165042

WESTON MANAGERS DESIGNERS/CONSULTANTS
5 Underwood Court
Delran, NJ 08075
Phone: 609-461-4003
Fax: 609-461-4916

TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-WO-0036

MEMORANDUM

TO: Mike Towle, OSC, EPA Region III
Western Response Section

TDD #9302-23
PCS #4361

THRU: Mike Zickler, TATL, Region III

FROM: Marian Murphy, TAT Region III

SUBJECT: Perry Phillips Landfill Samples Analytical Review

DATE: March 23, 1993

This report covers the general review of the data package for eleven (11) water samples and one (1) field blank collected at the Perry Phillips Landfill Site on March 2, 1992. The samples were delivered to Laboratory Resources in East Brunswick, NJ on March 3, 1993. The analysis requested was volatile organics (VOA) with a 1 ug/l (ppb) detection limit for all chlorinated volatiles.

ANALYTICAL METHODOLOGY

The samples were analyzed for VOAs by EPA Method 624.

- Signed chain-of-custody records were received.
- The samples met holding times for chlorinated volatiles, however, samples S2 through S12 did not meet holding times for volatile aromatic compounds. Since no volatile aromatic compounds were found in samples S2-S12, no data was qualified.
- The GC/MS tune data and internal standard data were acceptable.
- The method blanks were free of contamination.
- One surrogate spike recovery did not meet criteria, however, no compounds were detected in that sample and no data was qualified.

LABORATORY RESOURCES, INC.
INTECH BIOLABS DIVISION
158 Tices Lane East Brunswick, New Jersey 08816 (908) 257-1050 Fax (908) 257-2790

ANALYTICAL DATA REPORT
No. I303013
Project: Phillip's Landfill

prepared for: Marian Murphy

ROY F. WESTON
6 Underwood Court
Delran, NJ 08075

Attention: Marian Murphy

Date Sampled: 03/03/93

Report Date: 03/18/93

Prepared by

LABORATORY RESOURCES, INC.
INTECH DIVISION

M.R. Dawn for

Daniel Glenn
Laboratory Director

AR100061

NJDEP Certification No. 12427

LABORATORY RESOURCES, INC. INTECH ANALYTICAL REPORT NO.I303013
ROY F. WESTON

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VOLATILE WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: LRI

Sample ID: I303013-12

Sample Data File: >G0854

Spiked Sample Data File: >G0855

Spike Duplicate Data File: >G0856

COMPOUND	CONC. SPIKE ADDED ug/Kg	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	QC LIMIT RPD	QC LIMIT RECOVERY
1,1-Dichloroethene	2	ND	2	96	2	102	6	14	61-145
Trichloroethene	2	ND	2	103	2	106	3	14	71-120
Benzene	2	ND	2	101	2	102	1	11	76-127
Toluene	2	ND	2	100	2	101	1	13	76-125
Chlorobenzene	2	ND	2	94	2	96	2	13	75-130

RPD: 0 out of 5 outside limits
RECOVERY: 0 out of 10 outside limits

Comment: _____

LABORATORY
RESOURCES INC.

ANALYTICAL REPORT FOR BLANK

Lab Sample ID: VBLK QG0310
Matrix : Water
Data File: >G0843
TEST TYPE: 624-VOA

PARAMETER	RESULTS UG/ L	QUANTITATION LIMIT UG/ L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
Methylene Chloride	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
1,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

LABORATORY
RESOURCES INC.

ANALYTICAL REPORT FOR BLANK

Lab Sample ID: VBLK QG0309
Matrix : Water
Data File: >G0825
TEST TYPE: 624-VOA

PARAMETER	RESULTS UG/ L	QUANTITATION LIMIT UG/ L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
Methylene Chloride	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
1,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

VOLATILE METHOD BLANK SUMMARY

Lab Name: Laboratory Resources, Inc.

Lab Sample ID: VBLK 0G0310

Data File of Method Blank: >G0843

Instrument ID: 5995G

Date Analyzed: 930310 Time Analyzed: 15:56

Matrix: WATER

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES,MS, AND MSD:

LAB FILE ID	LAB SAMPLE ID	DATE OF ANALYSIS	TIME OF ANALYSIS
>G0848	I303013-06	930310	19:55
>G0849	I303013-07	930310	20:43
>G0850	I303013-08	930310	21:31
>G0851	I303013-09	930310	22:19
>G0852	I303013-10	930310	23:06
>G0853	I303013-11	930310	23:54
>G0854	I303013-12	930311	00:42
>G0855	I303013-12MS	930311	01:29
>G0856	I303013-12MSD	930311	02:17

COMMENTS:

VOLATILE METHOD BLANK SUMMARY

Lab Name: Laboratory Resources, Inc.

Lab Sample ID: VBLK 0G0309

Data File of Method Blank: >G0825

Instrument ID: 5995G

Date Analyzed: 930309 Time Analyzed: 18:52

Matrix: WATER

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES,MS, AND MSD:

LAB FILE ID	LAB SAMPLE ID	DATE OF ANALYSIS	TIME OF ANALYSIS
>G0831	I303013-01	930309	23:37
>G0832	I303013-02	930310	00:25
>G0833	I303013-03	930310	01:13
>G0834	I303013-04	930310	02:01
>G0835	I303013-05	930310	02:48

COMMENTS:

VOLATILE - WATER SURROGATE PERCENT RECOVERY SUMMARY

Lab Name: LRI

	SAMPLE #NO	S1 (DCE)#	S2 (TOL)#	S3 (BFB)#	TOT OUT
1	VBLK OG0309	92	95	91	0
2	I303013-01	94	93	89	0
3	I303013-02	94	97	87	0
4	I303013-03	89	95	87	0
5	I303013-04	96	95	90	0
6	I303013-05	92	98	89	0
7	VBLK OG0310	89	100	86	0
8	I303013-06	85	95	93	0
9	I303013-07	92	95	90	0
10	I303013-08	86	93	86	0
11	I303013-09	92	93	88	0
12	I303013-10	86	95	90	0
13	I303013-11	88	93	88	0
14	I303013-12	91	95	88	0
15	I303013-12MS	95	96	89	0
16	I303013-12MSD	93	94	88	0

S1 (DCE) = 1,2-Dichloroethane (76-114)
S2 (TOL) = Toluene-d8 (88-110)
S3 (BFB) = Bromofluorobenzene (86-115)

Column to be used to flag recovery values
* Values outside of QC limits

-BORATORY
OURCES INC.

ANALYTICAL REPORT NO. I303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

ab Sample ID: I303013-12MSD TEST TYPE: 624-VOA
lient Designation: S12
ata File: >G0856 QC Blank Data File: >G0843
alculation Factor: 1.00 Dilution Run: None
atrix: Water Sample Size (ml): 25.0

otal Hit(s): 30

PARAMETER	RESULTS UG /L	QUANTITATION LIMIT UG /L
Chloromethane	4	2
Bromomethane	6	2
Vinyl Chloride	5	2
Chloroethane	8	2
Methylene Chloride	15	1
,1-Dichloroethene	10	1
1,1-Dichloroethane	10	1
1,2-Dichloroethene (total)	21	1
Chloroform	10	1
1,2-Dichloroethane	10	1
1,1,1-Trichloroethane	10	1
Carbon Tetrachloride	10	1
Bromodichloromethane	9	1
1,2-Dichloropropane	9	1
trans-1,3-Dichloropropene	8	1
Trichloroethene	11	1
Benzene	10	1
cis-1,3-Dichloropropene	9	1
1,1,2-Trichloroethane	10	1
Dibromochloromethane	11	1
2-Chloroethyl vinyl ether	9	1
Bromoform	8	1
Tetrachloroethene	10	1
1,1,2,2-Tetrachloroethane	9	1
Toluene	10	1
Chlorobenzene	10	1
Ethylbenzene	10	1
1,3-Dichlorobenzene	9	1
1,2-Dichlorobenzene	8	1
1,4-Dichlorobenzene	9	1

LABORATORY
RESOURCES INC.

ANALYTICAL REPORT NO. 1303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

Lab Sample ID: 1303013-12MS
Client Designation: S12
Data File: VG0855
Calculation Factor: 1.00
Matrix: Water

TEST TYPE: 624-VOA
QC Blank Data File: VG0843
Dilution Run: None
Sample Size (ml): 25.0

Total Hit(s): 30

PARAMETER	RESULTS UG /L	QUANTITATION LIMIT UG /L
Chloromethane	6	2
Bromomethane	10	2
Vinyl Chloride	4	2
Chloroethane	9	2
Methylene Chloride	15	1
1,1-Dichloroethene	10	1
1-Dichloroethane	10	1
1,2-Dichloroethene (total)	21	1
Chloroform	10	1
1,2-Dichloroethane	10	1
1,1,1-Trichloroethane	10	1
Carbon Tetrachloride	9	1
Bromodichloromethane	9	1
1,2-Dichloropropane	9	1
trans-1,3-Dichloropropene	8	1
Trichloroethene	10	1
Benzene	10	1
cis-1,3-Dichloropropene	9	1
1,1,2-Trichloroethane	10	1
Dibromochloromethane	10	1
2-Chloroethyl vinyl ether	9	1
Bromoform	8	1
Tetrachloroethene	10	1
1,1,2,2-Tetrachloroethane	8	1
Toluene	10	1
Chlorobenzene	9	1
Ethylbenzene	10	1
1,3-Dichlorobenzene	9	1
1,2-Dichlorobenzene	7	1
1,4-Dichlorobenzene	9	1

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-BORATORY
SURCEE INC.

ANALYTICAL REPORT NO. I303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

ab Sample ID: I303013-12 TEST TYPE: 624-VOA
lient Designation: S12
ata File: >G0854 QC Blank Data File: >G0843
alculation Factor: 1.00 Dilution Run: None
atrix: Water Sample Size (ml): 25.0

otal Hit(s): 0

PARAMETER	RESULTS UG /L	QUANTITATION LIMIT UG /L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
Methylene Chloride	ND	1
,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
1,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

. JRATORY
'ESOURCES INC.

ANALYTICAL REPORT NO. I303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

.ab Sample ID: I303013-11
'lient Designation: S11
ata File: >G0853
:alculation Factor: 1.00
'atrix: Water

TEST TYPE: 624-VOA
QC Blank Data File: >G0843
Dilution Run: None
Sample Size (ml): 25.0

'otal Hit(s): 2
==========

PARAMETER	RESULTS UG /L	QUANTITATION LIMIT UG /L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
.ethylene Chloride	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
1,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	2	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	2	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
4-Dichlorobenzene	ND	1

LABORATORY
RESOURCES INC.

ANALYTICAL REPORT NO. I303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

Lab Sample ID: I303013-10
Client Designation: S10
Data File: >G0852
Calculation Factor: 1.00
Matrix: Water

TEST TYPE: 624-VOA
QC Blank Data File: >G0843
Dilution Run: None
Sample Size (ml): 25.0

Total Hit(s): 5

PARAMETER	RESULTS UG /L	QUANTITATION LIMIT UG /L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
Methylene Chloride	2	1
1,1-Dichloroethene	16	1
1,1-Dichloroethane	11	1
1,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	130	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	96	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

LABORATORY
RESOURCES INC.

ANALYTICAL REPORT NO. 1303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

Lab Sample ID: 1303013-09
Client Designation: S9
Data File: VG0851
Calculation Factor: 1.00
Matrix: Water

TEST TYPE: 624-VOA
QC Blank Data File: VG0843
Dilution Run: None
Sample Size (ml): 25.0

Total Hit(s): 1

PARAMETER	RESULTS UG /L	QUANTITATION LIMIT UG /L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
Methylene Chloride	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	2	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

LABORATORY
RESOURCES INC.

ANALYTICAL REPORT NO. I303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

Lab Sample ID: I303013-08
Client Designation: S8
Data File: >G0890
Calculation Factor: 1.00
Matrix: Water

TEST TYPE: 624-VOA
QC Blank Data File: >G0843
Dilution Run: None
Sample Size (ml): 25.0

Total Hit(s): 0

PARAMETER	RESULTS UG /L	QUANTITATION LIMIT UG /L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
Methylene Chloride	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
1,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

LABORATORY
SERVICES INC.

ANALYTICAL REPORT NO. 1303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

Lab Sample ID: 1303013-07 TEST TYPE: 624-WDA
Client Designation: S7
Data File: G0849 QC Blank Data File: >G0843
Calculation Factor: 1.00 Dilution Run: None
Matrix: Water Sample Size (ml): 25.0

Total Hit(s): 2

PARAMETER	RESULTS UG/L	QUANTITATION LIMIT UG/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
Methylene Chloride	ND	1
1-Dichloroethene	ND	1
1,1-Dichloroethane	3	1
1,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	3	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

LABORATORY
RESOURCES INC.

ANALYTICAL REPORT NO. I303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

Lab Sample ID: I303013-06
Client Designation: S6
Data File: >G0848
Calculation Factor: 1.00
Matrix: Water

TEST TYPE: 624-VOA
QC Blank Data File: >G0843
Dilution Run: None
Sample Size (ml): 25.0

Total Hit(s): 0

PARAMETER	RESULTS UG /L	QUANTITATION LIMIT UG /L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
Methylene Chloride	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
1,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

LABORATORY
RESOURCES INC.

ANALYTICAL REPORT NO. 1303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

Lab Sample ID: 1303013-05 TEST TYPE: 624-VOA
Client Designation: S5
Data File: VG0835 QC Blank Data File: VG0829
Calculation Factor: 1.00 Dilution Run: None
Matrix: Water Sample Size (ml): 25.0

Total Hit(s): 0

PARAMETER	RESULTS UG/L	QUANTITATION LIMIT UG/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
Methylene Chloride	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
1,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

LABORATORY
MIDLFORD INC.

ANALYTICAL REPORT NO. I303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

Lab Sample ID: I303013-04
Client Designation: S4
Data File: 1G0834
Calculation Factor: 1.00
Matrix: Water

TEST TYPE: 624-WQA
QC Blank Data File: 1G0825
Dilution Run: None
Sample Size (ml): 25.0

Total Hit(s): 4

PARAMETER	RESULTS UG /L	QUANTITATION LIMIT UG /L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
Methylene Chloride	ND	1
1,1-Dichloroethene	4	1
1,1-Dichloroethane	8	1
1,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	27	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	12	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

LABORATORY
RESOURCES INC.

ANALYTICAL REPORT NO. I303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

Lab Sample ID: I303013-03 TEST TYPE: 624-VOA
Client Designation: S3
Data File: G0833 QC Blank Data File: G0825
Calculation Factor: 1.00 Dilution Run: None
Matrix: Water Sample Size (ml): 25.0

Total Hit(s): 2

PARAMETER	RESULTS UG /L	QUANTITATION LIMIT UG /L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
Methylene Chloride	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
1,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	6	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	ND	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	2	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

LABORATORY
SERVICES INC.

ANALYTICAL REPORT NO. I303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

Lab Sample ID: I303013-02
Client Designation: S2
Data File: >G0832
Calculation Factor: 1.00
Matrix: Water

TEST TYPE: 624-VOA
QC Blank Data File: >G0825
Dilution Run: None
Sample Size (ml): 25.0

Total Hit(s): 9

PARAMETER	RESULTS UG /L	QUANTITATION LIMIT UG /L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
Methylene Chloride	ND	1
1,1-Dichloroethene	3	1
1,1-Dichloroethane	8	1
1,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	36	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	12	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	3	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

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LABORATORY
RESOURCES INC.

ANALYTICAL REPORT NO. I303013
ROY F. WESTON

ANALYTICAL RESULTS: VOLATILE ORGANICS

Lab Sample ID: I303013-01
Client Designation: S1
Data File: >G0831
Calculation Factor: 1.00
Matrix: Water

TEST TYPE: 624-VOA
QC Blank Data File: >G0825
Dilution Run: None
Sample Size (ml): 25.0

Total Hit(s): 6

PARAMETER	RESULTS UG /L	QUANTITATION LIMIT UG /L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl Chloride	ND	2
Chloroethane	ND	2
Methylene Chloride	ND	1
1,1-Dichloroethene	8	1
1,1-Dichloroethane	28	1
1,2-Dichloroethene (total)	ND	1
Chloroform	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	130	1
Carbon Tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
trans-1,3-Dichloropropene	ND	1
Trichloroethene	6	1
Benzene	ND	1
cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Chlorodibromomethane	ND	1
2-Chloroethyl vinyl ether	ND	1
Bromoform	ND	1
Tetrachloroethene	96	1
1,1,2,2-Tetrachloroethane	ND	1
Toluene	3	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

GC/MS SEMIVOLATILES CONFORMANCE/NONCONFORMANCE SUMMARY

		No	Yes
1.	Chromatograms Labeled/Compounds Identified	___	✓
2.	DFTPP Meets Tune Criteria	___	✓
3.	Tuning Frequency Performed every 24 hours for 600 series and 12 hours for 8000 series	___	✓
4.	Calibration Frequency Initial calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series	___	✓
5.	Calibration Requirements (8000 series only)		
	a. Calibration Check Compounds (CCCs)	___	✓
	b. System Performance Check Compounds (SPCCs)	___	✓
6.	Blank Free of Contamination If not, list compounds and concentrations in each blank:	___	✓
7.	Surrogate Recoveries Meet Criteria If not met, list number of samples with surrogates that fall outside the acceptable range:	___	✓
	_____ samples had surrogates out; see Surrogate Compound Recovery Summary _____ samples had more than one surrogate out in the same fraction		
	If not met, were the calculations checked and the results qualified as estimated?	___	NA
8.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria If not met, list number of compounds that fall outside the acceptable range:	___	✓
	_____ of _____ recoveries out; see Matrix Spike/Matrix Spike Duplicate Recovery Summary _____ of _____ RPDs out; see Matrix Spike/Matrix Spike Duplicate Summary		
9.	Internal Standard Areas and Retention Time Shifts Meet Criteria Internal standard areas between -50% and +100% of daily standard Retention time shift less than ±30 seconds compared to daily standard	___	✓
	_____ areas out; see Internal Standard Area Summary _____ retention times out; see Internal Standard Area Summary		
10.	Extraction Holding Time Met If not met, list number of days exceeded for each sample:	___	✓
11.	Analysis Holding Time Met If not met, list number of days exceeded for each sample:	___	✓

Laboratory Supervisor: _____ Date: 3/15/93 JOB

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LABORATORY RESOURCES, INC. INTECH ANALYTICAL REPORT NO.I303013
ROY F. WESTON

NONCONFORMANCE SUMMARY

There were no nonconformances encountered in the analysis of these samples.

I have reviewed this analytical report and it is compliant with all Laboratory Resources quality assurance requirements other than the conditions detailed above.

M.R. Amirsoleymani for

Mohammad Amirsoleymani
Quality Assurance Officer

3/18/93
Date

LABORATORY RESOURCES, INC. INTECH ANALYTICAL REPORT NO.I303013
ROY F. WESTON

LABORATORY CHRONICLE

Date received by laboratory: 03/03/93

Sample Number	Parameter	Extraction Date and Analyst	Analysis Date and Analyst
01	Volatiles	Not Applicable	3/09/93 SP
02	Volatiles	Not Applicable	3/10/93 SP
03	Volatiles	Not Applicable	3/10/93 SP
04	Volatiles	Not Applicable	3/10/93 SP
05	Volatiles	Not Applicable	3/10/93 SP
06	Volatiles	Not Applicable	3/10/93 SP
07	Volatiles	Not Applicable	3/10/93 SP
08	Volatiles	Not Applicable	3/10/93 SP
09	Volatiles	Not Applicable	3/10/93 SP
10	Volatiles	Not Applicable	3/10/93 SP
11	Volatiles	Not Applicable	3/10/93 SP
12	Volatiles	Not Applicable	3/10/93 SP

All analyses were performed within the required holding time.

LABORATORY RESOURCES, INC. INTECH ANALYTICAL REPORT NO.I303013
ROY F. WESTON

VOLATILE ORGANICS METHODOLOGY

Extraction and Analysis, Aqueous

Code of Federal Regulations, Title 40, Part 136, Office of the Federal Register, National Archives and Records Administration, Washington, DC 20402, Method 624, "Purgeables"; modified using EPA/CLP internal and surrogate standards.

Sample Extraction, Nonaqueous

Test Methods for Evaluating Solid Waste (SW-846), USEPA Office of Solid Waste and Emergency Response, Washington, DC 20460, 3rd Edition, November 1986, Method 5030, "Purge-and-Trap."

Analysis, Nonaqueous

Test Methods for Evaluating Solid Waste (SW-846), USEPA Office of Solid Waste and Emergency Response, Washington, DC 20460, 3rd Edition, November 1986, Method 8240, "Gas Chromatography/Mass Spectrometry for Volatile Organics."

LABORATORY DELIVERABLES

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR
ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following laboratory deliverables shall be included in the data submissi All deviations from the accepted methodology and procedures, or performance alues outside acceptable ranges shall be summarized in the Nonconformance Summary. The document shall be bound and paginated, contain a Table of Contents, and l pages shall be legible. Incomplete packages may be returned or held without review until the data package is completed.

		CHECK IF COMPLETE
I.	Cover Page, Format, and Laboratory Certification (Include Cross Reference Table of Field I.D. # and Laboratory I.D.)	✓
II.	Chain of Custody	✓
III.	Summary Sheets Listing Analytical Results Including QA Data Information (see Attached Form and ESPG Attachment 2.8.2.C)	✓
IV.	Laboratory Chronicle and Methodology Summary including Sample Holding Time Check	✓
V.	Initial Calibration and Continuing Calibration	✓
VI.	Tune Summary (MS)	✓
VII.	Blanks (Method, Field, Trip)	✓
VIII.	Surrogate Recovery Summary	✓
IX.	Chromatograms Labelled/Compound Identification	✓
X.	Nonconformance Summary	✓

M.R. Dawn for

Laboratory Manager or Environmental Consultant's Signature

3/18/93

Date

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

I303013

CHAIN OF CUSTODY RECORD

REGION 3
841 Chestnut Building
Philadelphia, Pennsylvania 19107

AR100088

PROJ. NO: 4362
PROJECT NAME: PHILLIPS LANDFILL
SAMPLERS (Signature): [illegible] Christopher [illegible]

STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA						REMARKS
S1	3/2/93	1125		✓	PHILLIPS HOUSE WELL	2	✓						-01
S2	3/2/93	1130		✓	PHILLIPS BARN	2	✓						02
S3	3/2/93	1203		✓	PHILLIPS HILL	2	✓						03
S4	3/2/93	1230		✓	BARRAGE	2	✓						04
S5	3/2/93	1255		✓	COMBS	2	✓						05
S6	3/2/93	1210		✓	JAMESON	2	✓						06
S7	3/2/93	1410		✓	PARLETT	2	✓						07
S8	3/2/93	1440		✓	MYER	2	✓						08
S9	3/2/93	1510		✓	MURRAY	2	✓						09
S10	3/2/93	1530		✓	PHILLIPS, R.	2	✓						10
S11	3/2/93	1625		✓	BOHE	2	✓						-11
S12	3/2/93	1700		✓	~~JAMEL~~ BLANK	2	✓						-12

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	3/3/93 1530	[illegible]	[illegible]	3/3/93 1530	[illegible]
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	

Distribution: Original Accompanies Shipment; Copy to Coordinator Files

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TABLE OF ABBREVIATIONS

LABORATORY RESOURCES, INC. INTECH ANALYTICAL REPORT NO.I303013
ROY F. WESTON

B	Compound detected in blank.
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes.
BTX	Benzene, Toluene, and Xylenes.
CCC	Calibration check compound.
D	Concentration calculated from analysis of diluted sample.
DI	Deionized water.
IND	Indeterminate; result cannot be adjusted for bias because spike was not recovered.
J	Indicates an estimated value.
MS	Matrix spike.
MSD	Matrix spike duplicate.
ND	Not detected.
PCB	Polychlorinated Biphenyls.
PHC	Petroleum Hydrocarbons, Total Recoverable.
RPD	Relative percent difference.
RSD	Relative standard deviation.
SPCC	System performance check compound.
SVO	Semivolatile organics.
VOA	Volatile organics analysis.

LABORATORY RESOURCES, INC. INTECH ANALYTICAL REPORT NO.I303013
ROY F. WESTON

SAMPLE IDENTIFICATION

Sample Number	Client Designation	Date Sampled	Matrix
I303013-01	S1 PHILLIPS WELL	3/2/93	Liquid
-02	S2 PHILLIPS BARN	3/2/93	Liquid
-03	S3 PHILLIPS HILL	3/2/93	Liquid
-04	S4 BARRAGE	3/2/93	Liquid
-05	S5 COMBS	3/2/93	Liquid
-06	S6 JAMESON	3/2/93	Liquid
-07	S7 PARLETT	3/2/93	Liquid
-08	S8 MYER	3/2/93	Liquid
-09	S9 MURRAY	3/2/93	Liquid
-10	S10 PHILLIPS,R.	3/2/93	Liquid
-11	S11 BOLTE	3/2/93	Liquid
-12	S12 BLANK	3/2/93	Liquid

All results for soil, sediment, and sludge samples are reported on a dry weight basis.