Analytic & Biological
Laboratories, Inc.

24350 INDOPLEX CIRCLE ■ FARMINGTON HILLS, MICHIGAN 48331 ■ PHONE: (313) 477-6666 ■ FAX: (313) 477-4604

REPORT OF ANALYSIS

Date: October 3, 1989

Submitted by: PEI ASSOCIATES
11499 CHESTER RD.
CINCINNATI, OH 45246
ATTN: PAUL KEFAUVER

Analysis Requested: Nine samples submitted for chemical analysis.

Date Received: 9-18-89 & 9-21-89

Sample ID: see attached

Method of Analysis: "EPA Office of Water & Waste Management, Washington, D.C. 20460-SW-846, 1980." Test methods for Evaluating Solid Waste Physical/Chemical Methods. (Waste)

Results: see attached

ANALYTIC AND BIOLOGICAL LABORATORIES, INC.

Francis B. McLaughlin, FAIC
Director of Laboratories

cc: files

Analytic & Biological
Laboratories, Inc.

24350 INDOPLEX CIRCLE ■ FARMINGTON HILLS, MICHIGAN 48331 ■ PHONE: (313) 477-6666 ■ FAX: (313) 477-4604

SAMPLE NO: 30273

PEI ASSOCIATES
11499 CHESTER RD
CINCINNATI, OH 45246

MR. KEFAUVER

SAMPLE DESCRIPTION: P-106

RECEIVED
09-25-89

WATER SAMPLE

PCB Oil Analysis	<1.0	ppm

CHAIN OF CUSTODY RECORD

HAZTECH
5000 ANGOLA RD.
TOLEDO, OH 43615
(419) 389-0150

PROJ. NO.:

PROJECT NAME: [illegible]

SAMPLERS (Signature): [illegible]

Water/Wastewater: Gal G(ext org) · Gal G(EP) · 40 ml vial (VOA) · Gal P(BOD COD TSS) · Pt G(phenol) · Pt P(metals Hg) · Pt P(metals) · Pt P(TOC COD) · ½ gal P(CN) · ½ gal P(Cl F SO4) · Qt G(ext org EP) · 4 oz G(VOA) · Pt P(met Hg CN S)

Soil/Sed: 4 oz G · 8 oz G · 8 oz G (ext org VOA, met Hg CN) · 8 oz G(EP S FP)

Sldg/Waste

Misc.

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	REMARKS/TAG NUMBERS
1	7/18	[illegible]	X		[illegible]	1	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[illegible]	7/18 1035?		[illegible]		

Remarks: ANALYZE FOR ATTACHED PARAMETERS
< 24 HR. TURNAROUND !!
CALL WITH PARTIAL RESULTS
313-439-3431

DISTRIBUTION: Each time a sample is relinquished, the person relinquishing same shall keep bottom copy.

FORM #0013-03-86

Calibration Check Report

Title: Purgeable Organic Compounds (Method 601 and 602)
Calibrated: 890907 12:51

Check Standard Data File: >82000
Injection Time: 890925 09:48

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Chloromethane	.41950	.50857	21.23	Average	
Vinyl Chloride	.46960	.53227	13.35	Average	
Bromomethane	.72348	.81768	13.02	Average	
Chloroethane	.39419	.43089	9.31	Average	
Trichlorofluoromethane	.93840	.83565	10.95	Average	
1,1-Dichloroethene	.86945	.77705	10.63	Average	
Dichloromethane	4.68280	9.29055	98.40	Average	
t 1,2-Dichloroethene (E)	1.13869	1.03842	8.81	Average	
1,1-Dichloroethane	2.08321	2.02743	2.68	Average	
Chloroform	3.62563	2.49722	31.12	Average	
d4 1,2-Dichloroethane (SS)	1.01550	1.08938	7.28	Average	
1,2-Dichloroethane	1.23628	1.31416	6.30	Average	
1,1,1-Trichloroethane	.39486	.40091	1.53	Average	
Carbon Tetrachloride	.37687	.37452	.62	Average	
Benzene	.78874	.77508	1.73	Average	
Trichloroethene	.41754	.39026	6.53	Average	
1,2-Dichloropropane	.40039	.39577	1.15	Average	
Bromodichloromethane	.72329	.72009	.44	Average	
c 1,3-Dichloropropene (Z)	.55723	.58000	4.09	Average	(Conc=60.00)
t 1,3-Dichloropropene (E)	.34147	.39092	14.48	Average	(Conc=40.00)
1,1,2-Trichloroethane	.28776	.30481	5.93	Average	
Dibromochloromethane	.65196	.65185	.02	Average	
Bromoform	.49996	.53752	7.51	Average	
2-Chloroethyl Vinyl Ether	.12454	.15292	22.78	Average	(Conc=200.00)
d8 Toluene (SS)	1.11250	1.16903	5.08	Average	
Toluene	.71333	.67574	5.27	Average	
Tetrachloroethene	.59731	.53870	9.81	Average	
Chlorobenzene	.95090	.92903	2.30	Average	
Ethyl Benzene	.39303	.37622	4.28	Average	
1,3 & 1,4-Dimethylbenzene	.60521	.58895	2.69	Average	(Conc=100.00)
1,2-Dimethylbenzene	.53762	.51957	3.34	Average	
Styrene	.87081	.85542	1.77	Average	
4-Bromofluorobenzene (SS)	.88395	.87726	.76	Average	
1,1,2,2-Tetrachloroethane	.4671	.63531	35.98	Average	
1,3-Dichlorobenzene	.92604	.87332	5.69	Average	
1,4-Dichlorobenzene	.98903	.92303	6.67	Average	
1,2-Dichlorobenzene	.80544	.77755	3.46	Average	

RF - Response Factor from daily standard file at 50.00 ng

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

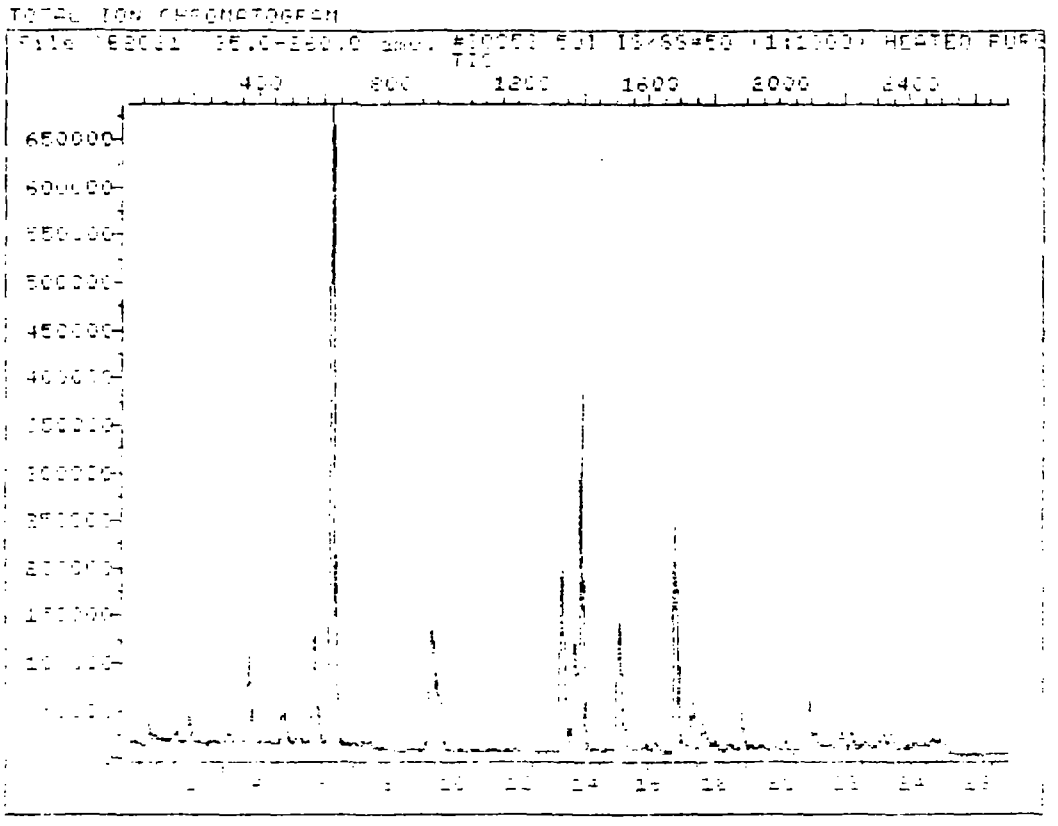
QUANT REPORT

Operator ID: MIKE Quant Rev: 6 Quant Time: 890927 09:22
Output File: ^B2031::D5 Injected at: 890927 08:54
Data File: >B2031::D2 Dilution Factor: 1.00000
Name: #30053 5ul IS/SS=50
Misc: (1:1000) HEATED PURGE PEI 9-8 POOL

ID File: SOLV1::D3
Title: Solvent Scan and TCLP Compounds (W/O High LOD Compounds)
Last Calibration: 890926 10:04

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	3.79	369	144469	50.00	ng	51
3)	2-Propanol (isoPropanol)	1.51	140	23748	55.76	ng	100
10)	1-Butanol	5.27	519	24713	352.18	ng	74
11)	d4 1,2-Dichloroethane (SS)	4.83	474	169517	55.82	ng	94
2)	*1,4-Difluorobenzene	5.77	569	504661	50.00	ng	95
13)	2-Butanone (MEK)	3.19	309	73408	39.70	ng	96
16)	Trichloroethene	6.32	624	962910	277.97	ng	99
17)	*d5 Chlorobenzene	13.34	1332	502955	50.00	ng	96
20)	d8 Toluene (SS)	9.36	931	539410	47.04	ng	92
21)	Toluene	9.59	954	128062	19.52	ng	80
25)	Ethyl Benzene	13.72	1370	118112	24.65	ng	99
26)	1,3 & 1,4-Dimethylbenzene	13.92	1390	509894	94.65	ng	92
27)	1,2-Dimethylbenzene	15.08	1507	176436	51.26	ng	75
28)	4-Bromofluorobenzene (SS)	16.83	1683	428382	51.08	ng	82

* Compound is ISTD



Data File: >B2031::D5 Quant Output File: ^B2031::D5
Name: #30053 Sul IS/SS=50
Misc: (1:1000) HEATED PURGE PEI 9-8 POOL

Id File: SOLV1::D1
Title: Solvent Scan and TCLP Compounds (W/O High LOD Compounds)
Last Calibration: 890926 10:04

Operator ID: MIKE
Quant Time: 890927 09:22
Injected at: 890927 08:54

ANALYTIC AND BIOLOGICAL LABORATORIES, INC.
24350 INDOPLEX CIRCLE
FARMINGTON HILLS, MI 48331

G C / M S Q U A L I T Y A S S U R A N C E R E P O R T

Operator	Michael J. Gilbert
Analysis Date/Time	9/27/89 8:54
Data File Name	>B2031::D2
Calibration File Name	SOLV1 ::D3

Internal Standard Check

Internal Standard	Retention Time Actual	Retention Time ID File	Sample Area	IDFile Area	Area,%
*Bromochloromethane	3.785	3.810	144469	133885	107.91
*1,4-Difluorobenzene	5.772	5.834	504661	484976	104.06
*d5 Chlorobenzene	13.344	13.375	502955	407970	123.28

The areas of the internal standards should be at least 60% of the calibration ID file areas.

Surrogate Standard Recovery

Surrogate Standard	Sample Conc.	File Conc.	Recovery, %
d4 1,2-Dichloroethane (SS)	55.820	50.000	111.64
d8 Toluene (SS)	47.037	50.000	94.07
4-Bromofluorobenzene (SS)	51.084	50.000	102.17

Quality control limits for surrogate recovery are 75-125%

QUANT REPORT

Operator ID: MIKE Quant Rev: 6 Quant Time: 890927 09:34
Output File: ^C2031::D5 Injected at: 890927 08:54
Data File: >B2031::D2 Dilution Factor: 1.00000
Name: #30053 5ul IS/SS=50
Misc: (1:1000) HEATED PURGE PEI 9-8 POOL

ID File: VOAID1::D3
Title: Purgeable Organic Compounds (Method 601 and 602)
Last Calibration: 890925 10:35

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	3.79	369	144469	50.00	ng	59
12)	d4 1,2-Dichloroethane (SS)	4.83	474	169517	53.86	ng	93
14)	*1,4-Difluorobenzene	5.77	569	504661	50.00	ng	91
26)	*d5 Chlorobenzene	13.34	1332	502955	50.00	ng	91
28)	d8 Toluene (SS)	9.36	931	539410	45.87	ng	92
36)	4-Bromofluorobenzene (SS)	16.83	1683	428382	48.54	ng	82

* Compound is ISTD

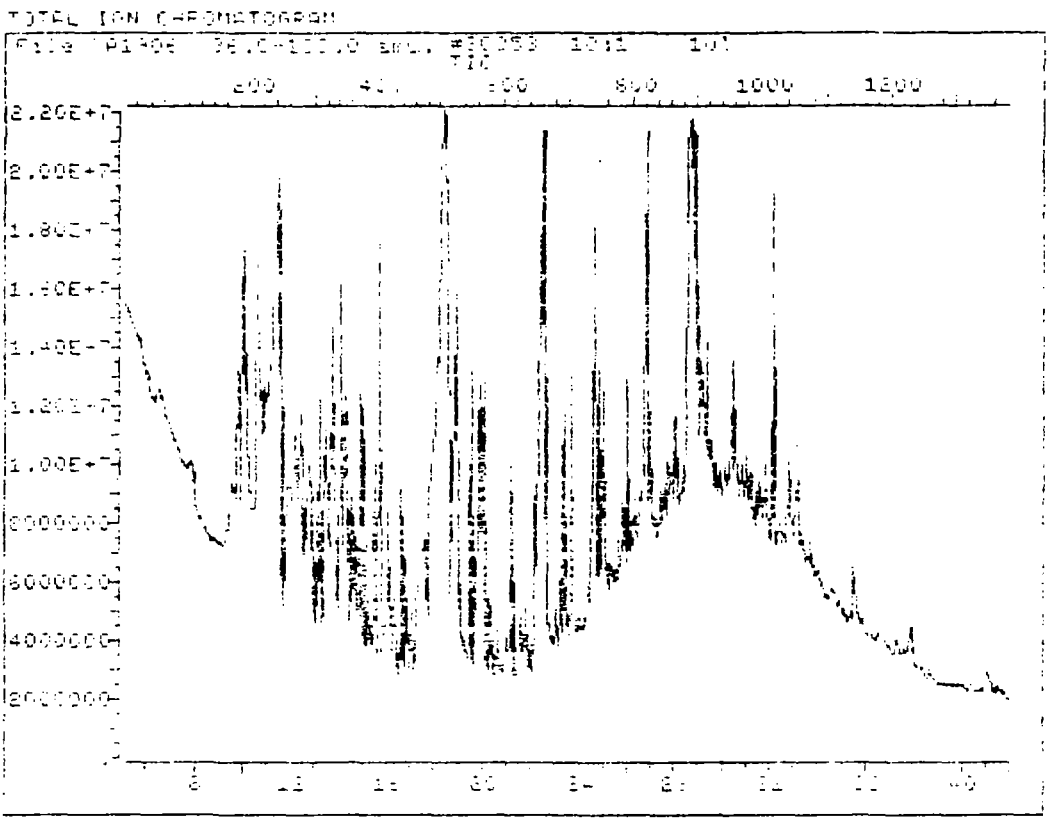
QUANT REPORT

Operator ID: SYSTEM Quant Rev: 6 Quant Time: 890927 10:58
Output File: ^A1906::D5 Injected at: 890926 09:35
Data File: >A1906::D6 Dilution Factor: 1.00000
Name: #30053 10:1 1ul
Misc:

ID File: HSLSV::D3
Title: Hazard Substance List (HSL) Semi-Volatile Extractables
Last Calibration: 890927 09:46

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	13.38	314	1843609	40.00	ng	91
2)	2-Fluorophenol (Surrogate)	10.58	207	8683994M	156.05	ng	85
3)	d5-Phenol (Surrogate)	13.46	317	12364168	197.68	ng	54
4)	Phenol	13.49	318	5464849	62.75	ng	71
11)	Benzyl Alcohol	14.25	347	862014	17.64	ng	78
12)	2-Methylphenol	14.25	347	862014	11.49	ng	83
16)	d5-Nitrobenzene (Surrogate)	14.93	373	8514892	96.22	ng	68
18)	Isophorone	15.70	402	27513032	104.64	ng	96
25)	*d8-Naphthylene	16.62	437	7819246	40.00	ng	50
29)	2-Fluorobiphenyl (Surrogate)	19.51	547	10397984	77.38	ng	38
40)	*d10-Acenaphthene	21.13	608	4190942	40.00	ng	80
43)	2,4-Dinitrophenol	24.38	730	72810	21.98	ng	100
53)	2,4,6-Tribromophenol (Surr.)	23.34	691	5371024	217.69	ng	84
56)	Pentachlorophenol	24.79	745	223301	14.68	ng	96
57)	*d10-Phenanthrene	24.95	751	7285503	40.00	ng	52
63)	d14-p-Terphenyl (Surrogate)	29.15	907	8936292	73.76	ng	39
66)	*d12-Chrysene	31.76	1003	4684348	40.00	ng	93
74)	*d12-Perylene	35.49	1140	5120569	40.00	ng	99

* Compound is ISTD



Data File: ^A1906::D6 Quant Output File: ^A1906::D5
Name: #30053 10:1 1ul
Misc:

Id File: HSLSV::D3
Title: Hazard Substance List (HSL) Semi-Volatile Extractables
Last Calibration: 890927 09:46

Operator ID: SYSTEM
Quant Time: 890927 10:59
Injected at: 890926 09:35

ANALYTIC AND BIOLOGICAL LABORATORIES, INC.
24350 INDOPLEX CIRCLE
FARMINGTON HILLS, MI 48331

G C / M S Q U A L I T Y A S S U R A N C E R E P O R T

Operator	Michael J. Gilbert
Analysis Date/Time	9/26/89 9:35
Data File Name	>A1906::D6
Calibration File Name	HSLSV ::D3

Internal Standard Check

Internal Standard	Retention Time Actual	Retention Time ID File	Sample Area	ID File Area	Area,%
*d4-1,4-Dichlorobenzene	13.385	13.374	1843609	1348709	136.69
*d8-Naphthylene	16.616	16.617	7819246	5487783	142.48
*d10-Acenaphthene	21.131	21.123	4190942	3350534	125.08
*d10-Phenanthrene	24.948	24.900	7285503	5771272	126.24
*d12-Chrysene	31.761	31.730	4684348	3567801	131.30
*d12-Perylene	35.487	35.438	5120569	3721966	137.58

The areas of internal standards should be at least 60% of calibration ID file areas.

Surrogate Standard Recovery

Surrogate Standard	Sample Conc.	File Conc.	Recovery, %
2-Fluorophenol (Surrogate)	156.053	200.000	78.03
d5-Phenol (Surrogate)	197.678	200.000	98.84
d5-Nitrobenzene (Surrogate)	96.218	100.000	96.22
2-Fluorobiphenyl (Surrogate)	77.380	100.000	77.38
2,4,6-Tribromophenol (Surr.)	217.688	200.000	108.84
d14-p-Terphenyl (Surrogate)	73.757	100.000	73.76

Limits Control Limits for surrogate recovery are 50-200%

QUANT REPORT

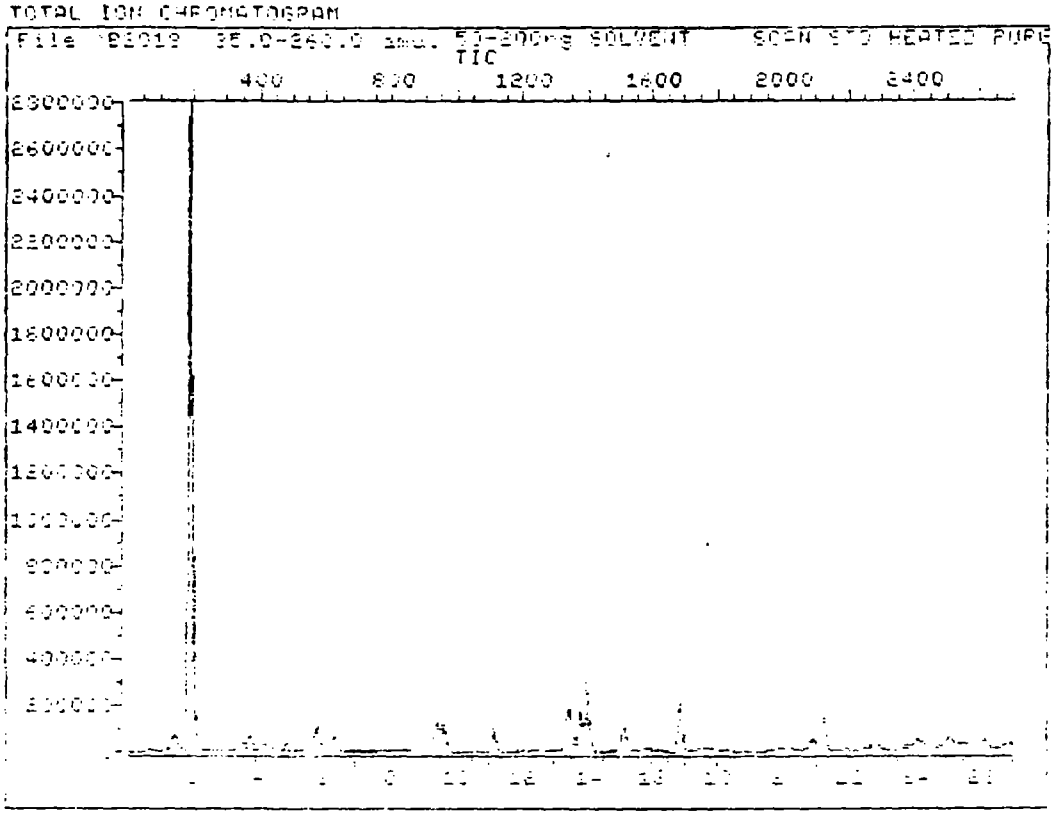
Operator ID: MIKE Quant Rev: 6 Quant Time: 890926 10:04
Output File: ^B2018::D5 Injected at: 890926 09:18
Data File: >B2018::D2 Dilution Factor: 1.00000
Name: 50-200ng SOLVENT
Misc: SCAN STD HEATED PURGE IS/SS=50

ID File: SOLV1::D3
Title: Solvent Scan and TCLP Compounds (W/O High LOD Compounds)
Last Calibration: 890926 10:04

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	3.81	372	133885	50.00	ng	63
2)	2-Propanone (Acetone)	1.57	146	45242M	50.05	ng	100
3)	2-Propanol (isoPropanol)	1.42	131	78933	200.00	ng	100
4)	Carbon Disulfide	1.95	184	708461	200.00	ng	100
5)	Dichloromethane	1.97	186	2823771M	49.99	ng	67
6)	Diethyl Ether	1.42	131	84459	50.00	ng	84
7)	2-Methyl-1-Propanol	7.89	783	4056M	200.00	ng	89
8)	Trichlorotrifluoroethane	1.54	143	293630	50.00	ng	99
9)	Ethyl Acetate	3.47	338	474365	200.00	ng	87
10)	1-Butanol	5.33	525	13006	200.00	ng	99
11)	d4 1,2-Dichloroethane (SS)	4.86	478	140718	50.00	ng	98
12)	*1,4-Difluorobenzene	5.83	576	484976	50.00	ng	96
13)	2-Butanone (MEK)	3.22	312	88857	50.00	ng	98
14)	1,1,1-Trichloroethane	4.18	409	201565	50.00	ng	87
15)	Carbon Tetrachloride	4.57	449	191141M	50.00	ng	99
16)	Trichloroethene	6.33	631	166447M	50.00	ng	96
17)	*d5 Chlorobenzene	13.38	1336	407970	50.00	ng	98
18)	Pyridine	15.10	1510	26916	200.00	ng	100
19)	4-Methyl-2-Pentanone	8.74	869	119832M	50.11	ng	81
20)	d8 Toluene (SS)	9.43	938	465102	50.00	ng	90
21)	Toluene	9.61	957	266144	50.00	ng	76
22)	Tetrachloroethene	11.18	1115	229313	50.00	ng	95
23)	Cyclohexanone	16.86	1687	39476	200.00	ng	67
24)	Chlorobenzene	13.47	1346	355278	50.00	ng	81
25)	Ethyl Benzene	13.75	1374	194318	50.00	ng	96
26)	1,3 & 1,4-Dimethylbenzene	13.96	1395	436382	100.00	ng	90
27)	1,2-Dimethylbenzene	15.12	1512	139598	50.00	ng	74
28)	4-Bromofluorobenzene (SS)	16.87	1686	340110	50.00	ng	87
29)	1,3-Dichlorobenzene	21.22	2120	345749	50.00	ng	88

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >B2018::D2 Quant Output File: ^B2018::D5
Name: 50-200ng SOLVENT
Misc: SCAN STD HEATED PURGE IS/SS=50

Id File: SOLV1::D3
Title: Solvent Scan and TCLP Compounds (W/O High LOD Compounds)
Last Calibration: 890926 10:04

Operator ID: MIKE
Quant Time: 890926 10:04
Injected at: 890926 09:18

QUANT REPORT

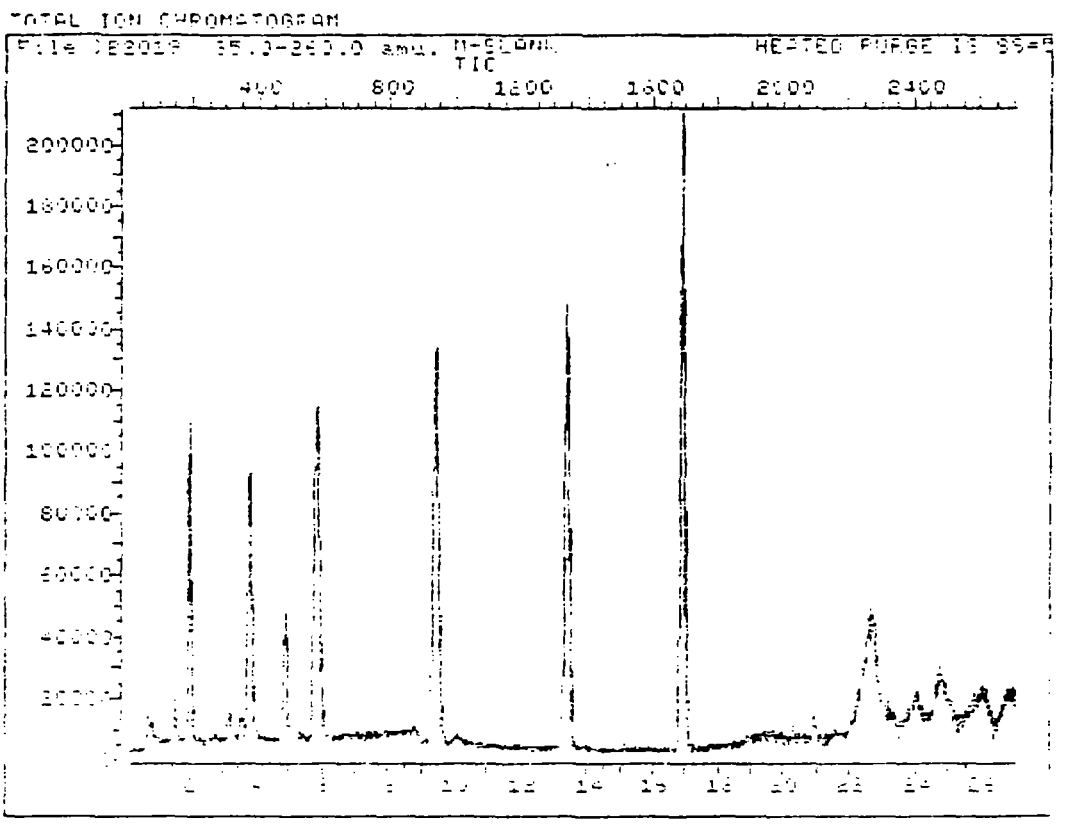
Operator ID: MIKE
Output File: ^B2019::D5
Data File: >B2019::D2
Name: M-BLANK
Misc: HEATED PURGE IS/SS=50

Quant Rev: 6 Quant Time: 890926 10:46
Injected at: 890926 10:15
Dilution Factor: 1.00000

ID File: SOLV1::D3
Title: Solvent Scan and TCLP Compounds (W/O High LOD Compounds)
Last Calibration: 890926 10:04

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	3.81	372	145470	50.00	ng	68
2)	2-Propanone (Acetone)	1.57	146	49159	50.05	ng	100
11)	d4 1,2-Dichloroethane (SS)	4.87	479	167276	54.70	ng	96
?)	*1,4-Difluorobenzene	5.85	577	493175M	50.00	ng	96
)	2-Butanone (MEK)	3.22	312	51405	28.44	ng	96
17)	*d5 Chlorobenzene	13.39	1337	416971	50.00	ng	98
20)	d8 Toluene (SS)	9.41	936	484548	50.97	ng	91
28)	4-Bromofluorobenzene (SS)	16.88	1689	349696	50.30	ng	82

* Compound is ISTD



Data File: >B2019::D2 Quant Output File: ^B2019::D5
Name: M-BLANK
Misc: HEATED PURGE IS/SS=50

Id File: SOLV1::D3
Title: Solvent Scan and TCLP Compounds (W/O High LOD Compounds)
Last Calibration: 890926 10:04

Operator ID: MIKE
Quant Time: 890926 10:46
Injected at: 890926 10:15

ANALYTIC AND BIOLOGICAL LABORATORIES, INC.
24350 INDOPLEX CIRCLE
FARMINGTON HILLS, MI 48331

G C / M S Q U A L I T Y A S S U R A N C E R E P O R T

Operator	Michael J. Gilbert
Analysis Date/Time	9/26/89 10:15
Data File Name	>B2019::D2
Calibration File Name	SOLV1 ::D3

Internal Standard Check

Internal Standard	Retention Time Actual	Retention Time ID File	Sample Area	IDFile Area	Area,%
*Bromochloromethane	3.813	3.810	145470	133885	108.65
*1,4-Difluorobenzene	5.847	5.834	493175	484976	101.69
*d5 Chlorobenzene	13.388	13.375	416971	407970	102.21

The areas of the internal standards should be at least 60% of the calibration ID file areas.

Surrogate Standard Recovery

Surrogate Standard	Sample Conc.	File Conc.	Recovery, %
d4 1,2-Dichloroethane (SS)	54.703	50.000	109.41
d8 Toluene (SS)	50.966	50.000	101.93
4-Bromofluorobenzene (SS)	50.299	50.000	100.60

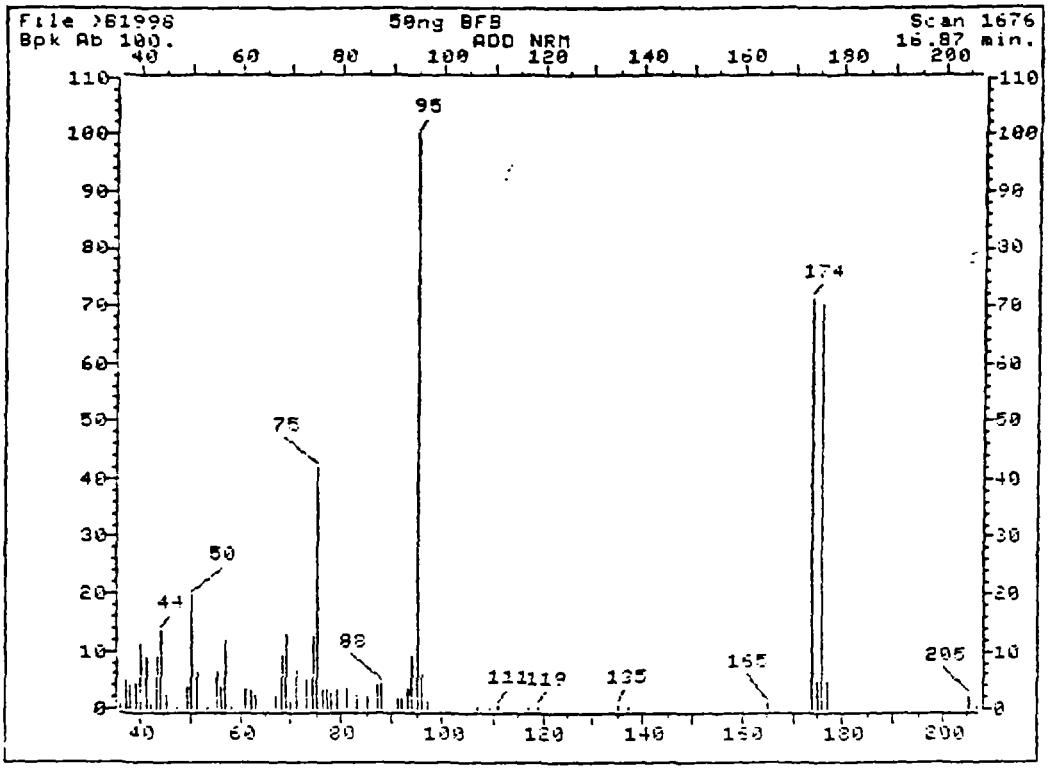
Quality control limits for surrogate recovery are 75-125%

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	19.53	19.53	Ok
75	30-60% of mass 95	41.84	41.84	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.30	6.30	Ok
173	Less than 2% of mass 174	.13	.18	Ok
174	Greater than 50% of mass 95	71.19	71.19	Ok
175	5-9% of mass 174	4.90	6.88	Ok
176	95-101% of mass 174	70.34	98.81	Ok
177	5-9% of mass 175	4.80	6.83	Ok

Injection Date: 09/25/89
Injection Time: 07:33
Data File: >B1998
Scan: 1676 +1675



>B1998 50ng BFB
1676 ADD NRM

File: >B1998 Scan #: 1676 Retn. time: 16.87

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.05	.678	51.10	6.613	70.00	1.455	88.00	4.470	117.00	.322
37.05	5.000	52.10	.233	71.10	6.920	91.00	1.648	118.00	.475
38.05	4.109	53.10	.406	73.00	5.123	92.00	1.713	135.05	.856
39.15	4.396	55.10	6.504	74.10	12.429	93.10	3.307	137.15	.535
40.05	11.256	56.20	3.921	75.10	41.842	94.00	9.108	155.05	1.044
41.05	9.019	57.10	11.756	76.10	3.510	95.10	100.000	173.05	.129
42.05	.629	58.00	.317	77.10	3.348	96.10	6.296	173.95	71.181
43.10	9.311	61.00	3.371	78.00	2.706	97.10	1.332	174.95	4.901
44.10	13.588	62.10	3.163	79.00	3.416	103.90	.198	175.95	70.345
45.10	2.317	63.10	2.455	81.00	3.482	107.20	.431	176.95	4.902
47.10	.579	67.10	2.104	83.10	2.331	109.10	.528	205.15	2.119
49.10	3.935	68.10	5.108	85.10	2.005	111.10	.728	206.95	.371
50.10	19.528	69.10	13.048	87.00	4.109				

QUANT REPORT

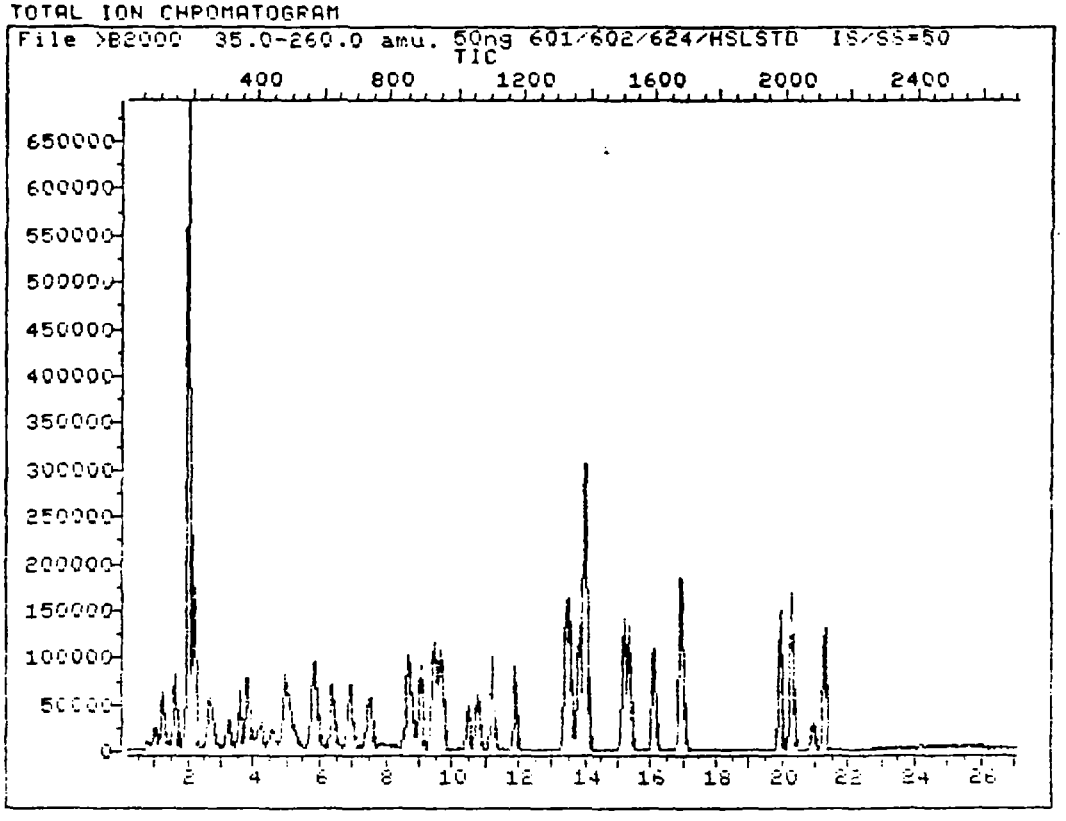
Operator ID: MIKE Quant Rev: 6 Quant Time: 890925 10:36
Output File: ^B2000::D5 Injected at: 890925 09:48
Data File: >B2000::D1 Dilution Factor: 1.00000
Name: 50ng 601/602/624/HSL
Misc: STD IS/SS=50

ID File: VOAID1::D3
Title: Purgeable Organic Compounds (Method 601 and 602)
Last Calibration: 890925 10:35

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	3.81	367	120308	50.00	ng	68
2)	Chloromethane	1.00	84	61185	50.00	ng	92
3)	Vinyl Chloride	1.05	89	64036	50.00	ng	79
4)	Bromomethane	1.20	104	98374	50.00	ng	91
5)	Chloroethane	1.20	104	51840	50.00	ng	84
6)	Trichlorofluoromethane	1.29	113	100535	50.00	ng	95
7)	1,1-Dichloroethene	1.61	146	93485	50.00	ng	97
8)	Dichloromethane	1.98	183	1117728	50.00	ng	95
9)	t 1,2-Dichloroethene (E)	2.18	203	124930	50.00	ng	95
10)	1,1-Dichloroethane	2.61	246	243916	50.00	ng	93
11)	Chloroform	3.56	342	300436	50.00	ng	89
12)	d4 1,2-Dichloroethane (SS)	4.85	472	131061	50.00	ng	99
13)	1,2-Dichloroethane	5.06	493	158104	50.00	ng	82
14)	*1,4-Difluorobenzene	5.83	571	435689M	50.00	ng	90
15)	1,1,1-Trichloroethane	4.13	400	174665M	50.00	ng	98
16)	Carbon Tetrachloride	4.57	444	163173M	50.00	ng	97
17)	Benzene	4.96	483	337692	50.00	ng	100
18)	Trichloroethene	6.38	626	170034	50.00	ng	96
19)	1,2-Dichloropropane	6.89	678	172433	50.00	ng	69
20)	Bromodichloromethane	7.48	737	313735	50.00	ng	95
21)	c 1,3-Dichloropropene (Z)	9.01	885	303238	60.00	ng	87
2)	t 1,3-Dichloropropene (E)	10.45	1029	136256	40.00	ng	93
23)	1,1,2-Trichloroethane	10.75	1060	132801	50.00	ng	97
24)	Dibromochloromethane	11.87	1173	284006	50.00	ng	90
25)	Bromoform	16.09	1598	234193	50.00	ng	89
26)	*d5 Chlorobenzene	13.40	1327	357273	50.00	ng	95
27)	2-Chloroethyl Vinyl Ether	8.67	850	218532	200.00	ng	86
28)	d8 Toluene (SS)	9.42	926	417663	50.00	ng	89
29)	Toluene	9.62	946	241425	50.00	ng	78
30)	Tetrachloroethene	11.19	1104	192462	50.00	ng	92
31)	Chlorobenzene	13.51	1338	331916	50.00	ng	80
32)	Ethyl Benzene	13.78	1365	134412	50.00	ng	87
33)	1,3 & 1,4-Dimethylbenzene	13.98	1385	420830	100.00	ng	76
34)	1,2-Dimethylbenzene	15.14	1502	185664	50.00	ng	79
35)	Styrene	15.33	1521	305617	50.00	ng	84
36)	4-Bromofluorobenzene (SS)	16.90	1680	313422	50.00	ng	80
37)	1,1,2,2-Tetrachloroethane	16.97	1687	226982	50.00	ng	91
38)	1,3-Dichlorobenzene	19.92	1984	312013	50.00	ng	85
39)	1,4-Dichlorobenzene	20.27	2020	329773	50.00	ng	86
40)	1,2-Dichlorobenzene	21.25	2118	277797	50.00	ng	87

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >B2000::D1 Quant Output File: ^B2000::D5
Name: 50ng 601/602/624/HSL
Misc: STD IS/SS=50

Id File: VOAID1::D3
Title: Purgeable Organic Compounds (Method 601 and 602)
Last Calibration: 890925 10:35

Operator ID: MIKE
Quant Time: 890925 10:36
Injected at: 890925 09:48

QUANT REPORT

Operator ID: MIKE
Output File: ^B2001::D5
Data File: >B2001::D1
Name: M-BLANK
Misc: IS/SS=50

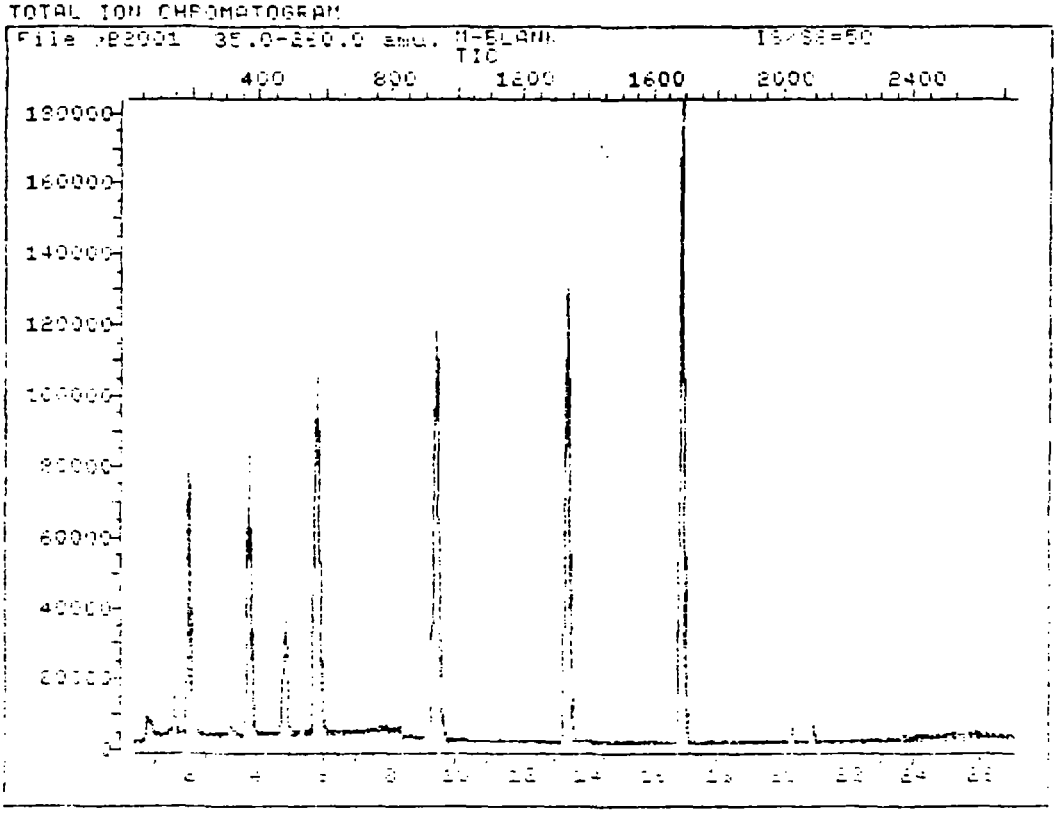
Quant Rev: 6 Quant Time: 890925 11:21
Injected at: 890925 10:48
Dilution Factor: 1.00000

ID File: VOAID1::D3
Title: Purgeable Organic Compounds (Method 601 and 602)
Last Calibration: 890925 10:35

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	3.80	370	127288	50.00	ng	71
12)	d4 1,2-Dichloroethane (SS)	4.86	476	137211	49.48	ng	98
14)	*1,4-Difluorobenzene	5.83	574	451202	50.00	ng	91
26)	*d5 Chlorobenzene	13.39	1336	370409	50.00	ng	96
8)	d8 Toluene (SS)	9.42	936	428133	49.44	ng	95
36)	4-Bromofluorobenzene (SS)	16.88	1688	300379	46.22	ng	87

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >B2001::D1 Quant Output File: ^B2001::D5
Name: M-BLANK
Misc: IS/SS=50

Id File: VOAID1::D3
Title: Purgeable Organic Compounds (Method 601 and 602)
Last Calibration: 890925 10:35

Operator ID: MIKE
Quant Time: 890925 11:21
Injected at: 890925 10:48

Analytic & Biological
Laboratories, Inc.

24350 INDOPLEX CIRCLE ■ FARMINGTON HILLS, MICHIGAN 48331 ■ PHONE: (313) 477-6666 ■ FAX: (313) 477-4604

SAMPLE NO: 30053

PEI ASSOCIATES
11499 CHESTER RD
CINCINNATI, OH 45246

MR. KEFAUVER

SAMPLE DESCRIPTION: POOL WATER 9-8-89

RECEIVED
09-18-89

Acetone	<10	ppm
n-Butyl Alcohol	352	ppm
Carbon disulfide	<10	ppm
Carbon tetrachloride	<10	ppm
Chlorobenzene	<10	ppm
Cyclohaxanone	<10	ppm
1,2 - Dichlorobenzene	<10	ppm
Ethyl acetate	<10	ppm
Ethylbenzene	25	ppm
Ethyl ether	<10	ppm
Isobutanol	<10	ppm
Methanol	<10	ppm
Methylene chloride	<10	ppm
Methyl ethyl ketone	40	ppm
Methyl isobutyl ketone	<10	ppm
Pyridine	<10	ppm
Tetrachloroethylene	<10	ppm
Toluene	20	ppm
1,1,1 - Trichloroethane	<10	ppm
1,1,2-Trichloro-1,2,2-trifluoroethane	<10	ppm

Analytic & Biological
Laboratories, Inc.

24350 INDOPLEX CIRCLE ■ FARMINGTON HILLS, MICHIGAN 48331 ■ PHONE: (313) 477-6666 ■ FAX: (313) 477-4604

SAMPLE NO: 30053

PEI ASSOCIATES
11499 CHESTER RD
CINCINNATI, OH 45246

MR. KEFAUVER

SAMPLE DESCRIPTION: POOL WATER 9-8-89

RECEIVED
09-18-89

Trichloroethylene	278	ppm
Trichlorofluoromethane	<10	ppm
Xylene	146	ppm
TOTAL MICHIGAN METALS	.	
Arsenic	<0.200	ppm
Barium	26.44	ppm
Cadmium	0.180	ppm
Chromium	12.92	ppm
Copper	1.88	ppm
Lead	25	ppm
Mercury	<0.10	ppm
Selenium	<0.30	ppm
Silver	<0.200	ppm
Zinc	24.08	ppm
Nickel	0.684	ppm
Ash 600 C	1.55	%
Nickel	Eptox 0.212	ppm
Cyanide, Free	0.27	ppm
Cyanide, Total	0.95	ppm
Total Halogen Scan	500	ppm
Nitrogen, Organic	188.7	ppm

Analytic & Biological
Laboratories, Inc.

24350 INDOPLEX CIRCLE ■ FARMINGTON HILLS, MICHIGAN 48331 ■ PHONE: (313) 477-6666 ■ FAX: (313) 477-4604

SAMPLE NO: 30053

PEI ASSOCIATES
11499 CHESTER RD
CINCINNATI, OH 45246

MR. KEFAUVER

SAMPLE DESCRIPTION: POOL WATER 9-8-89

RECEIVED
09-18-89

pH	7.66	units
Phenols	10.2	ppm
Solids, Total	3.52	%
Sulfide	50	ppm
Sulfur	96.7	ppm
Total Organic Carbon	6,011	ppm
Water	96.48	ppm

VOLATILES	LEVEL OF DETECTION <10 ppm
Acrolein	None Detected
Acrylonitrile	None Detected
Benzene	None Detected
Bis (Chloromethyl) Ether	None Detected
Bromoform	None Detected
Carbon Tetrachloride	None Detected
Clorobenzene	None Detected
Clorodibromomethane	None Detected
Chloroethane	None Detected
2-Chloroethylvinyl Ether	None Detected
Chloroform	None Detected
Dichlorobromomethane	None Detected
Dichlorodiflouromethane	None Detected

Analytic & Biological
Laboratories, Inc.

24350 INDOPLEX CIRCLE ■ FARMINGTON HILLS, MICHIGAN 48331 ■ PHONE: (313) 477-6666 ■ FAX: (313) 477-4604

SAMPLE NO: 30053

PEI ASSOCIATES
11499 CHESTER RD
CINCINNATI, OH 45246

MR. KEFAUVER

SAMPLE DESCRIPTION: POOL WATER 9-8-89

RECEIVED
09-18-89

1,1-Dichloroethane	None Detected	
1,2-Dichloroethane	None Detected	
1,1-Dichloroethylene	None Detected	
1,2-Dichloropropane	None Detected	
1,2-Dichloroepylene	None Detected	
Ethylbenzene	25	ppm
Methyl Bromide	None Detected	
Methylene Chloride	None Detected	
1,1,2,2 Tetrachloroethane	None Detected	
Tetrachloroethene	None Detected	
Toluene	20	ppm
1,2-Trans-dichloroethylene	None Detected	
1,1,1-Trichloroethane	None Detected	
1,1,2-Trichloroethane	None Detected	
Trichloroethene	None Detected	
Trichlorofluoromethane	None Detected	
Vinyl Chloride	None Detected	

METALS .

Analytic & Biological
Laboratories, Inc.

24350 INDOPLEX CIRCLE ■ FARMINGTON HILLS, MICHIGAN 48331 ■ PHONE: (313) 477-6666 ■ FAX: (313) 477-4604

SAMPLE NO: 30053

PEI ASSOCIATES
11499 CHESTER RD
CINCINNATI, OH 45246

MR. KEFAUVER

SAMPLE DESCRIPTION: POOL WATER 9-8-89

RECEIVED
09-18-89

Arsenic	<0.050	ppm
Barium	1.95	ppm
Cadmium	0.014	ppm
Copper	0.068	ppm
Chromium	1.66	ppm
Cyanide	<0.2	ppm
Lead	5.71	ppm
Mercury	<0.025	ppm
Selenium	<0.075	ppm
Silver	<0.050	ppm
Zinc	9.32	ppm
PCB Water Analysis	<1.0	ppm

SEMIVOLATILES COMPOUNDS

PCB	LEVEL OF DETECTION < 1 ppm
PESTICIDES (p) LOD	LEVEL OF DETECTION < 1 ppm
ALL OTHER COMPOUND	LEVEL OF DETECTION < 1 ppm

Acenaphthene	None Detected
Acenaphthene-d 10 (I.S.)	None Detected
Acenaphthylene	None Detected
Acetophenone	None Detected
Aldrin (p)	None Detected
Aniline	None Detected
Anthracene	None Detected
4-Aminobiphenyl	None Detected

Analytic & Biological
Laboratories, Inc.

24350 INDOPLEX CIRCLE ■ FARMINGTON HILLS, MICHIGAN 48331 ■ PHONE: (313) 477-6666 ■ FAX: (313) 477-4604

SAMPLE NO: 30053

PEI ASSOCIATES
11499 CHESTER RD
CINCINNATI, OH 45246

MR. KEFAUVER

SAMPLE DESCRIPTION: POOL WATER 9-8-89

RECEIVED
09-18-89

Aroclor-1016 (p)	None Detected	
Aroclor-1221 (p)	None Detected	
Aroclor-1232 (p)	None Detected	
Aroclor-1242 (p)	None Detected	
Aroclor-1248 (p)	None Detected	
Aroclor-1254 (p)	None Detected	
Aroclor-1260 (p)	None Detected	
Benzidine	None Detected	
Benzoic Acid	None Detected	
Benzo (a) anthracene	None Detected	
Benzo (b) fluoranthene	None Detected	
Benzo (k) fluoranthene	None Detected	
Benzo (g,h,i) perylene	None Detected	
Benzo (a) pyrene	None Detected	
Benzyl alcohol	1.7	ppm
a-BHC (p)	None Detected	
b-BHC (p)	None Detected	
g-BHC (p)	None Detected	
BHC (Lindane) (p)	None Detected	
Bis (2-chloroethox)methane	None Detected	
Bis (2-chlorothyl) ether	None Detected	

Analytic & Biological
Laboratories, Inc.

24350 INDOPLEX CIRCLE ■ FARMINGTON HILLS, MICHIGAN 48331 ■ PHONE: (313) 477-6666 ■ FAX: (313) 477-4604

SAMPLE NO: 30053

PEI ASSOCIATES
11499 CHESTER RD
CINCINNATI, OH 45246

MR. KEFAUVER

SAMPLE DESCRIPTION: POOL WATER 9-8-89

RECEIVED
09-18-89

Bis(2chloroisopropyl)ether	None Detected
Bis(2-ethylhexyl)phthalate	None Detected
4-Bromophenyl phenyl ether	None Detected
Butyl benzyl phthalate	None Detected
Chlordane (p)	None Detected
4-Chloroaniline	None Detected
1-Chloronaphthalene	None Detected
2-Chloronaphthalene	None Detected
4-Chloro-3-methylphenol	None Detected
2-Chlorophenol	None Detected
4-Chlorophenyl phenylether	None Detected
Chrysene	None Detected
Chrysene-d 12 (I.S.)	None Detected
4,4' -DDD (p)	None Detected
4,4' -DDE (p)	None Detected
4,4' -DDT (p)	None Detected
Dibenz (a,j) acridine	None Detected
Dibenz (a,h) anthracene	None Detected
Dibenzofuran	None Detected
Di-n-butylphthalate	None Detected
1,3-Dichlorobenzene	None Detected

Analytic & Biological
Laboratories, Inc.

24350 INDOPLEX CIRCLE ■ FARMINGTON HILLS, MICHIGAN 48331 ■ PHONE: (313) 477-6666 ■ FAX: (313) 477-4604

SAMPLE NO: 30053

PEI ASSOCIATES
11499 CHESTER RD
CINCINNATI, OH 45246

MR. KEFAUVER

SAMPLE DESCRIPTION: POOL WATER 9-8-89

RECEIVED
09-18-89

1,4-Dichlorobenzene	None Detected	
1,4-Dichlorobenzene-d 4	None Detected	
1,2-Dichlorobenzene	None Detected	
3,3-Dichlorobenzidine	None Detected	
2,4-Dichlorophenol	None Detected	
2,6-Dichlorophenol	None Detected	
Dieldrin (p)	None Detected	
Diethylphthalate	None Detected	
p-Dimethylaminoazobenzene	None Detected	
7,12-Dimethylbenz(a)anthra	None Detected	
a-a-Dimethylphenethylamine	None Detected	
2,4-Dimethylphenol	None Detected	
Dimethylphthalate	None Detected	
4,6-Dinitro-2-methylphenol	None Detected	
2,4-Dinitrophenol	2.2	ppm
2,4-Dinitrotoluene	None Detected	
2,6-Dinitrotoluene	None Detected	
Diphenylamine	None Detected	
1,2-Diphenylhydrazine	None Detected	
Di-n-octylphthalate	None Detected	
Endosulfan I (p)	None Detected	

Analytic & Biological
Laboratories, Inc.

24350 INDOPLEX CIRCLE ■ FARMINGTON HILLS, MICHIGAN 48331 ■ PHONE: (313) 477-6666 ■ FAX: (313) 477-4604

SAMPLE NO: 30053

PEI ASSOCIATES
11499 CHESTER RD
CINCINNATI, OH 45246

MR. KEFAUVER

SAMPLE DESCRIPTION: POOL WATER 9-8-89

RECEIVED
09-18-89

Endosulfan II (p)	None Detected	
Endosulfan sulfate (p)	None Detected	
Endrin (p)	None Detected	
Endrin aldehyde (p)	None Detected	
Endrin ketone (p)	None Detected	
Ethyl methanesulfonate	None Detected	
Fluoranthene	None Detected	
Fluorene	None Detected	
2-Fluorobiphenyl (surr.)	None Detected	
2-Fluorophenol (surr.)	None Detected	
Heptachlor (p)	None Detected	
Heptachlor epoxide (p)	None Detected	
Hexachlorobenzene	None Detected	
Hexachlorobutadiene	None Detected	
Hexachlorocyclopentadiene	None Detected	
Hexachloroethane	None Detected	
Indene(1,2,3-cd)pyrene	None Detected	
Isophorone	10.4	ppm
Methoxychlor (p)	None Detected	
3-Methyl methanesulfonate	None Detected	
Methyl methanesulfonate	None Detected	

Analytic & Biological
Laboratories, Inc.

24350 INDOPLEX CIRCLE ■ FARMINGTON HILLS, MICHIGAN 48331 ■ PHONE: (313) 477-6666 ■ FAX: (313) 477-4604

SAMPLE NO: 30053

PEI ASSOCIATES
11499 CHESTER RD
CINCINNATI, OH 45246

MR. KEFAUVER

SAMPLE DESCRIPTION: POOL WATER 9-8-89

RECEIVED
09-18-89

2-Methylnaphthalene	None Detected	
2-Methylphenol	1.1	ppm
4-Methylphenol	None Detected	
Naphthalene	None Detected	
Nephthalene-d 8 (I.S.)	None Detected	
1-Naphthylamine	None Detected	
2-Naphthylamine	None Detected	
2-Nitroaniline	None Detected	
3-Nitroaniline	None Detected	
4-Nitroaniline	None Detected	
Nitrobenzene	None Detected	
Nitrobenzene-d 5 (surr.)	None Detected	
2-Nitrophenol	None Detected	
4-Nitrophenol	None Detected	
N-Nitroso-di-n-butylamine	None Detected	
N-Nitrosodimethylamine	None Detected	
N-Nitrosodiphenylamine	None Detected	
N-Nitroso-di-N-propylamine	None Detected	
N-Nitrosopiperidine	None Detected	
Pentachlorobenzene	None Detected	
Pentachloronitrobenzene	None Detected	

Analytic & Biological
Laboratories, Inc.

24350 INDOPLEX CIRCLE ■ FARMINGTON HILLS, MICHIGAN 48331 ■ PHONE: (313) 477-6666 ■ FAX: (313) 477-4604

SAMPLE NO: 30053

PEI ASSOCIATES
11499 CHESTER RD
CINCINNATI, OH 45246

MR. KEFAUVER

SAMPLE DESCRIPTION: POOL WATER 9-8-89

RECEIVED
09-18-89

Pentachlorophenol	1.5	ppm
Perylene-d 12 (I.S.)	None Detected	
Phenacetin	None Detected	
Phenanthrene	None Detected	
Phenanthrene-d 10 (I.S.)	None Detected	
Phenol	6.3	ppm
Phenol-d 6 (surr.)	None Detected	
2-Picoline	None Detected	
Pronamide	None Detected	
Pyrene	None Detected	
Terphenyl-d 14 (surr.)	None Detected	
1,2,4,5-Tetrachlorobenzene	None Detected	
2,3,4,6-Tetrachlorophenol	None Detected	
2,4,6-Tribromophenol(surr)	None Detected	
1,2,4-Trichlorobenzene	None Detected	
2,4,5-Trichlorophenol	None Detected	
2,4,6-Trichlorophenol	None Detected	
Toxaphene (p)	None Detected	
BTU	<100 BTU	/lb
Specific Gravity	1.25	gm/ml
Flashpoint	Flash at 115 deg.	F