dieldrin	< 16.0	16.0
72-55-9	4,4'-DDE	< 16.0	16.0
72-20-8	Endrin	< 16.0	16.0
33213-65-9	Endosulfan II	< 16.0	16.0
72-54-8	4,4'-DDD	< 16.0	16.0
1031-07-8	Endosulfan sulfate	< 16.0	16.0
50-29-3	4,4'-DDT	< 16.0	16.0
72-43-5	Methoxychlor	< 80.0	80.0
53494-70-5	Endrin ketone	< 16.0	16.0
5103-71-9	alpha-Chlordane	< 80.0	80.0
5103-74-2	gamma-Chlordane	< 80.0	80.0
57-74-9	Technical Chlordane	< 80.0	80.0
8001-35-2	Toxaphene	<160.0	160.0
12674-11-2	Aroclor-1016	< 80.0	80.0
11104-28-2	Aroclor-1221	< 80.0	80.0
11141-16-5	Aroclor-1232	< 80.0	80.0
53469-21-9	Aroclor-1242	< 80.0	80.0
12672-29-6	Aroclor-1248	< 80.0	80.0
11097-69-1	Aroclor-1254	<160.0	160.0
11096-82-5	Aroclor-1260	<160.0	160.0

[Handwritten Signature]

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 Data Release Authorized By

**EPA METHOD 8080
TARGET ANALYTE RESULTS**

TMA/Norcal

Client: TOXIC TECHNOLOGY SERVICES
 Client Sample ID: GREENHOUSE
 TMA/Norcal SAMPLE ID: 6721-7-2
 Extract.Method: SONICATION

Date Received: 12/18/89
 Date Extracted: 12/26/89
 Date Analyzed: 12/27/89

<u>CAS No</u>	<u>COMPOUND</u>	<u>SOIL RESULTS (ug/Kg)</u>	<u>SOIL DETECTION LIMITS (ug/Kg)</u>
319-84-6	alpha-BHC	< 8.0	8.0
319-85-7	beta-BHC	< 8.0	8.0
319-86-8	delta-BHC	< 8.0	8.0
58-89-9	gamma-BHC(Lindane)	< 8.0	8.0
76-44-8	Heptachlor	< 8.0	8.0
309-00-2	Aldrin	< 8.0	8.0
1034-57-3	Heptachlor Epoxide	< 8.0	8.0
959-98-8	Endosulfan I	< 8.0	8.0
60-57-1	Dieldrin	< 16.0	16.0
72-55-9	4,4'-DDE	< 16.0	16.0
72-20-8	Endrin	< 16.0	16.0
33213-65-9	Endosulfan II	< 16.0	16.0
72-54-8	4,4'-DDD	< 16.0	16.0
1021-07-8	Endosulfan sulfate	< 16.0	16.0
50-29-3	4,4'-DDT	< 16.0	16.0
72-43-5	Methoxychlor	< 80.0	80.0
53494-70-5	Endrin ketone	< 16.0	16.0
5103-71-9	alpha-Chlordane	< 80.0	80.0
5103-74-2	gamma-Chlordane	< 80.0	80.0
57-74-9	Technical Chlordane	< 80.0	80.0
8001-35-2	Toxaphene	<160.0	160.0
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11141-16-5	Aroclor-1232	< 80.0	80.0
53469-21-9	Aroclor-1242	< 80.0	80.0
12672-29-6	Aroclor-1248	< 80.0	80.0
11097-69-1	Aroclor-1254	<160.0	160.0
11096-82-5	Aroclor-1260	<160.0	160.0

Richard Taylor
 Data Release Authorized By

RECEIVED 12/20/84

01/03/90 08:02:16

REPORT IMA/NORCAL
TO 2030 Wright Avenue
Richmond, CA 94904

PREPARED Thermo Analytical, Inc
BY 160 Taylor Street
Monrovia, CA 91016

Robert Mazurek
CERTIFIED BY

ATTEN Sample Control

ATTEN Ms. Carole Harris
PHONE 818-357-3247

CONTACT REM

CLIENT IMA NORCAL SAMPLES 1
COMPANY IMA/NORCAL
FACILITY Richmond, CA

This report is for the sole and exclusive use of the client
to whom it is addressed and represents only those samples
herein described. Samples not destroyed in testing are re-
tained a maximum of 30 days unless otherwise requested.

WRK ID 6721-7
TAKEN By IMA Norcal Staff
TRANS By Emery Express
TYPE Soil
P. O. # IMA 7664
INVOICE under separate cover

SAMPLE IDENTIFICATION

TEST CODES and NAMES used on this report

01 6721-7

- 418 1S TPHC - Solid (IR)
- 0010 Halogenated Volatiles
- 0015MS Fuels-Total Hydrocarbons
- AS S Arsenic - Solids
- BNA S Semivolatile Organics
- FTIR FTIR Instrumentation
- HG S Mercury - Solids
- IC14TS CA Title 22 Total Metals
- SE S Selenium - Solid

Received: 12/20/89

RESULTS BY SAMPLE

SAMPLE ID 6721-7		SAMPLE # 01 FRACTIONS: A		Date & Time Collected 12/18/89		Category		
418_15	4370.	AS S	2.61	FTIR	HG S	0.020	SE S	<0.20
	mg/Kg		mg/Kg	N/A		mg/Kg		mg/Kg

Received: 12/20/89

Results by sample

SAMPLE ID 6721-7FRACTION 01A TEST CODE 8010
Date & Time Collected 12/18/89NAME Halogenated Volatiles
Category _____

8010 HALOGENATED VOLATILE ORGANICS

COMPOUND	RESULT	DET LIMIT	COMPOUND	RESULT	DET LIMIT
Benzyl chloride	ND	830	1,2-Dichlorobenzene	ND	830
Bis (2-chloroethoxy)methane	ND	830	1,3-Dichlorobenzene	ND	830
Bis (2-chloroisopropyl)ether	ND	830	1,4-Dichlorobenzene	ND	830
Bromobenzene	ND	830	Dichlorodifluoromethane	ND	830
Bromodichloromethane	ND	830	1,1-Dichloroethane	ND	830
Bromoform	ND	830	1,2-Dichloroethane	ND	830
Bromomethane	ND	830	1,1-Dichloroethylene	ND	830
Carbon tetrachloride	ND	830	trans-1,2-Dichloroethylene	ND	830
Chloroacetaldehyde	ND	830	Dichloromethane	ND	830
Chloral	ND	830	1,2-Dichloropropane	ND	830
Chlorobenzene	ND	830	1,3-Dichloropropylene	ND	830
Chloroethane	ND	830	1,1,2,2-Tetrachloroethane	ND	830
Chloroform	ND	830	Tetrachloroethylene	ND	830
Chlorohexane	ND	830	1,1,1-Trichloroethane	ND	830
2-Chloroethyl vinyl ether	ND	830	1,1,2-Trichloroethane	ND	830
Chloromethane	ND	830	Trichloroethylene	ND	830
Chloromethyl methyl ether	ND	830	Trichlorofluoromethane	ND	830
Chlorotoluene	ND	830	Trichloropropane	ND	830
Dibromochloromethane	ND	830	Vinyl chloride	ND	830
Dibromomethane	ND	830			

NOTE: All results reported in ug/Kg unless otherwise specified.
ND = Not detected at the specified limits

ANALYST WADATE INJECTED 12/21/89DILUTION FACTOR 83.00

818 359 5036 Jan 05.90 8:43
TEL No.
TMA/ARLI

RECEIVED. 12/20/87

SAMPLE ID 6721-7

FRACTION 01A

TEST CODE 8015ME

NAME Fuels-Total Hydrocarbons

Date & Time Collected 12/18/87

Category _____

MODIFIED 8015 - FUEL HYDROCARBONS

COMPOUND	RESULT	DET	LIMIT	
C5 - C12 Gasoline Range	<u>ND</u>			5
C10 - C16 Jet Fuel Range	<u>ND</u>			3
C9 - C22 Diesel Range	<u>2560</u>			5
Heavier than diesel (hydraulic)	<u>1100</u>			8

ANALYST JC
DATE INJECTED 12/21/87
DILUTION FACTOR 1.00

NOTE: All results reported in mg/Kg unless otherwise specified
ND = Not detected at the specified limits

0.06/09
8:43
818 359 5036 Jan 05,90
TEL No.
TMA/ARLI

Received: 12/20/87

RESULTS by sample

SAMPLE ID 6721-7

FRACTION 01A TEST CODE BNA 9
Date & Time Collected 12/18/89

NAME Semivolatile Organics
Category

SEMI-VOLATILE ORGANIC RESULTS

COMPOUND	RESULT	DET	LIMIT	COMPOUND	RESULT	DET	LIMIT
n-nitrosodimethylamine	ND		0.3	3-nitroaniline	ND		2
phenol	ND		0.3	acenaphthene	ND		0.3
aniline	ND		0.3	2,4-dinitrophenol	ND		2
bis(2-chloroethyl)ether	ND		0.3	4-nitrophenol	ND		0.3
2-chlorophenol	ND		0.3	dibenzofuran	ND		0.3
1,3-dichlorobenzene	ND		0.3	2,6-dinitrotoluene	ND		0.3
1,4-dichlorobenzene	ND		0.3	2,4-dinitrotoluene	ND		0.3
benzyl alcohol	ND		0.3	diethylphthalate	ND		0.3
1,2-dichlorobenzene	ND		0.3	4-chlorophenyphenyl ether	ND		0.3
2-methylphenol	ND		0.3	fluorene	ND		0.3
bis(2-chloroisopropyl)ether	ND		0.3	4-nitroaniline	ND		2
4-methylphenol	ND		0.3	4,6-dinitro-2-methylphenol	ND		0.3
n-nitroso-di-n-propylamine	ND		0.3	n-nitrosodiphenylamine	ND		0.3
hexachloroethane	ND		0.3	1,2-diphenylhydrazine	ND		0.3
nitrobenzene	ND		0.3	4-bromophenyphenyl ether	ND		0.3
isophorone	ND		0.3	hexachlorobenzene	ND		0.3
2-nitrophenol	ND		0.3	pentachlorophenol	ND		2
2,4-dimethylphenol	ND		0.3	phenanthrene	ND		0.3
benzoic acid	ND		2	anthracene	ND		0.3
bis(2-chloroethoxy)methane	ND		0.3	di-n-butylphthalate	ND		0.3
2,4-dichlorophenol	ND		0.3	fluoranthene	ND		0.3
1,2,4-trichlorobenzene	ND		0.3	benzidine	ND		2
naphthalene	0.67		0.3	pyrene	ND		0.3
4-chloroaniline	ND		0.3	butylbenzylphthalate	ND		0.3
hexachlorobutadiene	ND		0.3	3,3'-dichlorobenzidine	ND		0.6
4-chloro-3-methylphenol	ND		0.3	benzo(a)anthracene	ND		0.3
2-methylnaphthalene	2.9		0.3	bis(2-ethylhexyl)phthalate	ND		0.3
hexachlorocyclopentadiene	ND		0.3	chrysene	ND		0.3
2,4,6-trichlorophenol	ND		0.3	di-n-octyl phthalate	ND		0.3
2,4,5-trichlorophenol	ND		2	benzo(b)fluoranthene	ND		0.3
2-chloronaphthalene	ND		0.3	benzo(k)fluoranthene	ND		0.3
2-nitroaniline	ND		2	benzo(a)pyrene	ND		0.3
dimethyl phthalate	ND		0.3	indeno(1,2,3-cd)pyrene	ND		0.3
acenaphthylene	ND		0.3	dibenzo(a,n)anthracene	ND		0.3
				benzo(g,h,i)perylene	ND		0.3

ND = Not detected. All units are in mg/Kg.

TMA/ARLI TEL No. 818 359 5036 Jan 05,90 8:44 P.07/09

Received: 12/20/87

RECEIVED BY [unclear]

SAMPLE ID 6721-7

FRACTION 01A TEST CODE BNA S

NAME Semivolatile Organics

Date & Time Collected 12/18/89

Category _____

SURROGATE COMPOUND	%RECOVERY
d5-nitrobenzene	NA
2-fluorobiphenyl	NA
d14-terphenyl	NA
2-fluorophenol	NA
d5-phenol	NA
2,4,6-tribromophenol	NA

ANALYST CRW
 DATE EXTRACTED 12/21/89
 DATE INJECTED 01/03/90
 DILUTION FACTOR 10.00

TENTATIVELY IDENTIFIED SEMIVOLATILE COMPOUNDS

COMPOUND	APPR. CONC. mg/Kg
Unknown alkane	<u>10</u>
Pentadecane	<u>10</u>
Unknown hydrocarbon	<u>10</u>
Unknown hydrocarbon	<u>9</u>
Unknown hydrocarbon	<u>8</u>
Cholestane	<u>10</u>
Unknown hydrocarbon	<u>8</u>
Unknown hydrocarbon	<u>9</u>
Unknown hydrocarbon	<u>9</u>
Unknown hydrocarbon	<u>9</u>

SAMPLE ID 6721-7

FRACTION 01A TEST CODE IC1475 NAME CA Title 22 Total Metals
 Date & Time Collected 12/18/89 Category _____

California - Title 22 Total Metals (Solid Matrix)

	mg/Kg	AAS	ICP	TTLC	STLC
Antimony	ND		33.	500.	15.
Barium	208.		12.	10,000	100.
Beryllium	1.3		0.1	75.	0.75
Cadmium	ND		0.5	100.	1.
Chromium	9.83		3.3	2,500.	560.
Cobalt	ND		9.5	8,000.	80.
Copper	23.5		1.0	2,500.	25.
Lead	12.2	0.10	1.	1,000.	5.
Molybdenum	18.1		11.	3,500.	350.
Nickel	35.1		7.4	2,000.	20.
Silver	ND		1.2	500.	5.
Thallium	ND		6.3	700.	7.
Vanadium	ND		6.9	2,400.	24.
Zinc	148.		4.8	5,000.	250.
Arsenic	2.61	0.20		500.	5.
Mercury	0.020	0.005		20.	0.2
Selenium	ND	0.20		100.	1.

Verified by
Analyst RSF

1. TTLC = Total Threshold Limit Concentration, mg/Kg
2. STLC = STLC Limit Concentration, mg/L
3. ICP = ICP Detection Limit, mg/Kg
4. ND = not detected at detection limit
5. * = Exceeds TTLC concentration
6. ** = Exceeds 10 times STLC concentration
7. AAS = AA Detection Limit, mg/Kg

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01A I 3050IC AS_SED HG_P OX418S OX8015 OXBNAS

Thermo Analytical Inc
CHAIN OF CUSTODY RECORD

PROJ. NO.		PROJECT NAME			NO. OF CONTAINERS	analyses							REMARKS
89-117		105th Ave				8080	8270	D&G	8010	TPH & BTEX	TPH-D	Other Metals	
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION								
NW side TANK	12-18	13:45		X	NW side of TANK	X	X	X	X	X	X		
	12-18	14:15		X	Greenhouse	X							
<p>SAMPLERS: (Signature) Lisa A. Polon</p> <p>Rush - verbals by 12/21/89</p> <p>CAUTION</p> <p>Suspect "heavy oil"</p> <p>Contamination!</p> <p>← Do 8080 only</p>													
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)			
Lisa A. Polon		12-18-89 15:30											
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					
				Debra L. Taylor		12-18-89 3:36							