

APPENDIX B LABORATORY ANALYTICAL RESULTS AND QA/QC DATA

068-001-09

272554



PRIORITY POLLUTANT SAMPLING - 8/83

FOOTNOTES

These footnotes correspond to the volatile organics, pesticides, and acid and base/neutral extractables.

- a) Below method detection limit. Quantitation and/or identification may be uncertain at this level.
- b) Due to the high level of compounds encountered, the amount of sample used for analysis was reduced. The detection limit is therefore higher.
- c) Results to follow.
- d) Bis(chloromethyl) ether is not on the list of compounds from EPA Method 624 (Purgeables), EPA-600/4-82-057 July 1982.
- e) Due to the high level of interference encountered an unusually high detection limit exists. An undeterminable amount of the sample response may be due to 1,2-dichloroethane.
- f) Due to the high level of compounds encountered, the size of sample used for analysis was reduced. The detection limit is therefore higher. The response from this compound is below the detection limit. (see footnote A)

ND= compound is not detected at the level of the method detection limit unless indicated otherwise.

SAMPLE NUMBER VERSUS WELL NUMBER

<u>Sample Number</u>	<u>Well Number</u>	<u>Date</u>
1	C-18	10 Aug 83 ¹
2	C-19	"
3	Field Blank	"
4	C-20	"
5	C-17	"
6	C-16	"
7	C-15	"
8	K-5	"
9	K-7	"
10	K-6	"
11	K-6 Duplicate "	"
12	C-26	"
13	Bailer Wash of C-25	"
14	C-25	"
15	C-24	"
16	C-23	"
17	C-21	"
18	C-22	"
19	C-22 Duplicate	"
20	Field Blank	12 Aug 83 ²
21	Bailer Wash of K-1	"
22	K-1	"
23	K-2	"
24	K-3	"
25	K-3 Duplicate	"
26	K-4	"
27	C-8A	"
28	SW-3 (upstream)	"
29	SW-2 (tributary)	"
30	SW-1 (downstream)	"
31	CP-4	"
32	CP-3	"
33	CP-2	"
34	CP-1	"
35	C-10A	"
36	C-11	"
37	C-7	"
38	C-7 Duplicate	"
39	C-6A	"

¹ Wells sampled 10 Aug 83 were all purged with 4" submersible pump on 9 Aug 83 except C-22 which was bailed

² wells sampled 12 Aug 83 were all purged with 2" submersible Keck pump on 11 Aug 83

princeton testing laboratory

DATE: Sept 26, 1983

TO: [

JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa]

SAMPLE:

REPORT OF ANALYSIS

VOLATILE ORGANICS

	Detection Limit	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Acrolein	c	c	c	c	c
Acrylonitrile	5	ND	ND	ND	ND
Benzene	1	2200	4400	ND	180
Bis(chloromethyl) ether	d	d	d	d	d
Bromoform	10	< 200ND ^b	< 200ND ^b	ND	< 200ND ^b
Carbon Tetrachloride	2	< 40ND ^b	< 40ND ^b	ND	< 40ND ^b
Chlorobenzene	1	45	73	ND	< 20ND ^b
Chlorodibromomethane	2	< 40ND ^b	< 40ND ^b	ND	< 40ND ^b
Chloroethane	2	< 40 ^f	47	ND	< 40ND ^b
Chloroethylvinyl ether	5	< 100ND ^b	< 100ND ^b	ND	< 100ND ^b
Chloroform	2	720	760	ND	420
Chlorobromomethane	2	300	280	ND	220
Dichlorodifluoromethane	5	< 100ND ^b	< 100ND ^b	ND	< 100ND ^b
1,1-Dichloroethane	1	760	650	ND	51
1,2-Dichloroethane	1	4500	< 69,000 ^e	ND	90
1,1-Dichloroethylene	1	< 20ND ^b	< 20ND ^b	ND	< 20ND ^b
1,2-Dichloropropane	1	24	< 20ND ^b	ND	< 20ND ^b
1,3-Dichloropropylene	5	< 100ND ^b	< 100ND ^b	ND	< 100ND ^b
Ethylbenzene	1	2400	4400	ND	140
Methyl bromide	10	< 200ND ^b	< 200ND ^b	ND	< 200ND ^b
Methyl chloride	20	< 400ND ^b	< 400ND ^b	ND	< 400ND ^b
Methylene Chloride	5	5000	39,000	ND	< 100ND ^b
1,1,2,2-Tetrachloroethane	10	< 200ND ^b	< 200ND ^b	ND	< 200ND ^b
Tetrachloroethylene	2	< 40ND ^b	< 40 ^f	ND	< 40ND ^b
Toluene	1	35,000	73,000	ND	2000
1,2-Trans-dichloroethylene	1	300	43	ND	< 20ND ^b
1,1,1-Trichloroethane	2	< 40ND ^b	73	ND	< 40ND ^b
1,1,2-Trichloroethane	5	< 100ND ^b	< 100ND ^b	ND	< 100ND ^b
Trichloroethylene	2	< 40ND ^b	< 40 ^f	ND	< 40ND ^b
Trichlorofluoromethane	5	< 100ND ^b	< 100ND ^b	ND	< 100ND ^b
Vinyl Chloride	2	96	76	ND	< 40ND ^b

Brian Janke, Manager
Organic Laboratory

BJ:na

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8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

VOLATILE ORGANICS					
	Detection Limit	5	6	7	8
Acrolein	C	C	C	C	C
Acrylonitrile	5	ND	ND	ND	ND
Benzene	1	790	73	ND	ND
Bis(chloromethyl) ether	d	d	d	d	d
Bromoform	10	< 100ND ^b	< 100ND ^b	ND	ND
Carbon Tetrachloride	2	< 20ND ^b	< 20ND ^b	ND	ND
Chlorobenzene	1	< 10ND ^b	< 10ND ^b	ND	ND
Chlorodibromomethane	2	< 20ND ^b	< 20ND ^b	ND	ND
Chloroethane	2	24	< 20ND ^b	ND	ND
Chloroethylvinyl ether	5	< 50ND ^b	< 50ND ^b	ND	ND
Chloroform	2	610	48	ND	5
Dichlorobromomethane	2	< 20 ND ^b	< 20 ND ^b	ND	ND
Dichlorodifluoromethane	5	< 30ND ^b	< 50ND ^b	ND	ND
1,1-Dichloroethane	1	< 10ND ^b	< 10ND ^b	ND	ND
1,2-Dichloroethane	1	480	380	ND	7
1,1-Dichloroethylene	1	< 10ND ^b	< 10ND ^b	ND	ND
1,2-Dichloropropane	1	< 10ND ^b	< 10 ND ^b	ND	ND
1,3-Dichloropropylene	5	< 50ND ^b	< 50ND ^b	ND	ND
Ethylbenzene	1	630	10	ND	ND
Methyl bromide	10	< 100ND ^b	< 400ND ^b	ND	ND
Methyl chloride	20	< 200ND ^b	< 200ND ^b	ND	ND
Methylene Chloride	5	1400	210	ND	30
1,1,2,2-Tetrachloroethane	10	< 100ND ^b	< 100ND ^b	ND	ND
Tetrachloroethylene	2	40	< 20ND ^b	ND	ND
Toluene	1	3200	< 10ND ^b	2	6
1,2-Trans-dichloroethylene	1	< 10ND ^b	< 10ND ^b	ND	ND
1,1,1-Trichloroethane	2	< 20ND ^b	< 20ND ^b	ND	ND
1,1,2-Trichloroethane	5	< 50ND ^b	< 50ND ^b	ND	ND
Trichloroethylene	2	< 20ND ^b	< 20ND ^b	ND	ND
Trichlorofluoromethane	5	< 50ND ^b	< 50ND ^b	ND	ND
Vinyl Chloride	2	< 20ND ^b	< 20ND ^b	ND	ND

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SAMPLE:

REPORT OF ANALYSIS

VOLATILE ORGANICS

	Detection Limit	9	10 ug/l	11	12
Acrolein	c	c	c	c	c
Acrylonitrile	5	ND	ND	ND	ND
Benzene	1	ND	ND	ND	ND
Bis(chloromethyl) ether	d	d	d	d	d
Bromoform	10	ND	ND	ND	ND
Carbon Tetrachloride	2	ND	ND	ND	ND
Chlorobenzene	1	ND	ND	ND	ND
Chlorodibromomethane	2	ND	ND	ND	ND
Chloroethane	2	ND	ND	ND	ND
Chloroethylvinyl ether	5	ND	ND	ND	ND
Chloroform	2	ND	ND	4	ND
Dichlorobromomethane	2	ND	ND	ND	ND
Dichlorodifluoromethane	5	ND	ND	ND	ND
1,1-Dichloroethane	1	ND	ND	ND	ND
1,2-Dichloroethane	1	ND	ND	ND	ND
1,1-Dichloroethylene	1	ND	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND
1,3-Dichloropropylene	5	ND	ND	ND	ND
Ethylbenzene	1	ND	ND	ND	ND
Methyl bromide	10	ND	ND	ND	ND
Methyl chloride	20	ND	ND	ND	ND
Methylene Chloride	5	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	10	ND	ND	ND	ND
Tetrachloroethylene	2	ND	ND	ND	ND
Toluene	1	ND	ND	ND	ND
1,2-Trans-dichloroethylene	1	ND	ND	ND	ND
1,1,1-Trichloroethane	2	ND	ND	ND	ND
1,1,2-Trichloroethane	5	ND	ND	ND	ND
Trichloroethylene	2	ND	ND	ND	ND
Trichlorofluoromethane	5	ND	ND	ND	ND
Vinyl Chloride	2	ND	ND	ND	ND

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BJ:am

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REPORT OF ANALYSIS

VOLATILE ORGANICS

	Detection Limit	13	14	ug/l	15	16
Acrolein	c	c	c		c	c
Acrylonitrile	5	ND	ND		ND	ND
Benzene	1	ND	ND		350	1800
Bis(chloromethyl) ether	d	d	d		d	d
Bromoform	10	ND	ND		<100ND ^b	ND
Carbon Tetrachloride	2	ND	ND		<20ND ^b	ND
Chlorobenzene	1	ND	ND		<10ND ^b	20
Chlorodibromomethane	2	ND	ND		<20ND ^b	ND
Chloroethane	2	ND	ND		<20ND ^b	4
Chloroethylvinyl ether	5	ND	ND		<50ND ^b	ND
Chloroform	2	ND	ND		43	ND
Dichlorobromomethane	2	ND	ND		<20	ND
Dichlorodifluoromethane	5	ND	ND		<50ND ^b	ND
1,1-Dichloroethane	1	ND	ND		70	40
1,2-Dichloroethane	1	ND	ND		32	2000
1,1-Dichloroethylene	1	ND	ND		<10ND ^b	2
1,2-Dichloropropane	1	ND	ND		<10ND ^b	ND
1,3-Dichloropropylene	5	ND	ND		<50ND ^b	7
Ethylbenzene	1	ND	ND		1400	860
Methyl bromide	10	ND	ND		<100ND ^b	ND
Methyl chloride	20	ND	ND		<200ND ^b	ND
Methylene Chloride	5	ND	ND		140	490
1,1,2,2-Tetrachloroethane	10	ND	ND		<100ND ^b	ND
Tetrachloroethylene	2	ND	ND		<20ND ^b	30
Toluene	1	ND	ND		400	9900
1,2-Trans-dichloroethylene	1	ND	ND		58	79
1,1,1-Trichloroethane	2	ND	ND		<20ND ^b	ND
1,1,2-Trichloroethane	5	ND	ND		<50ND ^b	ND
Trichloroethylene	2	ND	ND		<20ND ^b	14
Trichlorofluoromethane	5	ND	ND		<50ND ^b	ND
Vinyl Chloride	2	ND	ND		<20ND ^b	3

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REPORT OF ANALYSIS

<u>VOLATILE ORGANICS</u>					
	<u>Detection</u> <u>Limit</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>
		ug/l			
Acrolein	c	c	c	c	c
Acrylonitrile	5	ND	ND	ND	ND
Benzene	1	1800	1100	970	ND
Bis(chloromethyl) ether	d	d	d	d	d
Bromoform	10	< 100ND ^b	< 200ND ^b	< 200ND ^b	ND
Carbon Tetrachloride	2	< 20ND ^b	< 40ND ^b	< 40ND ^b	ND
Chlorobenzene	1	17	< 20ND ^b	< 20ND ^b	ND
Chlorodibromomethane	2	< 20ND ^b	< 40ND ^b	< 40ND ^b	ND
Chloroethane	2	27	< 40ND ^b	< 40ND ^b	ND
Chloroethylvinyl ether	5	< 50ND ^b	< 100ND ^b	< 100ND ^b	ND
Chloroform	2	< 20ND ^b	72	49	2
Dichlorobromomethane	2	< 20ND ^b	< 40ND ^b	< 40ND ^b	ND
Dichlorodifluoromethane	5	< 50ND ^b	< 100ND ^b	< 100ND ^b	ND
1,1-Dichloroethane	1	< 10ND ^b	62	< 20ND ^b	ND
1,2-Dichloroethane	1	170	65	< 20ND ^b	43
1,1-Dichloroethylene	1	22	< 20ND ^b	< 20ND ^b	ND
1,2-Dichloropropane	1	< 10ND ^b	< 20ND ^b	< 20ND ^b	ND
1,3-Dichloropropylene	5	< 50ND ^b	< 100ND ^b	< 100ND ^b	ND
Ethylbenzene	1	2300	2200	1700	ND
Methyl bromide	10	< 100ND ^b	< 200ND ^b	< 200ND ^b	ND
Methyl chloride	20	< 200ND ^b	< 400ND ^b	< 400ND ^b	ND
Methylene Chloride	5	< 50ND ^b	< 100ND ^b	< 100ND ^b	ND
1,1,2,2-Tetrachloroethane	10	< 100ND ^b	< 200ND ^b	< 200ND ^b	ND
Tetrachloroethylene	2	< 20ND ^b	< 40ND ^b	< 40ND ^b	ND
Toluene	1	33,000	19,000	17,000	ND
1,2-Trans-dichloroethylene	1	360	200	220	ND
1,1,1-Trichloroethane	2	< 20ND ^b	< 40ND ^b	< 40ND ^b	ND
1,1,2-Trichloroethane	5	< 50ND ^b	< 100ND ^b	< 100ND ^b	ND
Trichloroethylene	2	< 20ND ^b	< 40ND ^b	< 40ND ^b	ND
Trichlorofluoromethane	5	< 50ND ^b	< 100ND ^b	< 100ND ^b	ND
Vinyl Chloride	2	26	< 40ND ^b	< 40ND ^b	ND

Brian Janke, Manager
Organic Laboratory

BJ:na

princeton testing laboratory

DATE: Sept 26, 1983

TO: JRB Associates
8400 Westpark Dr
McLean VA 22102
ATT: Dr. Edward Repa

JOB NO. 29562

AUTHORIZATION: 84-9950

SAMPLE:

REPORT OF ANALYSIS

VOLATILE ORGANICS					
	Detection Limit	21	22 ug/l	23	24
Acrolein	c	c	c	c	c
Acrylonitrile	5	ND	ND	ND	ND
Benzene	1	ND	ND	7	30
Bis(chloromethyl) ether	d	d	d	d	d
Bromoform	10	ND	ND	ND	<50NDb
Carbon Tetrachloride	2	ND	ND	ND	<10NDb
Chlorobenzene	1	ND	ND	ND	<5NDb
Chlorodibromomethane	2	ND	ND	ND	<10NDb
Chloroethane	2	ND	ND	ND	<10NDb
Chloroethylvinyl ether	5	ND	ND	ND	<25NDb
Chloroform	2	ND	4	ND	86
Dichlorobromomethane	2	ND	ND	ND	47
Dichlorodifluoromethane	5	ND	ND	ND	<25NDb
1,1-Dichloroethane	1	ND	ND	ND	<5NDb
1,2-Dichloroethane	1	ND	4	5500	88
1,1-Dichloroethylene	1	ND	ND	ND	<5NDb
1,2-Dichloropropane	1	ND	ND	ND	<5NDb
1,3-Dichloropropylene	5	ND	ND	ND	<25NDb
Ethylbenzene	1	ND	ND	ND	<5NDb
Methyl bromide	10	ND	ND	ND	<50NDb
Methyl chloride	20	ND	ND	ND	<100NDb
Methylene Chloride	5	ND	14	390	100
1,1,2,2-Tetrachloroethane	10	ND	ND	ND	<50NDb
Tetrachloroethylene	2	ND	ND	ND	<10NDb
Toluene	1	ND	2	4	51
1,2-Trans-dichloroethylene	1	ND	ND	ND	<5NDb
1,1,1-Trichloroethane	2	ND	ND	ND	<10NDb
1,1,2-Trichloroethane	5	ND	ND	ND	<25NDb
Trichloroethylene	2	ND	ND	ND	<10NDb
Trichlorofluoromethane	5	ND	ND	ND	<25NDb
Vinyl Chloride	2	ND	ND	ND	<10NDb

Brian Janke, Manager
Organic Laboratory

BJ:am

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SAMPLE:

REPORT OF ANALYSIS

VOLATILE ORGANICS

	Detection Limit	25	26	ug/l	27	28
Acrolein	c	c	c		c	c
Acrylonitrile	5	ND	ND		ND	ND
Benzene	1	31	ND		ND	ND
Bis(chloromethyl) ether	d	d	d		d	d
Bromoform	10	< 100ND ^b	ND		ND	ND
Carbon Tetrachloride	2	< 20ND ^b	ND		ND	ND
Chlorobenzene	1	< 10ND ^b	ND		ND	ND
Chlorodibromomethane	2	< 20ND ^b	ND		ND	ND
Chloroethane	2	< 20ND ^b	ND		ND	ND
Chloroethylvinyl ether	5	< 50ND ^b	ND		ND	ND
Iodoform	2	180	ND		ND	2
Dichlorobromomethane	2	95	ND		ND	ND
Dichlorodifluoromethane	5	< 50ND ^b	ND		ND	ND
1,1-Dichloroethane	1	< 10ND ^b	ND		ND	ND
1,2-Dichloroethane	1	91	ND		ND	ND
1,1-Dichloroethylene	1	< 10ND ^b	ND		ND	ND
1,2-Dichloropropane	1	< 10ND ^b	ND		ND	ND
1,3-Dichloropropylene	5	< 50ND ^b	ND		ND	ND
Ethylbenzene	1	< 10ND ^b	ND		ND	ND
Methyl bromide	10	< 100ND ^b	ND		ND	ND
Methyl chloride	20	< 200ND ^b	ND		ND	ND
Methylene Chloride	5	130	ND		ND	ND
1,1,2,2-Tetrachloroethane	10	< 100ND ^b	ND		ND	ND
Tetrachloroethylene	2	< 20ND ^b	ND		ND	ND
Toluene	1	31	ND		ND	ND
1,2-Trans-dichloroethylene	1	< 10ND ^b	ND		ND	ND
1,1,1-Trichloroethane	2	29	ND		ND	ND
1,1,2-Trichloroethane	5	< 50ND ^b	ND		ND	ND
Trichloroethylene	2	< 20ND ^b	ND		ND	ND
Trichlorofluoromethane	5	< 50ND ^b	ND		ND	ND
Vinyl Chloride	2	< 20ND ^b	ND		ND	ND

Brian Janke, Manager
Organic Laboratory

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ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

VOLATILE ORGANICS

	Detection Limit	29	30	ng/l	31	32
Acrolein	c	c	c		c	c
Acrylonitrile	5	ND	ND		ND	ND
Benzene	1	ND	ND		ND	1700
Bis(chloromethyl) ether	d	d	d		d	d
Bromoform	10	ND	ND		ND	< 100
Carbon Tetrachloride	2	ND	ND		ND	< 20
Chlorobenzene	1	ND	ND		ND	< 10
Chlorodibromomethane	2	ND	ND		ND	< 20
Chloroethane	2	ND	ND		ND	< 20
Chloroethylvinyl ether	5	ND	ND		ND	< 50
Chloroform	2	ND	3		ND	240
Dichlorobromomethane	2	ND	ND		ND	97
Dichlorodifluoromethane	5	ND	ND		ND	< 50
1,1-Dichloroethane	1	ND	ND		9	120
1,2-Dichloroethane	1	ND	5		790	300
1,1-Dichloroethylene	1	ND	ND		ND	< 10
1,2-Dichloropropane	1	ND	ND		ND	< 10
1,3-Dichloropropylene	5	ND	ND		ND	< 50
Ethylbenzene	1	ND	ND		ND	660
Methyl bromide	10	ND	ND		ND	< 100
Methyl chloride	20	ND	ND		ND	< 200
Methylene Chloride	5	ND	ND		14	93
1,1,2,2-Tetrachloroethane	10	ND	ND		ND	< 100
Tetrachloroethylene	2	ND	ND		ND	< 20
Toluene	1	ND	ND		ND	6200
1,2-Trans-dichloroethylene	1	ND	ND		ND	230
1,1,1-Trichloroethane	2	ND	ND		< 5ND ^b	< 20
1,1,2-Trichloroethane	5	ND	ND		ND	< 50
Trichloroethylene	2	ND	ND		ND	< 20
Trichlorofluoromethane	5	ND	ND		ND	< 50
Vinyl Chloride	2	ND	ND		ND	< 20

Brian Janke, Manager
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BJ:na

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DATE: Sept 23, 1983

TO: [

JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

VOLATILE ORGANICS

	Detection Limit	33	34	35	36
		ug/l			
Acrolein	c	c	c	c	c
Acrylonitrile	5	ND	ND	ND	ND
Benzene	1	3000	2400	78	460
Bis(chloromethyl) ether	d	d	d	d	d
Bromoform	10	< 200ND ^b	< 100ND ^b	< 100ND ^b	< 100NI
Carbon Tetrachloride	2	< 40ND ^b	< 20ND ^b	< 20ND ^b	< 20NI
Chlorobenzene	1	21	78	< 10 ^f	< 10NI
Chlorodibromomethane	2	< 40ND ^b	< 20ND ^b	< 20ND ^b	< 20NI
Chloroethane	2	< 40ND ^b	< 20ND ^b	< 20ND ^b	< 20NI
Chloroethylvinyl ether	5	< 100ND ^b	< 50ND ^b	< 50ND ^b	< 50NI
Iodoform	2	164	190	< 20ND ^b	< 20NI
Dichlorobromomethane	2	< 40ND ^b	94	< 20ND ^b	< 20NI
Dichlorodifluoromethane	5	< 100ND ^b	< 50ND ^b	< 50ND ^b	< 50NI
1,1-Dichloroethane	1	< 20ND ^b	180	< 20ND ^b	< 20NI
1,2-Dichloroethane	1	< 50,000 ^e	2000	74	< 10NI
1,1-Dichloroethylene	1	78	< 10ND ^b	< 10ND ^b	< 10NI
1,2-Dichloropropane	1	< 20ND ^b	< 10ND ^b	< 10ND ^b	< 10NI
1,3-Dichloropropylene	5	< 100ND ^b	< 50ND ^b	< 50ND ^b	< 50NI
Ethylbenzene	1	1100	1700	69	450
Methyl bromide	10	< 200ND ^b	< 100ND ^b	< 100ND ^b	< 100NI
Methyl chloride	20	< 400ND ^b	< 200ND ^b	< 200ND ^b	< 200NI
Methylene Chloride	5	12,000 ^b	350	36	< 50NI
1,1,2,2-Tetrachloroethane	10	< 200ND ^b	< 100ND ^b	< 100ND ^b	< 100NI
Tetrachloroethylene	2	< 40ND ^b	< 20ND ^b	< 20ND ^b	< 20NI
Toluene	1	75,000	36,000	18	630
1,2-Trans-dichloroethylene	1	< 20ND ^b	45	< 20ND ^b	< 20NI
1,1,1-Trichloroethane	2	< 40ND ^b	< 20ND ^b	< 20ND ^b	< 20NI
1,1,2-Trichloroethane	5	< 100ND ^b	< 50ND ^b	< 50ND ^b	< 50NI
Trichloroethylene	2	< 40ND ^b	21	< 20ND ^b	< 20NI
Trichlorofluoromethane	5	< 100ND ^b	< 50ND ^b	< 50ND ^b	< 50NI
Vinyl Chloride	2	< 40ND ^b	< 20ND ^b	< 20ND ^b	< 20NI

Brian Janke, Manager
Organic Laboratory

BJ:na

princeton testing laboratory

DATE: Sept 26, 1983

TO: JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 849950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

VOLATILE ORGANICS

	Detection Limit	37	ug/l 38	39
Acrolein	c	c	c	c
Acrylonitrile	5	ND	ND	ND
Benzene	1	5900	5300	4200
Bis(chloromethyl) ether	d	d	d	d
Bromoform	10	< 500ND ^b	< 200ND ^b	< 200ND ^b
Carbon Tetrachloride	2	< 100ND ^b	< 40ND ^b	< 40ND ^b
Chlorobenzene	1	< 50 ^f	27	270
Chlorodibromomethane	2	< 100ND ^b	< 40ND ^b	< 40ND ^b
Chloroethane	2	< 100ND ^b	< 40ND ^b	< 40ND ^b
Chloroethylvinyl ether	5	< 250ND ^b	< 100ND ^b	< 100ND ^b
Chloroform	2	200	< 40ND ^b	21
Dichlorobromomethane	2	< 100ND ^b	< 40ND ^b	< 40ND ^b
Dichlorodifluoromethane	5	< 250ND ^b	< 100ND ^b	< 100ND ^b
1,1-Dichloroethane	1	150	130	77
1,2-Dichloroethane	1	2200	1200	5500
1,1-Dichloroethylene	1	< 50ND ^b	< 20ND ^b	< 20ND ^b
1,2-Dichloropropane	1	< 50ND ^b	< 20ND ^b	< 20ND ^b
1,3-Dichloropropylene	5	< 250ND ^b	< 100ND ^b	< 100ND ^b
Ethylbenzene	1	1700	1600	2600
Methyl bromide	10	< 500ND ^b	< 200ND ^b	< 200ND ^b
Methyl chloride	20	< 1000ND ^b	< 400ND ^b	< 400ND ^b
Methylene Chloride	5	1100	680	950
1,1,2,2-Tetrachloroethane	10	< 500ND ^b	< 200ND ^b	< 200ND ^b
Tetrachloroethylene	2	< 100ND ^b	< 40ND ^b	< 40ND ^b
Toluene	1	48,000	38,000	43,000
1,2-Trans-dichloroethylene	1	85	110	45
1,1,1-Trichloroethane	2	< 100ND ^b	< 40ND ^b	< 40ND ^b
1,1,2-Trichloroethane	5	< 250ND ^b	< 100ND ^b	< 100ND ^b
Trichloroethylene	2	< 100 ^f	< 40 ^f	< 40ND ^b
Trichlorofluoromethane	5	< 250ND ^b	< 100ND ^b	< 100ND ^b
Vinyl Chloride	2	< 100ND ^b	< 40ND ^b	< 40ND ^b

Brian Janke, Manager
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8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

	Detection Limit	ug/l		DUPLICATE ANALYSIS	
		1st	2nd	1st	2nd
		Analysis Sample 16	Analysis	Analysis Sample 23	Analysis
Acrolein	---	---	---	---	---
Acrylonitrile	---	---	---	---	---
Benzene	1	2000	1500	7	< 200N
Bis(chloromethyl) ether	---	---	---	---	---
Bromoform	10	ND	< 100ND ^b	ND	< 200N
Carbon Tetrachloride	2	ND	< 20ND ^b	ND	< 40N
Chlorobenzene	1	23	16	ND	< 20N
Chlorodibromomethane	2	ND	< 20ND ^b	ND	< 40N
Chloroethane	2	3	< 20ND ^b	ND	< 40N
Chloroethylvinyl ether	5	ND	< 50ND ^b	ND	< 100N
Iodoform	2	ND	< 20ND ^b	ND	< 40N
Dichlorobromomethane	2	ND	< 20ND ^b	ND	< 40N
Dichlorodifluoromethane	5	ND	< 50ND ^b	ND	< 100N
1,1-Dichloroethane	1	40	40	ND	< 20N
1,2-Dichloroethane	1	2000	1900	4500	6500
1,1-Dichloroethylene	1	2	< 20ND ^b	ND	< 20N
1,2-Dichloropropane	1	ND	< 10ND ^b	ND	< 20N
1,3-Dichloropropylene	5	7	< 40 ^f	ND	< 100N
Ethylbenzene	1	880	840	ND	< 20N
Methyl bromide	10	ND	< 100ND ^b	ND	< 200N
Methyl chloride	20	ND	< 200ND ^b	ND	< 400N
Methylene Chloride	5	400	580	400	370
1,1,2,2-Tetrachloroethane	10	ND	< 100ND ^b	ND	< 200N
Tetrachloroethylene	2	30	< 40ND ^b	1	< 40N
Toluene	1	8700	11,000	4	< 20
1,2-Trans-dichloroethylene	1	68	89	ND	< 20N
1,1,1-Trichloroethane	2	ND	< 20ND ^b	ND	< 40N
1,1,2-Trichloroethane	5	ND	< 50ND ^b	ND	< 100N
Trichloroethylene	2	14	< 20ND ^b	ND	< 40N
Trichlorofluoromethane	5	ND	< 50ND ^b	ND	< 100N
Vinyl Chloride	2	5	3	ND	< 40N

Brian Janke, Manager
Organic Laboratory

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8400 Westpark Dr
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JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

	QUALITY ASSURANCE		VOLATILE ORGANICS		DUPLICATE ANALYSIS	
	Detection Limit	1st Analysis	2nd Analysis	1st Analysis	2nd Analysis	
		Sample 34	ug/l	Sample 36		
Acrolein	---	---	---	---	---	
Acrylonitrile	---	---	---	---	---	
Benzene	1	2600	2200	510	410	
Bis(chloromethyl) ether	---	---	---	---	---	
Bromoform	10	< 100ND ^b	< 1000ND ^b	< 100ND ^b	< 1000ND ^b	
Carbon Tetrachloride	2	< 20ND ^b	< 200ND ^b	< 20ND ^b	< 200ND ^b	
Chlorobenzene	1	78	< 100 ^f	< 10ND ^b	< 100ND ^b	
Chlorodibromomethane	2	< 20ND ^b	< 200ND ^b	< 20ND ^b	< 200ND ^b	
Chloroethane	2	< 20ND ^b	< 200ND ^b	< 20ND ^b	< 200ND ^b	
Chloroethylvinyl ether	5	< 50ND ^b	< 500ND ^b	< 50ND ^b	< 500ND ^b	
Chloroform	2	190	180	240	240	
Dichlorobromomethane	2	94	< 100 ^f	110	< 100ND ^b	
Dichlorodifluoromethane	5	< 50ND ^b	< 500ND ^b	< 50ND ^b	< 500ND ^b	
1,1-Dichloroethane	1	160	200	< 10ND ^b	< 100ND ^b	
1,2-Dichloroethane	1	2000	1900	2400	2200	
1,1-Dichloroethylene	1	< 10ND ^b	< 100ND ^b	< 10ND ^b	< 100ND ^b	
1,2-Dichloropropane	1	< 10ND ^b	< 100ND ^b	< 10ND ^b	< 100ND ^b	
1,3-Dichloropropylene	5	< 50ND ^b	< 500ND ^b	< 50ND ^b	< 500ND ^b	
Ethylbenzene	1	1600	1700	490	400	
Methyl bromide	10	< 100ND ^b	< 1000ND ^b	< 100ND ^b	< 1000ND ^b	
Methyl chloride	20	< 200ND ^b	< 2000ND ^b	< 200ND ^b	< 2000ND ^b	
Methylene Chloride	5	250	440	< 50ND ^b	< 500ND ^b	
1,1,2,2-Tetrachloroethane	10	< 100ND ^b	< 1000ND ^b	< 100ND ^b	< 1000ND ^b	
Tetrachloroethylene	2	< 20ND ^b	< 200ND ^b	< 20ND ^b	< 200ND ^b	
Toluene	1	36,000	35,000	670	590	
1,2-Trans-dichloroethylene	1	47	42	< 10 ND ^b	< 100ND ^b	
1,1,1-Trichloroethane	2	< 20ND ^b	< 200ND ^b	< 20ND ^b	< 200ND ^b	
1,1,2-Trichloroethane	5	< 50ND ^b	< 500ND ^b	< 50ND ^b	< 500ND ^b	
Trichloroethylene	2	21	< 100 ^f	< 20ND ^b	< 100ND ^b	
Trichlorofluoromethane	5	< 50ND ^b	< 500ND ^b	< 50ND ^b	< 500ND ^b	
Vinyl Chloride	2	< 20ND ^b	< 200ND ^b	< 20ND ^b	< 100ND ^b	

Brian Janke, Manager
Organic Laboratory

BJ:na

PRINCETON TESTING LABORATORY
1000 N. 3RD ST.
PRINCETON, N.J. 08540
TEL: 973-751-1100

princeton testing laboratory

201-508-5100, Princeton, N.J. 08540

DATE: Sept 30, 1983

TO:

JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

ACROLEIN

Sample #	ug/l	Sample #	ug/l
1.	< 3,400*	21.	ND
2.	< 4,200*	22.	ND
3.	ND	23.	< 3,200*
4.	< 3,300*	24.	< 2,400*
5.	< 4,900*	25.	< 1,100*
6.	< 600*	26.	ND
7.	ND	27.	ND
8.	ND	28.	ND
9.	ND	29.	ND
10.	ND	30.	ND
11.	ND	31.	< 7,100*
12.	ND	32.	< 3,000*
13.	ND	33.	< 12,700*
14.	ND	34.	< 3,000*
15.	< 1,000*	35.	ND
16.	< 1,000*	36.	ND
17.	< 2,700*	37.	< 2,900*
18.	< 900*	38.	< 4,300*
19.	< 900*	39.	< 500*
20.	ND		

Detection Limit = 500ug/l

ND= compound is not detected at the level of the method detection limit.

*= organic interference encountered. Some or all of the sample response may be due to interference.


Brian Janke, Manager
Organic Laboratory

BJ:na

princeton testing laboratory

DATE: Sept 26, 1983

TO: JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

BASE/NEUTRAL EXTRACTS					
Detection Limit	1	2	ug/l	3	4
Acenaphthene	10	< 100ND ^b	< 100ND ^b	ND	ND
Acenaphthylene	10	< 100ND ^b	< 100ND ^b	ND	ND
Anthracene	10	< 100ND ^b	< 100ND ^b	ND	ND
Benzidine	100	< 1000ND ^b	< 1000ND ^b	ND	ND
Benzo(a)anthracene	10	< 1000ND ^b	< 100ND ^b	ND	ND
Benzo(a)pyrene	10	< 1000ND ^b	< 100ND ^b	ND	ND
3,4-Benzofluoranthene	10	< 100ND ^b	< 100ND ^b	ND	ND
Benzo(ghi)perylene	25	< 250ND ^b	< 250ND ^b	ND	ND
Benzo(k)fluoranthene	10	< 100ND ^b	< 100ND ^b	ND	ND
Bis(2-chloroethoxy)methane	10	< 100ND ^b	< 100ND ^b	ND	ND
Bis(2-chloroethyl)ether	10	58,000	83,000	ND	32,000
Bis(2-chloroisopropyl)ether	10	< 100ND ^b	< 100ND ^b	ND	ND
Bis(2-ethylhexyl)phthalate	10	< 100ND ^b	< 100ND ^b	ND	ND
4-bromophenyl phenyl ether	10	< 100ND ^b	< 100ND ^b	ND	ND
Butylbenzyl phthalate	10	< 100ND ^b	< 100ND ^b	ND	ND
2-Chloronaphthalene	10	< 100ND ^b	< 100ND ^b	ND	ND
4-Chlorophenyl phenyl ether	10	< 100ND ^b	< 100ND ^b	ND	ND
Chrysene	10	< 100ND ^b	< 100ND ^b	ND	ND
Dibenzo(a,h)anthracene	25	< 250ND ^b	< 250ND ^b	ND	ND
1,2-Dichlorobenzene	10	64	370	ND	< 400ND ^b
1,3-Dichlorobenzene	10	< 100ND ^b	< 100ND ^b	ND	< 400ND ^b
1,4-Dichlorobenzene	10	< 100ND ^b	< 100ND ^b	ND	< 400ND ^b
3,3'-Dichlorobenzidine	10	< 100ND ^b	< 100ND ^b	ND	ND
Diethyl phthalate	10	210	350	ND	100
Dimethyl phthalate	10	< 100ND ^b	< 100ND ^b	ND	ND
Di-n-butyl phthalate	10	44	< 20	ND	16
2,4-Dinitrotoluene	10	< 100ND ^b	< 100ND ^b	ND	ND
2,6-Dinitrotoluene	10	< 100ND ^b	< 100ND ^b	ND	ND
Di-n-octyl phthalate	10	< 100ND ^b	< 100ND ^b	ND	ND
1,2-diphenylhydrazine					
(as azobenzene)	10	< 100ND ^b	< 100ND ^b	ND	ND
Fluoranthene	10	< 100ND ^b	< 100ND ^b	ND	ND

Brian Janke, Manager
Organic Laboratory

BJ:na

princeton
testing
laboratory

DATE: Sept 26, 1983

TO: JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

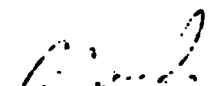
AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

BASE/NEUTRAL EXTRACTS (con't)					
	Detection	ug/l			
	Limit	1	2	3	4
Fluorene	10	< 100ND ^b	< 100ND ^b	ND	ND
Hexachlorobenzene	10	< 100ND ^b	< 100ND ^b	ND	ND
Hexchlorobutadiene	10	< 100ND ^b	< 100ND ^b	ND	ND
Hexachlorocyclopentadiene	10	< 100ND ^b	< 100ND ^b	ND	ND
Hexachloroethane	10	< 400ND ^b	< 400ND ^b	ND	< 400ND ^b
Ideno(1,2,3-cd)pyrene	25	< 250ND ^b	< 250ND ^b	ND	ND
Isophorone	10	< 100ND ^b	< 100ND ^b	ND	ND
Naphthalene	10	210	140	ND	430
Nitrobenzene	10	< 100ND ^b	< 100ND ^b	ND	ND
N-nitrosodimethylamine	10	ND	ND	ND	ND
N-nitrosodi-n-propylamine	10	ND	ND	ND	ND
Nitrosodiphenylamine	10	< 100ND ^b	< 100ND ^b	ND	ND
Benanthrene	10	< 100ND ^b	< 100ND ^b	ND	ND
Pyrene	10	< 100ND ^b	< 100ND ^b	ND	ND
1,2,4-Trichlorobenzene	10	< 100ND ^b	< 100ND ^b	ND	ND
1,2-Bis(2-chloroethox)ethane	10	140,000	100,000	ND	76,000


Brian Janke, Manager
Organic Laboratory

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8400 Westpark Dr
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JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

		<u>BASE/NEUTRAL EXTRACTS</u>				
	<u>Detection</u>			ug/l		
	<u>Limit</u>	<u>5</u>	<u>6</u>		<u>7</u>	<u>8</u>
Acenaphthene	10	ND	ND		ND	ND
Acenaphthylene	10	ND	ND		ND	ND
Anthracene	10	ND	ND		ND	ND
Benzidine	100	ND	ND		ND	ND
Benzo(a)anthracene	10	ND	ND		ND	ND
Benzo(a)pyrene	10	ND	ND		ND	ND
3,4-Benzofluoranthene	10	ND	ND		ND	ND
Benzo(ghi)perylene	25	ND	ND		ND	ND
Benzo(k)fluoranthene	10	ND	ND		ND	ND
Bis(2-chloroethoxy)methane	10	< 200ND ^b	ND		ND	ND
Bis(2-chloroethyl)ether	10	75,000	14,000		ND	ND
bis(2-chloroisopropyl)ether	10	< 200ND ^b	ND		ND	ND
bis(2-ethylhexyl)phthalate	10	ND	ND		ND	ND
4-bromophenyl phenyl ether	10	ND	ND		ND	ND
Butylbenzyl phthalate	10	ND	ND		ND	ND
2-Chloronaphthalene	10	< 200ND ^b	ND		ND	ND
4-Chlorophenyl phenyl ether	10	ND	ND		ND	ND
Chrysene	10	ND	ND		ND	ND
Dibenzo(a,h)anthracene	25	ND	ND		ND	ND
1,2-Dichlorobenzene	10	< 200 ^f	27		ND	ND
1,3-Dichlorobenzene	10	< 200ND ^b	ND		ND	ND
1,4-Dichlorobenzene	10	< 200ND ^b	ND		ND	ND
3,3'-Dichlorobenzidine	10	ND	ND		ND	ND
Diethyl phthalate	10	85	ND		ND	ND
Dimethyl phthalate	10	ND	ND		ND	ND
Di-n-butyl phthalate	10	ND	ND		ND	ND
2,4-Dinitrotoluene	10	ND	ND		ND	ND
2,6-Dinitrotoluene	10	ND	ND		ND	ND
Di-n-octyl phthalate	10	ND	ND		ND	ND
1,2-diphenylhydrazine (as azobenzene)	10	ND	ND		ND	ND
Fluoranthene	10	ND	ND		ND	ND

BJ:na

Brian Janke, Manager
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AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

	BASE/NEUTRAL EXTRACTS (con't)				
	Detection Limit	5	6	7	8
Fluorene	10	ND	ND	ND	ND
Hexachlorobenzene	10	ND	ND	ND	ND
Hexachlorobutadiene	10	< 200ND ^b	ND	ND	ND
Hexachlorocyclopentadiene	10	< 200ND ^b	ND	ND	ND
Hexachloroethane	10	< 200ND ^b	ND	ND	ND
Ideno (1,2,3-cd) pyrene	25	ND	ND	ND	ND
Isophorone	10	< 200ND ^b	ND	ND	ND
Naphthalene	10	< 200 ^f	ND	< 10 ^a	ND
Nitrobenzene	10	< 200ND ^b	ND	ND	ND
N-nitrosodimethylamine	10	ND	ND	ND	ND
N-nitrosodi-n-propylamine	10	ND	ND	ND	ND
nitrosodiphenylamine	10	ND	ND	ND	ND
anthrene	10	ND	ND	ND	ND
pyrene	10	ND	ND	ND	ND
1,2,4-Trichlorobenzene	10	< 200ND ^b	ND	ND	ND
1,2-bis (2-chloroethoxy) ethane	10	62,000	8100	ND	ND


Brian Janke, Manager
Organic Laboratory

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DATE: Sept 26, 1983

TO: [

JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa]

SAMPLE:

REPORT OF ANALYSIS

<u>BASE/NEUTRAL EXTRACTS</u>					
	<u>Detection</u>			ug/1	
	<u>Limit</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>
Acenaphthene	10	ND	ND	ND	ND
Acenaphthylene	10	ND	ND	ND	ND
Anthracene	10	ND	ND	ND	ND
Benzidine	100	ND	ND	ND	ND
Benzo(a)anthracene	10	ND	ND	ND	ND
Benzo(a)pyrene	10	ND	ND	ND	ND
3,4-Benzofluoranthene	10	ND	ND	ND	ND
Benzo(ghi)perylene	25	ND	ND	ND	ND
Benzo(k)fluoranthene	10	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	10	ND	ND	ND	ND
bis(2-chloroethyl)ether	10	ND	ND	ND	50
bis(2-chloroisopropyl)ether	10	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	10	ND	ND	ND	51
4-bromophenyl phenyl ether	10	ND	ND	ND	ND
Butylbenzyl phthalate	10	ND	ND	ND	ND
2-Chloronaphthalene	10	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	10	ND	ND	ND	ND
Chrysene	10	ND	ND	ND	ND
Dibenzo(a,h)anthracene	25	ND	ND	ND	ND
1,2-Dichlorobenzene	10	ND	ND	ND	ND
1,3-Dichlorobenzene	10	ND	ND	ND	ND
1,4-Dichlorobenzene	10	ND	ND	ND	ND
3,3'-Dichlorobenzidine	10	ND	ND	ND	ND
Diethyl phthalate	10	ND	ND	ND	ND
Dimethyl phthalate	10	ND	ND	ND	ND
Di-n-butyl phthalate	10	ND	ND	ND	ND
2,4-Dinitrotoluene	10	ND	ND	ND	ND
2,6-Dinitrotoluene	10	ND	ND	ND	ND
Di-n-octyl phthalate	10	ND	ND	ND	ND
1,2-diphenylhydrazine					
(as azobenzene)	10	ND	ND	ND	ND
Fluoranthene	10	ND	ND	ND	ND

Brian Janke, Manager
Organic Laboratory

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laboratory

DATE: Sept 26, 1983

TO: [

JOB NO. 29562

JRB Associates
8400 Westpark Dr
McLean Va 22102

AUTHORIZATION: 84-9950

[ATT: Dr. Edward Repa]

SAMPLE:

REPORT OF ANALYSIS

BASE/NEUTRAL EXTRACTS (con't)						
	Detection Limit	9	10	11	12	ug/l
Fluorene	10	ND	ND	ND	ND	
Hexachlorobenzene	10	ND	ND	ND	ND	
Hexchlorobutadiene	10	ND	ND	ND	ND	
Hexachlorocyclopentadiene	10	ND	ND	ND	ND	
Hexachloroethane	10	ND	ND	ND	ND	
Ideno (1,2,3-cd) pyrene	25	ND	ND	ND	ND	
Isophorone	10	ND	ND	ND	ND	
Naphthalene	10	ND	ND	ND	ND	
Nitrobenzene	10	ND	ND	ND	ND	
N-nitrosodimethylamine	10	ND	ND	ND	ND	
nitrosodi-n-propylamine	10	ND	ND	ND	ND	
nitrosodiphenylamine	10	ND	ND	ND	ND	
phenanthrene	10	ND	ND	ND	ND	
Pyrene	10	ND	ND	ND	ND	
1,2,4-Trichlorobenzene	10	ND	ND	ND	ND	
1,2-bis (2-chloroethoxy) ethane	10	ND	ND	ND	150	


Brian Janke, Manager
Organic Laboratory

BJ:na

princeton testing laboratory

DATE: Sept 26, 1983

TO: JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

BASE/NEUTRAL EXTRACTS						
	Detection Limit	13	14	ug/l	15	16
Acenaphthene	10	ND	ND		ND	ND
Acenaphthylene	10	ND	ND		ND	ND
Anthracene	10	ND	ND		ND	ND
Benzidine	100	ND	ND		ND	ND
Benzo(a) anthracene	10	ND	ND		ND	ND
Benzo(a) pyrene	10	ND	ND		ND	ND
3,4-Benzofluoranthene	10	ND	ND		ND	ND
Benzo(ghi) perylene	25	ND	ND		ND	ND
Benzo(k) fluoranthene	10	ND	ND		ND	ND
Bis(2-chloroethoxy)methane	10	ND	ND		ND	ND
Bis(2-chloroethyl) ether	10	ND	ND	13,000		3900
bis(2-chloroisopropyl) ether	10	ND	ND	< 200ND ^b		ND
bis(2-ethylhexyl) phthalate	10	ND	ND	ND		ND
4-bromophenyl phenyl ether	10	ND	ND	ND		ND
Butylbenzyl phthalate	10	ND	ND	ND		ND
2-Chloronaphthalene	10	ND	ND	< 200ND ^b		ND
4-Chlorophenyl phenyl ether	10	ND	ND	ND		ND
Chrysene	10	ND	ND	ND		ND
Dibenzo(a,h) anthracene	25	ND	ND	ND		ND
1,2-Dichlorobenzene	10	ND	ND	< 200ND ^b		ND
1,3-Dichlorobenzene	10	ND	ND	< 200ND ^b		ND
1,4-Dichlorobenzene	10	ND	ND	190		100
3,3'-Dichlorobenzidine	10	ND	ND	ND		ND
Diethyl phthalate	10	ND	ND	62		17
Dimethyl phthalate	10	ND	ND	ND		ND
Di-n-butyl phthalate	10	ND	ND	ND		ND
2,4-Dinitrotoluene	10	ND	ND	ND		ND
2,6-Dinitrotoluene	10	ND	ND	ND		ND
Di-n-octyl phthalate	10	ND	ND	ND		ND
1,2-diphenylhydrazine (as azobenzene)	10	ND	ND	ND		ND
Fluoranthene	10	ND	ND	ND		ND

Brian Janke, Manager
Organic Laboratory

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DATE: Sept 26, 1983

TO: JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward REpa

SAMPLE:

REPORT OF ANALYSIS

BASE/NEUTRAL EXTRACTS (con't)					
	Detection				
	Limit	13	14	15	16
Fluorene	10	ND	ND	ND	ND
Hexachlorobenzene	10	ND	ND	ND	ND
Hexchlorobutadiene	10	ND	ND	ND	ND
Hexachlorocyclopentadiene	10	ND	ND	ND	ND
Hexachloroethane	10	ND	ND	ND	ND
Ideno(1,2,3-cd)pyrene	25	ND	ND	ND	ND
Isophorone	10	ND	ND	< 200ND ^b	ND
Naphthalene	10	ND	ND	89	47
Nitrobenzene	10	ND	ND	< 200ND ^b	ND
N-nitrosodimethylamine	10	ND	ND	ND	ND
N-nitrosodi-n-propylamine	10	ND	ND	ND	ND
Nitrosodiphenylamine	10	ND	ND	ND	ND
Benanthrene	10	ND	ND	ND	ND
Pyrene	10	ND	ND	ND	ND
1,2,4-Trichlorobenzene	10	ND	ND	ND	ND
1,2-bis(2-chloroethoxy)ethane	10	ND	ND	13,000	5100

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ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

BASE/NEUTRAL EXTRACTS					
	Detection Limit	17	18	19	20
Acenaphthene	10	ND	ND	ND	ND
Acenaphthylene	10	ND	ND	ND	ND
Anthracene	10	ND	ND	ND	ND
Benzidine	100	ND	ND	ND	ND
Benzo(a)anthracene	10	ND	ND	ND	ND
Benzo(a)pyrene	10	ND	ND	ND	ND
3,4-Benzofluoranthene	10	ND	ND	ND	ND
Benzo(ghi)perylene	25	ND	ND	ND	ND
Benzo(k)fluoranthene	10	ND	ND	ND	ND
bis(2-chloroethoxy)methane	10	ND	ND	< 200ND ^b	ND
bis(2-chloroethyl)ether	10	35,000	26,000	29,000	ND
bis(2-chloroisopropyl)ether	10	ND	ND	< 200ND ^b	ND
bis(2-ethylhexyl)phthalate	10	ND	ND	ND	ND
4-bromophenyl phenyl ether	10	ND	ND	ND	ND
Butylbenzyl phthalate	10	ND	ND	ND	ND
2-Chloronaphthalene	10	ND	ND	< 200ND ^b	ND
4-Chlorophenyl phenyl ether	10	ND	ND	ND	ND
Chrysene	10	ND	ND	ND	ND
Dibenzo(a,h)anthracene	25	ND	ND	ND	ND
1,2-Dichlorobenzene	10	75	72	< 200ND ^b	ND
1,3-Dichlorobenzene	10	ND	ND	< 200ND ^b	ND
1,4-Dichlorobenzene	10	ND	ND	< 200ND ^b	ND
3,3'-Dichlorobenzidine	10	ND	ND	ND	ND
Diethyl phthalate	10	120	41	77	ND
Dimethyl phthalate	10	ND	ND	ND	ND
Di-n-butyl phthalate	10	ND	ND	ND	ND
2,4-Dinitrotoluene	10	ND	ND	ND	ND
2,6-Dinitrotoluene	10	ND	ND	ND	ND
Di-n-octyl phthalate	10	ND	ND	ND	ND
1,2-diphenylhydrazine (as azobenzene)	10	ND	ND	ND	ND
Fluoranthene	10	ND	ND	ND	ND

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SAMPLE:

REPORT OF ANALYSIS

BASE/NEUTRAL EXTRACTS (con't)					
	Detection Limit	17	18	19	20
Fluorene	10	ND	ND	ND	ND
Hexachlorobenzene	10	ND	ND	ND	ND
Hexchlorobutadiene	10	ND	ND	ND	ND
Hexachlorocyclopentadiene	10	ND	ND	< 200ND ^b	ND
Hexachloroethane	10	ND	ND	< 200ND ^b	ND
Ideno(1,2,3-cd)pyrene	25	ND	ND	ND	ND
Isophorone	10	ND	ND	< 200ND ^b	ND
Naphthalene	10	82	34	< 200ND ^b	ND
Nitrobenzene	10	ND	ND	< 200ND ^b	ND
N-nitrosodimethylamine	10	ND	ND	ND	ND
N-nitrosodi-n-propylamine	10	ND	ND	ND	ND
N-nitrosodiphenylamine	10	ND	ND	ND	ND
Benanthrene	10	ND	ND	ND	ND
Pyrene	10	ND	ND	ND	ND
1,2,4-Trichlorobenzene	10	ND	ND	ND	ND
1,2-bis(2-chloroethoxy)ethane	10	39,000	47,000	54,000	ND

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SAMPLE:

REPORT OF ANALYSIS

<u>BASE/NEUTRAL EXTRACTS</u>					
	<u>Detection</u> <u>Limit</u>	<u>21</u>	<u>22</u>	<u>ug/1</u>	
				<u>23</u>	<u>24</u>
Acenaphthene	10	ND	ND	ND	ND
Acenaphthylene	10	ND	ND	ND	ND
Anthracene	10	ND	ND	ND	ND
Benzidine	100	ND	ND	ND	ND
Benzo(a)anthracene	10	ND	ND	ND	ND
Benzo(a)pyrene	10	ND	ND	ND	ND
3,4-Benzofluoranthene	10	ND	ND	ND	ND
Benzo(ghi)perylene	25	ND	ND	ND	ND
Benzo(k)fluoranthene	10	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	10	ND	ND	ND	ND
Bis(2-chloroethyl)ether	10	ND	26	7400	4400
Bis(2-chloroisopropyl)ether	10	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	10	ND	ND	ND	ND
4-bromophenyl phenyl ether	10	ND	ND	ND	ND
Butylbenzyl phthalate	10	ND	ND	ND	ND
2-Chloronaphthalene	10	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	10	ND	ND	ND	ND
Chrysene	10	ND	ND	ND	ND
Dibenzo(a,h)anthracene	25	ND	ND	ND	ND
1,2-Dichlorobenzene	10	ND	ND	ND	ND
1,3-Dichlorobenzene	10	ND	ND	ND	ND
1,4-Dichlorobenzene	10	ND	ND	ND	ND
3,3'-Dichlorobenzidine	10	ND	ND	ND	ND
Diethyl phthalate	10	ND	ND	ND	ND
Dimethyl phthalate	10	ND	ND	ND	ND
Di-n-butyl phthalate	10	ND	ND	ND	ND
2,4-Dinitrotoluene	10	ND	ND	ND	ND
2,6-Dinitrotoluene	10	ND	ND	ND	ND
Di-n-octyl phthalate	10	ND	ND	ND	ND
1,2-diphenylhydrazine (as azobenzene)	10	ND	ND	ND	ND
Fluoranthene	10	ND	ND	ND	ND

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ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

	BASE/NEUTRAL EXTRACTS (con't)				
	Detection Limit	21	22	23	24
Fluorene	10	ND	ND	ND	ND
Hexachlorobenzene	10	ND	ND	ND	ND
Hexchlorobutadiene	10	ND	ND	ND	ND
Hexachlorocyclopentadiene	10	ND	ND	ND	ND
Hexachloroethane	10	ND	ND	ND	ND
Ideno(1,2,3-cd)pyrene	25	ND	ND	ND	ND
Isophorone	10	ND	ND	ND	ND
Naphthalene	10	ND	ND	ND	ND
Nitrobenzene	10	ND	ND	ND	ND
N-nitrosodimethylamine	10	ND	ND	ND	ND
nitrosodi-n-propylamine	10	ND	ND	ND	ND
nitrosodiphenylamine	10	ND	ND	ND	ND
Phenanthrene	10	ND	ND	ND	ND
Pyrene	10	ND	ND	ND	ND
1,2,4-Trichlorobenzene	10	ND	ND	ND	ND
1,2-bis(2-chloroethoxy)ethane	10	ND	46	8500	8500


Brian Janke, Manager
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AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa]

SAMPLE:

REPORT OF ANALYSIS

	<u>BASE/NEUTRAL EXTRACTS</u>				
	<u>Detection</u> <u>Limit</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>
			ug/1		
Acenaphthene	10	ND	ND	ND	ND
Acenaphthylene	10	ND	ND	ND	ND
Anthracene	10	ND	ND	ND	ND
Benzidine	100	ND	ND	ND	ND
Benzo(a)anthracene	10	ND	ND	ND	ND
Benzo(a)pyrene	10	ND	ND	ND	ND
3,4-Benzofluoranthene	10	ND	ND	ND	ND
Benzo(ghi)perylene	25	ND	ND	ND	ND
Benzo(k)fluoranthene	10	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	10	ND	ND	ND	ND
Bis(2-chloroethyl)ether	10	4000	ND	ND	11
Bis(2-chloroisopropyl)ether	10	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	10	ND	ND	ND	ND
4-bromophenyl phenyl ether	10	ND	ND	ND	ND
Butylbenzyl phthalate	10	ND	ND	ND	ND
2-Chloronaphthalene	10	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	10	ND	ND	ND	ND
Chrysene	10	ND	ND	ND	ND
Dibenzo(a,h)anthracene	25	ND	ND	ND	ND
1,2-Dichlorobenzene	10	ND	ND	ND	ND
1,3-Dichlorobenzene	10	ND	ND	ND	ND
1,4-Dichlorobenzene	10	ND	ND	ND	ND
3,3'-Dichlorobenzidine	10	ND	ND	ND	ND
Diethyl phthalate	10	ND	ND	ND	ND
Dimethyl phthalate	10	ND	ND	ND	ND
Di-n-butyl phthalate	10	ND	ND	ND	ND
2,4-Dinitrotoluene	10	ND	ND	ND	ND
2,6-Dinitrotoluene	10	ND	ND	ND	ND
Di-n-octyl phthalate	10	ND	ND	ND	ND
1,2-diphenylhydrazine (as azobenzene)	10	ND	ND	ND	ND
Fluoranthene	10	ND	ND	ND	ND

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ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

	BASE/NEUTRAL EXTRACTS (con't)				
	Detection Limit	25	26	27	28
Fluorene	10	ND	ND	ND	ND
Hexachlorobenzene	10	ND	ND	ND	ND
Hexchlorobutadiene	10	ND	ND	ND	ND
Hexachlorocyclopentadiene	10	ND	ND	ND	ND
Hexachloroethane	10	ND	ND	ND	ND
Ideno(1,2,3-cd)pyrene	25	ND	ND	ND	ND
Isophorone	10	ND	ND	ND	ND
Naphthalene	10	ND	ND	ND	ND
Nitrobenzene	10	ND	ND	ND	ND
N-nitrosodimethylamine	10	ND	ND	ND	ND
N-nitrosodi-n-propylamine	10	ND	ND	ND	ND
nitrosodiphenylamine	10	ND	ND	ND	ND
ananthrene	10	ND	ND	ND	ND
Pyrene	10	ND	ND	ND	ND
1,2,4-Trichlorobenzene	10	ND	ND	ND	ND
1,2-bis(2-chloroethoxy)ethane	10	8700	ND	ND	33


Brian Janke, Manager
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ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

BASE/NEUTRAL EXTRACTS						
	Detection Limit	29	30	ug/l	31	32
Acenaphthene	10	ND	ND		ND	ND
Acenaphthylene	10	ND	ND		ND	ND
Anthracene	10	ND	ND		ND	ND
Benzidine	100	ND	ND		ND	ND
Benzo(a) anthracene	10	ND	ND		ND	ND
Benzo(a) pyrene	10	ND	ND		ND	ND
3,4-Benzofluoranthene	10	ND	ND		ND	ND
Benzo(ghi) perylene	25	ND	ND		ND	ND
Benzo(k) fluoranthene	10	ND	ND		ND	ND
bis(2-chloroethoxy)methane	10	ND	ND		ND	ND
bis(2-chloroethyl) ether	10	ND	44	1300		9000
bis(2-chloroisopropyl) ether	10	ND	ND		ND	ND
bis(2-ethylhexyl) phthalate	10	ND	ND		ND	ND
4-bromophenyl phenyl ether	10	ND	ND		ND	ND
Butylbenzyl phthalate	10	ND	ND		ND	ND
2-Chloronaphthalene	10	ND	ND		ND	ND
4-Chlorophenyl phenyl ether	10	ND	ND		ND	ND
Chrysene	10	ND	ND		ND	ND
Dibenzo(a,h) anthracene	25	ND	ND		ND	
1,2-Dichlorobenzene	10	ND	ND		ND	4
1,3-Dichlorobenzene	10	ND	ND		ND	ND
1,4-Dichlorobenzene	10	ND	ND		ND	ND
3,3'-Dichlorobenzidine	10	ND	ND		ND	ND
Diethyl phthalate	10	ND	ND		ND	14
Dimethyl phthalate	10	ND	ND		ND	ND
Di-n-butyl phthalate	10	ND	ND		ND	ND
2,4-Dinitrotoluene	10	ND	ND		ND	ND
2,6-Dinitrotoluene	10	ND	ND		ND	ND
Di-n-octyl phthalate	10	ND	ND		ND	ND
1,2-diphenylhydrazine (as azobenzene)	10	ND	ND		ND	ND
Fluoranthene	10	ND	ND		ND	ND

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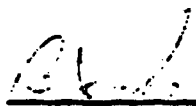
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ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

	BASE/NEUTRAL EXTRACTS (con't)				
	Detection Limit	29	30	31	32
Fluorene	10	ND	ND	ND	ND
Hexachlorobenzene	10	ND	ND	ND	ND
Hexchlorobutadiene	10	ND	ND	ND	ND
Hexachlorocyclopentadiene	10	ND	ND	ND	ND
Hexachloroethane	10	ND	ND	ND	ND
Ideno (1,2,3-cd) pyrene	25	ND	ND	ND	ND
Isophorone	10	ND	ND	ND	ND
Naphthalene	10	ND	ND	ND	8
Nitrobenzene	10	ND	ND	ND	ND
N-nitrosodimethylamine	10	ND	ND	ND	ND
N-nitrosodi-n-propylamine	10	ND	ND	ND	ND
N-nitrosodiphenylamine	10	ND	ND	ND	ND
Benanthrene	10	ND	ND	ND	ND
Pyrene	10	ND	ND	ND	ND
1,2,4-Trichlorobenzene	10	ND	ND	ND	ND
1,2-bis(2-chloroethoxy)ethane	10	ND	180	3000	16,000


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SAMPLE:

REPORT OF ANALYSIS

BASE/NEUTRAL EXTRACTS

	Detection Limit	33	34	ug/l	35	36
Acenaphthene	10	ND	ND		ND	ND
Acenaphthylene	10	ND	ND		ND	ND
Anthracene	10	ND	ND		ND	ND
Benzidine	100	ND	ND		ND	ND
Benzo(a)anthracene	10	ND	ND		ND	ND
Benzo(a)pyrene	10	ND	ND		ND	ND
3,4-Benzofluoranthene	10	ND	ND		ND	ND
Benzo(ghi)perylene	25	ND	ND		ND	ND
Benzo(k)fluoranthene	10	ND	ND		ND	ND
Bis(2-chloroethoxy)methane	10	ND	< 200ND ^b		< 200ND ^b	< 200ND ^b
Bis(2-chloroethyl)ether	10	75,000	27,000		5700	4900
Bis(2-chloroisopropyl)ether	10	ND	< 200ND ^b		< 200ND ^b	< 200ND ^b
Bis(2-ethylhexyl)phthalate	10	14	65		ND	ND
4-bromophenyl phenyl ether	10	ND	ND		ND	ND
Butylbenzyl phthalate	10	ND	ND		ND	ND
2-Chloronaphthalene	10	ND	< 200ND ^b		< 200ND ^b	< 200ND ^b
4-Chlorophenyl phenyl ether	10	ND	ND		ND	ND
Chrysene	10	ND	ND		ND	ND
Dibenzo(a,h)anthracene	25	ND	ND		ND	ND
1,2-Dichlorobenzene	10	27	< 200ND ^b		< 200ND ^b	< 200ND ^b
1,3-Dichlorobenzene	10	ND	< 200ND ^b		< 200ND ^b	< 200ND ^b
1,4-Dichlorobenzene	10	ND	< 200ND ^b		< 200ND ^b	< 200ND ^b
3,3'-Dichlorobenzidine	10	ND	ND		ND	ND
Diethyl phthalate	10	30	71		ND	ND
Dimethyl phthalate	10	ND	ND		ND	ND
Di-n-butyl phthalate	10	ND	ND		ND	ND
2,4-Dinitrotoluene	10	ND	ND		ND	ND
2,6-Dinitrotoluene	10	ND	ND		ND	ND
Di-n-octyl phthalate	10	ND	ND		ND	ND
1,2-diphenylhydrazine						
(as azobenzene)	10	ND	ND		ND	ND
Fluoranthene	10	ND	ND		ND	ND

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ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

BASE/NEUTRAL EXTRACTS (con't)

	Detection Limit	33	34	35	36
Fluorene	10	ND	ND	ND	ND
Hexachlorobenzene	10	ND	ND	ND	ND
Hexachlorobutadiene	10	ND	< 200ND ^b	< 200ND ^b	< 200ND ^b
Hexachlorocyclopentadiene	10	ND	< 200ND ^b	< 200ND ^b	< 200ND ^b
Hexachloroethane	10	ND	< 200ND ^b	< 200ND ^b	< 200ND ^b
Ideno (1,2,3-cd) pyrene	25	ND	ND	ND	ND
Isophorone	10	ND	< 200ND ^b	< 200ND ^b	< 200ND ^b
Naphthalene	10	ND	< 200ND ^b	< 200ND ^b	< 200ND ^b
Nitrobenzene	10	ND	< 200ND ^b	< 200ND ^b	< 200ND ^b
N-nitrosodimethylamine	10	ND	ND	ND	ND
N-nitrosodi-n-propylamine	10	ND	ND	ND	ND
N-nitrosodiphenylamine	10	ND	ND	ND	ND
Phenanthrene	10	ND	ND	ND	ND
Pyrene	10	ND	ND	ND	ND
1,2,4-Trichlorobenzene	10	ND	< 200ND ^b	< 200ND ^b	< 200ND ^b
1,2-bis (2-chloroethoxy) ethane	10	140,000	58,000	11,000	38,000


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ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

<u>BASE/NEUTRAL EXTRACTS</u>				
	<u>Detection</u>		<u>ug/l</u>	
	<u>Limit</u>	<u>37</u>	<u>38</u>	<u>39</u>
Acenaphthene	10	ND	ND	ND
Acenaphthylene	10	ND	ND	ND
Anthracene	10	ND	ND	ND
Benzidine	100	ND	ND	ND
Benzo(a)anthracene	10	ND	ND	ND
Benzo(a)pyrene	10	ND	ND	ND
3,4-Benzofluoranthene	10	ND	ND	ND
Benzo(ghi)perylene	25	ND	ND	ND
Benzo(k)fluoranthene	10	ND	ND	ND
Bis(2-chloroethoxy)methane	10	< 200ND ^b	< 200ND ^b	< 200ND ^b
Bis(2-chloroethyl)ether	10	20,000	22,000	6500
bis(2-chloroisopropyl)ether	10	< 200ND ^b	< 200ND ^b	< 200ND ^b
bis(2-ethylhexyl)phthalate	10	ND	ND	ND
4-bromophenyl phenyl ether	10	ND	ND	ND
Butylbenzyl phthalate	10	ND	ND	ND
2-Chloronaphthalene	10	< 200ND ^b	< 200ND ^b	< 200ND ^b
4-Chlorophenyl phenyl ether	10	ND	ND	ND
Chrysene	10	ND	ND	ND
Dibenzo(a,h)anthracene	25	ND	ND	ND
1,2-Dichlorobenzene	10	< 200ND ^b	< 200ND ^b	< 200ND ^b
1,3-Dichlorobenzene	10	< 200ND ^b	< 200ND ^b	< 200ND ^b
1,4-Dichlorobenzene	10	< 200ND ^b	< 200ND ^b	< 200ND ^b
3,3'-Dichlorobenzidine	10	ND	ND	ND
Diethyl phthalate	10	27	66	54
Dimethyl phthalate	10	ND	ND	ND
Di-n-butyl phthalate	10	ND	ND	ND
2,4-Dinitrotoluene	10	ND	ND	ND
2,6-Dinitrotoluene	10	ND	ND	ND
Di-n-octyl phthalate	10	ND	ND	ND
1,2-diphenylhydrazine (as azobenzene)	10	ND	ND	ND
Fluoranthene	10	ND	ND	ND

Brian Janke, Manager
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TO: [

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8400 Westpark Dr
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JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

BASE/NEUTRAL EXTRACTS (con't)

	Detection Limit	37	ug/l 38	39
Fluorene	10	ND	ND	ND
Hexachlorobenzene	10	ND	ND	ND
Hexchlorobutadiene	10	< 200ND ^b	< 200ND ^b	< 200ND ^b
Hexachlorocyclopentadiene	10	< 200ND ^b	< 200ND ^b	< 200ND ^b
Hexachloroethane	10	< 200ND ^b	< 200ND ^b	< 200ND ^b
Ideno(1,2,3-cd)pyrene	25	ND	ND	ND
Isophorone	10	< 200ND ^b	< 200ND ^b	< 200ND ^b
Naphthalene	10	< 200ND ^b	< 200ND ^b	< 200ND ^b
Nitrobenzene	10	< 200ND ^b	< 200ND ^b	< 200ND ^b
N-nitrosodimethylamine	10	ND	ND	ND
nitrosodi-n-propylamine	10	ND	ND	ND
nitrosodiphenylamine	10	ND	ND	ND
menanthrene	10	ND	ND	ND
Pyrene	10	ND	ND	ND
1,2,4-Trichlorobenzene	10	< 200ND ^b	< 200ND ^b	< 200ND ^b
1,2-bis(2-chloroethoxy)ethane	10	37,000	41,000	7600


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TO: JRB Associates
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JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

QUALITY ASSURANCE	BASE/NEUTRAL EXTRACTS		DUPLICATE ANALYSIS			
	Detection Limit	1st Sample #3 Analysis	2nd Analysis	1st Sample #10 Analysis	2nd Analysis	
			ug/l			
Acenaphthene	10	ND	ND	ND	ND	
Acenaphthylene	10	ND	ND	ND	ND	
Anthracene	10	ND	ND	ND	ND	
Benzidine	100	ND	ND	ND	ND	
Benzo(a)anthracene	10	ND	ND	ND	ND	
Benzo(a)pyrene	10	ND	ND	ND	ND	
3,4-Benzofluoranthene	10	ND	ND	ND	ND	
Benzo(ghi)perylene	25	ND	ND	ND	ND	
Benzo(k)fluoranthene	10	ND	ND	ND	ND	
Bis(2-chloroethoxy)methane	10	ND	ND	ND	ND	
Bis(2-chloroethyl)ether	10	ND	ND	ND	ND	
Bis(2-chloroisopropyl)ether	10	ND	ND	ND	ND	
Bis(2-ethylhexyl)phthalate	10	ND	ND	ND	ND	
4-bromophenyl phenyl ether	10	ND	ND	ND	ND	
Butylbenzyl phthalate	10	ND	ND	ND	ND	
2-Chloronaphthalene	10	ND	ND	ND	ND	
4-Chlorophenyl phenyl ether	10	ND	ND	ND	ND	
Chrysene	10	ND	ND	ND	ND	
Dibenzo(a,h)anthracene	25	ND	ND	ND	ND	
1,2-Dichlorobenzene	10	ND	ND	ND	ND	
1,3-Dichlorobenzene	10	ND	ND	ND	ND	
1,4-Dichlorobenzene	10	ND	ND	ND	ND	
3,3'-Dichlorobenzidine	10	ND	ND	ND	ND	
Diethyl phthalate	10	ND	ND	ND	ND	
Dimethyl phthalate	10	ND	ND	ND	ND	
Di-n-butyl phthalate	10	ND	ND	ND	ND	
2,4-Dinitrotoluene	10	ND	ND	ND	ND	
2,6-Dinitrotoluene	10	ND	ND	ND	ND	
Di-n-octyl phthalate	10	ND	ND	ND	ND	
1,2-diphenylhydrazine (as azobenzene)	10	ND	ND	ND	ND	
Fluoranthene	10	ND	ND	ND	ND	

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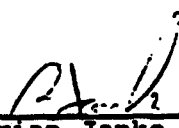
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REPORT OF ANALYSIS

<u>QUALITY ASSURANCE</u>		<u>BASE/NEUTRAL EXTRACTS (con't)</u>		<u>DUPLICATE ANALYSIS</u>	
	<u>Detection</u>	<u>1st Sample #3</u>	<u>2nd ug/l</u>	<u>1st Sample #10</u>	<u>2nd</u>
	<u>Limit</u>	<u>Analysis</u>	<u>Analysis</u>	<u>Analysis</u>	<u>Analysis</u>
Fluorene	10	ND	ND	ND	ND
Hexachlorobenzene	10	ND	ND	ND	ND
Hexchlorobutadiene	10	ND	ND	ND	ND
Hexachlorocyclopentadiene	10	ND	ND	ND	ND
Hexachloroethane	10	ND	ND	ND	ND
Ideno(1,2,3-cd)pyrene	25	ND	ND	ND	ND
Isophorone	10	ND	ND	ND	ND
Naphthalene	10	ND	ND	ND	ND
Nitrobenzene	10	ND	ND	ND	ND
N-nitrosodimethylamine	10	ND	ND	ND	ND
N-nitrosodi-n-propylamine	10	ND	ND	ND	ND
N-nitrosodiphenylamine	10	ND	ND	ND	ND
Benanthrene	10	ND	ND	ND	ND
Pyrene	10	ND	ND	ND	ND
1,2,4-Trichlorobenzene	10	ND	ND	ND	ND
1,2-Bis(2-chloroethoxy)ethane	10	ND	ND	ND	ND


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REPORT OF ANALYSIS

<u>QUALITY ASSURANCE</u>		<u>BASE/NEUTRAL EXTRACTS</u>		<u>DUPLICATE ANALYSIS</u>	
	<u>Detection</u>	<u>1st Sample #20</u>	<u>2nd</u>	<u>1st Sample #28</u>	<u>2nd</u>
	<u>Limit</u>	<u>Analysis</u>	<u>Analysis</u>	<u>Analysis</u>	<u>Analysis</u>
			ug/l		
Acenaphthene	10	ND	ND	ND	ND
Acenaphthylene	10	ND	ND	ND	ND
Anthracene	10	ND	ND	ND	ND
Benzidine	100	ND	ND	ND	ND
Benzo(a)anthracene	10	ND	ND	ND	ND
Benzo(a)pyrene	10	ND	ND	ND	ND
3,4-Benzofluoranthene	10	ND	ND	ND	ND
Benzo(ghi)perylene	25	ND	ND	ND	ND
Benzo(k)fluoranthene	10	ND	ND	ND	ND
bis(2-chloroethoxy)methane	10	ND	ND	ND	ND
bis(2-chloroethyl)ether	10	ND	ND	6	15
bis(2-chloroisopropyl)ether	10	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	10	ND	ND	ND	ND
4-bromophenyl phenyl ether	10	ND	ND	ND	ND
Butylbenzyl phthalate	10	ND	ND	ND	ND
2-Chloronaphthalene	10	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	10	ND	ND	ND	ND
Chrysene	10	ND	ND	ND	ND
Dibenzo(a,h)anthracene	25	ND	ND	ND	ND
1,2-Dichlorobenzene	10	ND	ND	ND	ND
1,3-Dichlorobenzene	10	ND	ND	ND	ND
1,4-Dichlorobenzene	10	ND	ND	ND	ND
3,3'-Dichlorobenzidine	10	ND	ND	ND	ND
Diethyl phthalate	10	ND	ND	ND	ND
Dimethyl phthalate	10	ND	ND	ND	ND
Di-n-butyl phthalate	10	ND	ND	ND	ND
2,4-Dinitrotoluene	10	ND	ND	ND	ND
2,6-Dinitrotoluene	10	ND	ND	ND	ND
Di-n-octyl phthalate	10	ND	ND	ND	ND
1,2-diphenylhydrazine					
(as azobenzene)	10	ND	ND	ND	ND
Fluoranthene	10	ND	ND	ND	ND

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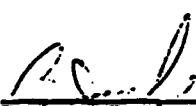
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SAMPLE:

REPORT OF ANALYSIS

QUALITY ASSURANCE BASE/NEUTRAL EXTRACTS (con't) DUPLICATE ANALYSIS

	Detection Limit	1st Sample #20 Analysis	2nd Analysis	1st Sample #28 Analysis	2nd Analysis
Fluorene	10	ND	ND	ND	ND
Hexachlorobenzene	10	ND	ND	ND	ND
Hexchlorobutadiene	10	ND	ND	ND	ND
Hexachlorocyclopentadiene	10	ND	ND	ND	ND
Hexachloroethane	10	ND	ND	ND	ND
Ideno(1,2,3-cd)pyrene	25	ND	ND	ND	ND
Isophorone	10	ND	ND	ND	ND
Naphthalene	10	ND	ND	ND	ND
Nitrobenzene	10	ND	ND	ND	ND
N-nitrosodimethylamine	10	ND	ND	ND	ND
N-nitrosodi-n-propylamine	10	ND	ND	ND	ND
N-nitrosodiphenylamine	10	ND	ND	ND	ND
Benanthrene	10	ND	ND	ND	ND
Pyrene	10	ND	ND	ND	ND
1,2,4-Trichlorobenzene	10	ND	ND	ND	ND
1,2-Bis(2-chloroethoxy)ethane	10	ND	ND	21	45


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REPORT OF ANALYSIS

ACID EXTRACTS

	Detection Limit	1	2	ug/l 3	4
2-Chlorophenol	25	< 500ND ^b	< 500ND ^b	ND	< 500ND ^b
2,4-Dichlorophenol	25	< 500ND ^b	< 500ND ^b	ND	< 500ND ^b
2,4-Dimethylphenol	25	< 500ND ^b	< 500ND ^b	ND	< 500ND ^b
4,6-Dinitro-o-cresol	250	< 5000ND ^b	< 5000ND ^b	ND	< 5000ND ^b
2,4-Dinitrophenol	250	< 5000ND ^b	< 5000ND ^b	ND	< 5000ND ^b
2-Nitrophenol	25	< 500ND ^b	< 500ND ^b	ND	< 500ND ^b
4-Nitrophenol	25	< 500ND ^b	< 500ND ^b	ND	< 500ND ^b
chloro-m-cresol	25	< 500ND ^b	< 500ND ^b	ND	< 500ND ^b
antachlorophenol	25	< 500ND ^b	< 500ND ^b	ND	< 500ND ^b
Phenol	25	5300	12,000	ND	4000
2,4,6-Trichlorophenol	25	< 500ND ^b	< 500ND ^b	ND	< 500ND ^b

interference

38.17

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SAMPLE:

REPORT OF ANALYSIS

ACID EXTRACTS

	Detection Limit	5	6	7	8
			ug/l		
2-Chlorophenol	25	< 250ND ^b	ND	ND	ND
2,4-Dichlorophenol	25	< 250ND ^b	ND	ND	ND
2,4-Dimethylphenol	25	< 250ND ^b	ND	ND	ND
4,6-Dinitro-o-cresol	250	<2500ND ^b	ND	ND	ND
2,4-Dinitrophenol	250	<2500ND ^b	ND	ND	ND
2-Nitrophenol	25	< 250ND ^b	ND	ND	ND
4-Nitrophenol	25	< 250ND ^b	ND	ND	ND
2-chloro-m-cresol	25	< 250ND ^b	ND	ND	ND
2,4,6-Trichlorophenol	25	< 250ND ^b	ND	ND	ND
2,4,6-Trichlorophenol	25	12,000	68	ND	ND
2,4,6-Trichlorophenol	25	< 250ND ^b	ND	ND	ND

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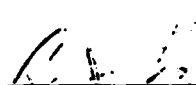
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REPORT OF ANALYSIS

ACID EXTRACTS

	<u>Detection Limit</u>	<u>9</u>	<u>10</u>	ug/l	<u>11</u>	<u>12</u>
2-Chlorophenol	25	ND	ND		ND	ND
2,4-Dichlorophenol	25	ND	ND		ND	ND
2,4-Dimethylphenol	25	ND	ND		ND	ND
4,6-Dinitro-o-cresol	250	ND	ND		ND	ND
2,4-Dinitrophenol	250	ND	ND		ND	ND
2-Nitrophenol	25	ND	ND		ND	ND
4-Nitrophenol	25	ND	ND		ND	ND
3-chloro-m-cresol	25	ND	ND		ND	ND
2,4,6-Trichlorophenol	25	ND	ND		ND	ND
Phenol	25	ND	ND		ND	ND
2,4,6-Trichlorophenol	25	ND	ND		ND	ND


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ACID EXTRACTS

	Detection Limit	<u>13</u>	<u>14</u>	ug/l <u>15</u>	<u>16</u>
2-Chlorophenol	25	ND	ND	ND	ND
2,4-Dichlorophenol	25	ND	ND	ND	15 ^a
2,4-Dimethylphenol	25	ND	ND	ND	ND
4,6-Dinitro-o-cresol	250	ND	ND	ND	ND
2,4-Dinitrophenol	250	ND	ND	ND	ND
2-Nitrophenol	25	ND	ND	ND	ND
4-Nitrophenol	25	ND	ND	ND	ND
chloro-m-cresol	25	ND	ND	ND	ND
atachlorophenol	25	ND	ND	ND	ND
enol	25	ND	ND	ND	1700
2,4,6-Trichlorophenol	25	ND	ND	ND	ND

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JOB NO. 29582

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ATT: Dr. Edward Repa

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REPORT OF ANALYSIS

	<u>ACID EXTRACTS</u>				
	<u>Detection Limit</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>
			ug/l		
2-Chlorophenol	25	ND	ND	ND	ND
2,4-Dichlorophenol	25	ND	ND	ND	ND
2,4-Dimethylphenol	25	ND	ND	ND	ND
4,6-Dinitro-o-cresol	250	ND	ND	ND	ND
2,4-Dinitrophenol	250	ND	ND	ND	ND
2-Nitrophenol	25	ND	ND	ND	ND
4-Nitrophenol	25	ND	ND	ND	ND
2-chloro-m-cresol	25	ND	ND	ND	ND
2,4,6-Trichlorophenol	25	ND	ND	ND	ND
Phenol	25	5900	38	26	ND
2,4,6-Trichlorophenol	25	ND	ND	ND	ND

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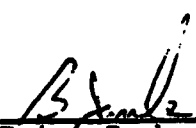
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SAMPLE:

REPORT OF ANALYSIS

ACID EXTRACTS

	<u>Detection Limit</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>
2-Chlorophenol	25	ND	ND	ND	ND
2,4-Dichlorophenol	25	ND	ND	ND	ND
2,4-Dimethylphenol	25	ND	ND	ND	ND
4,6-Dinitro-o-cresol	250	ND	ND	ND	ND
2,4-Dinitrophenol	250	ND	ND	ND	ND
2-Nitrophenol	25	ND	ND	ND	ND
4-Nitrophenol	25	ND	ND	ND	ND
2-chloro-m-cresol	25	ND	ND	ND	ND
2,4,6-Trichlorophenol	25	ND	ND	ND	ND
Phenol	25	ND	ND	350	57
2,4,6-Trichlorophenol	25	ND	ND	ND	ND


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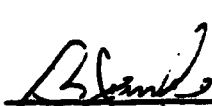
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REPORT OF ANALYSIS

<u>ACID EXTRACTS</u>					
	<u>Detection</u> <u>Limit</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>
			ug/l		
2-Chlorophenol	25	ND	ND	ND	ND
2,4-Dichlorophenol	25	ND	ND	ND	ND
2,4-Dimethylphenol	25	ND	ND	ND	ND
4,6-Dinitro-o-cresol	250	ND	ND	ND	ND
2,4-Dinitrophenol	250	ND	ND	ND	ND
2-Nitrophenol	25	ND	ND	ND	ND
4-Nitrophenol	25	ND	ND	ND	ND
2-chloro-m-cresol	25	ND	ND	ND	ND
2,4,6-Trichlorophenol	25	ND	ND	ND	ND
Phenol	25	150	ND	ND	ND
2,4,6-Trichlorophenol	25	ND	ND	ND	ND


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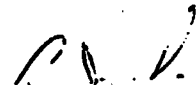
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REPORT OF ANALYSIS

ACID EXTRACTS

	<u>Detection Limit</u>	<u>29</u>	<u>30</u> ug/l	<u>31</u>	<u>32</u>
2-Chlorophenol	25	ND	ND	ND	ND
2,4-Dichlorophenol	25	ND	ND	ND	ND
2,4-Dimethylphenol	25	ND	ND	ND	ND
4,6-Dinitro-o-cresol	250	ND	ND	ND	ND
2,4-Dinitrophenol	250	ND	ND	ND	ND
2-Nitrophenol	25	ND	ND	ND	ND
4-Nitrophenol	25	ND	ND	ND	ND
2-chloro-m-cresol	25	ND	ND	ND	ND
2,4,6-Trichlorophenol	25	ND	ND	ND	ND
2,4,6-Trichlorophenol	25	ND	ND	ND	260


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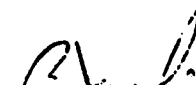
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REPORT OF ANALYSIS

ACID EXTRACTS

	<u>Detection Limit</u>	<u>33</u>	<u>34</u> ug/l	<u>35</u>	<u>36</u>
2-Chlorophenol	25	< 250ND ^b	ND	ND	ND
2,4-Dichlorophenol	25	< 250ND ^b	ND	ND	ND
2,4-Dimethylphenol	25	< 250ND ^b	ND	ND	ND
4,6-Dinitro-o-cresol	250	< 2500ND ^b	ND	ND	ND
2,4-Dinitrophenol	250	< 2500ND ^b	ND	ND	ND
2-Nitrophenol	25	< 250ND ^b	ND	ND	ND
4-Nitrophenol	25	< 250ND ^b	ND	ND	ND
chloro-m-cresol	25	< 250ND ^b	ND	ND	ND
pentachlorophenol	25	< 250ND ^b	ND	ND	ND
Phenol	25	22,000	2000	ND	62
2,4,6-Trichlorophenol	25	< 250ND ^b	ND	ND	ND


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SAMPLE:

REPORT OF ANALYSIS

ACID EXTRACTS

Detection
Limit

37

38
ug/l

39

2-Chlorophenol	25	ND	ND	ND
2,4-Dichlorophenol	25	ND	ND	ND
2,4-Dimethylphenol	25	ND	ND	ND
4,6-Dinitro-o-cresol	250	ND	ND	ND
2,4-Dinitrophenol	250	ND	ND	ND
2-Nitrophenol	25	ND	ND	ND
4-Nitrophenol	25	ND	ND	ND
chloro-m-cresol	25	ND	ND	ND
atachlorophenol	25	ND	ND	ND
phenol	25	7500	6100	4500
2,4,6-Trichlorophenol	25	ND	ND	ND


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<u>PESTICIDES AND PCB'S</u>					
	Detection Limit	1	2 ug/l	3	4
Aldrin	2	< 2 ^a	ND	ND	ND
BHC, Alpha	2	< 2 ^a	< 2 ^a	ND	ND
BHC, Beta	2	ND	ND	ND	ND
BHC, Gamma	2	ND	ND	ND	ND
BHC, Delta	2	ND	< 2 ^a	ND	ND
Chlordane	5	ND	ND	ND	ND
4,4' DDT	2	ND	ND	ND	ND
4,4' DDE	2	ND	ND	ND	ND
4,4' DDD	2	ND	ND	ND	ND
Dieldrin	2	ND	ND	ND	ND
Endosulfan-alpha	2	< 2 ^a	ND	ND	ND
Endosulfan-beta	2	2.1	ND	ND	ND
Endosulfan Sulfate	2	ND	ND	ND	ND
Endrin	2	ND	ND	ND	ND
Endrin Aldehyde	2	ND	ND	ND	ND
Heptachlor	2	ND	ND	ND	ND
Heptachlor epoxide	2	ND	ND	ND	ND
PCB-1242	10	<25ND ^b	<25ND ^b	ND	ND
PCB-1254	10	<25ND ^b	<25ND ^b	ND	ND
PCB-1221	10	<25ND ^b	<25ND ^b	ND	ND
PCB-1232	10	<25ND ^b	<25ND ^b	ND	ND
PCB-1248	10	<25ND ^b	<25ND ^b	ND	ND
PCB-1260	10	<25ND ^b	<25ND ^b	ND	ND
PCB-1016	10	<25ND ^b	<25ND ^b	ND	ND
Toxaphene	5	ND	ND	ND	ND

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Organic Laboratory

BJ:na

princeton testing laboratory

DATE: Sept 26, 1983

TO: JRB Associates
8400 Westpark Dr.
McLean VA 22102
ATT: Dr. Edward Repa

JOB NO. 29562

AUTHORIZATION: 84-9950

SAMPLE:

REPORT OF ANALYSIS

PESTICIDES AND PCB'S

	<u>Detection Limit</u>	<u>5</u>	<u>6</u> ug/l	<u>7</u>	<u>8</u>
Aldrin	2	ND	ND	ND	ND
BHC, Alpha	2	ND	ND	ND	ND
BHC, Beta	2	ND	ND	ND	ND
BHC, Gamma	2	ND	ND	ND	ND
BHC, Delta	2	ND	ND	ND	ND
Chlordane	5	ND	ND	ND	ND
4,4' DDT	2	ND	ND	ND	ND
4,4' DDE	2	ND	ND	ND	ND
4' DDD	2	ND	ND	ND	ND
aldrin	2	ND	ND	ND	ND
Endosulfan-alpha	2	ND	ND	ND	< 2 ^a
Endosulfan-beta	2	ND	ND	ND	ND
Endosulfan Sulfate	2	ND	ND	ND	ND
Endrin	2	ND	ND	ND	ND
Endrin Aldehyde	2	ND	ND	ND	ND
Heptachlor	2	ND	ND	ND	< 2 ^a
Heptachlor epoxide	2	ND	ND	ND	2
PCB-1242	10	ND	ND	ND	ND
PCB-1254	10	ND	ND	ND	ND
PCB-1221	10	ND	ND	ND	ND
PCB-1232	10	ND	ND	ND	ND
PCB-1248	10	ND	ND	ND	ND
PCB-1260	10	ND	ND	ND	ND
PCB-1016	10	ND	ND	ND	ND
Toxaphene	5	ND	ND	ND	ND

Brian Janke, Manager
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REPORT OF ANALYSIS

<u>PESTICIDES AND PCB'S</u>					
	<u>Detection Limit</u>	<u>9</u>	<u>10</u> ug/l	<u>11</u>	<u>12</u>
Aldrin	2	ND	ND	ND	ND
BHC, Alpha	2	ND	ND	ND	ND
BHC, Beta	2	ND	ND	ND	ND
BHC, Gamma	2	ND	ND	ND	ND
BHC, Delta	2	ND	ND	ND	ND
Chlordane	5	ND	ND	ND	ND
4,4' DDT	2	ND	ND	ND	ND
4' DDE	2	ND	ND	ND	ND
4' DDD	2	ND	ND	ND	ND
Dieldrin	2	ND	ND	ND	ND
Endosulfan-alpha	2	ND	< 2 ^a	ND	ND
Endosulfan-beta	2	ND	ND	ND	ND
Endosulfan Sulfate	2	ND	ND	ND	ND
Endrin	2	ND	ND	ND	ND
Endrin Aldehyde	2	ND	ND	ND	ND
Heptachlor	2	ND	< 2 ^a	ND	ND
Heptachlor epoxide	2	ND	< 2 ^a	< 2 ^a	ND
PCB-1242	10	ND	ND	ND	ND
PCB-1254	10	ND	ND	ND	ND
PCB-1221	10	ND	ND	ND	ND
PCB-1232	10	ND	ND	ND	ND
PCB-1248	10	ND	ND	ND	ND
PCB-1260	10	ND	ND	ND	ND
PCB-1016	10	ND	ND	ND	ND
Toxaphene	5	ND	ND	ND	ND

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REPORT OF ANALYSIS

PESTICIDES AND PCB'S

	<u>Detection Limit</u>	<u>13</u>	<u>14</u>	<u>15</u>
Aldrin	2	ND	ND	ND
BHC, Alpha	2	ND	ND	ND
BHC, Beta	2	ND	ND	ND
BHC, Gamma	2	ND	ND	ND
BHC, Delta	2	ND	ND	ND
Chlordane	5	ND	ND	ND
4,4'DDT	2	ND	ND	ND
4'DDE	2	ND	ND	ND
4'DDD	2	ND	ND	ND
dieldrin	2	ND	ND	ND
Endosulfan-alpha	2	ND	ND	ND
Endosulfan-beta	2	ND	ND	ND
Endosulfan Sulfate	2	ND	ND	ND
Endrin	2	ND	ND	ND
Endrin Aldehyde	2	ND	ND	< 2 ^a
Heptachlor	2	ND	ND	ND
Heptachlor epoxide	2	ND	ND	ND
PCB-1242	10	ND	ND	ND
PCB-1254	10	ND	ND	ND
PCB-1221	10	ND	ND	ND
PCB-1232	10	ND	ND	ND
PCB-1248	10	ND	ND	ND
PCB-1260	10	ND	ND	ND
PCB-1016	10	ND	ND	ND
Toxaphene	5	ND	ND	ND

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SAMPLE:

REPORT OF ANALYSIS

<u>PESTICIDES AND PCB'S</u>					
	<u>Detection</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>
	<u>Limit</u>		ug/1		
Aldrin	2	ND	< 2 ^a	ND	ND
BHC, Alpha	2	< 2 ^a	< 2 ^a	ND	ND
BHC, Beta	2	ND	ND	ND	< 2 ^a
BHC, Gamma	2	ND	ND	ND	ND
BHC, Delta	2	ND	< 2 ^a	ND	ND
Chlordane	5	ND	ND	ND	ND
4'DDT	2	ND	ND	ND	ND
4'DDE	2	ND	ND	ND	ND
.,4'DDD	2	ND	ND	ND	ND
Dieldrin	2	ND	ND	ND	ND
Endosulfan-alpha	2	ND	ND	ND	< 2 ^a
Endosulfan-beta	2	ND	ND	ND	ND
Endosulfan Sulfate	2	ND	ND	ND	ND
Endrin	2	ND	ND	ND	ND
Endrin Aldehyde	2	ND	ND	ND	ND
Heptachlor	2	ND	ND	ND	< 2 ^a
Heptachlor epoxide	2	< 2 ^a	ND	ND	ND
PCB-1242	10	ND	< 25ND ^b	ND	ND
PCB-1254	10	ND	< 25ND ^b	ND	ND
PCB-1221	10	ND	< 25ND ^b	ND	ND
PCB-1232	10	ND	< 25ND ^b	ND	ND
PCB-1248	10	ND	< 25ND ^b	ND	ND
PCB-1260	10	ND	< 25ND ^b	ND	ND
PCB-1016	10	ND	< 25ND ^b	ND	ND
Toxaphene	5	ND	ND	ND	ND

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SAMPLE:]

REPORT OF ANALYSIS

PESTICIDES AND PCB'S

	<u>Detection Limit</u>	<u>20</u>	<u>21</u> ug/l	<u>22</u>	<u>23</u>
Aldrin	2	ND	ND	ND	ND
BHC, Alpha	2	ND	ND	ND	ND
BHC, Beta	2	ND	ND	ND	ND
BHC, Gamma	2	ND	ND	ND	ND
BHC, Delta	2	ND	ND	ND	ND
Chlordane	5	ND	ND	ND	ND
4,4' DDT	2	ND	ND	ND	ND
4' DDE	2	ND	ND	ND	ND
1' DDD	2	ND	ND	ND	ND
eldrin	2	ND	ND	ND	ND
Endosulfan-alpha	2	ND	ND	ND	2
Endosulfan-beta	2	ND	ND	ND	ND
Endosulfan Sulfate	2	ND	ND	ND	ND
Endrin	2	ND	ND	ND	ND
Endrin Aldehyde	2	ND	ND	ND	ND
Heptachlor	2	ND	ND	ND	ND
Heptachlor epoxide	2	ND	ND	ND	ND
PCB-1242	10	ND	ND	ND	ND
PCB-1254	10	ND	ND	ND	ND
PCB-1221	10	ND	ND	ND	ND
PCB-1232	10	ND	ND	ND	ND
PCB-1248	10	ND	ND	ND	ND
PCB-1260	10	ND	ND	ND	ND
PCB-1016	10	ND	ND	ND	ND
Toxaphene	5	ND	ND	ND	ND

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<u>PESTICIDES AND PCB'S</u>					
	<u>Detection Limit</u>	<u>24</u>	<u>25</u> ug/l	<u>26</u>	<u>27</u>
Aldrin	2	ND	ND	ND	ND
BHC, Alpha	2	ND	ND	ND	ND
BHC, Beta	2	ND	ND	ND	ND
BHC, Gamma	2	ND	ND	ND	ND
BHC, Delta	2	ND	ND	ND	ND
Chlordane	5	ND	ND	ND	ND
.4'DDT	2	ND	ND	ND	ND
4'DDE	2	ND	ND	ND	ND
.4'DDD	2	ND	ND	ND	ND
Dieldrin	2	ND	ND	ND	ND
Endosulfan-alpha	2	< 2 ^a	< 2 ^a	ND	ND
Endosulfan-beta	2	ND	ND	ND	ND
Endosulfan Sulfate	2	ND	ND	ND	ND
Endrin	2	ND	ND	ND	ND
Endrin Aldehyde	2	ND	ND	ND	ND
Heptachlor	2	ND	ND	ND	ND
Heptachlor epoxide	2	ND	ND	ND	ND
PCB-1242	10	ND	ND	ND	ND
PCB-1254	10	ND	ND	ND	ND
PCB-1221	10	ND	ND	ND	ND
PCB-1232	10	ND	ND	ND	ND
PCB-1248	10	ND	ND	ND	ND
PCB-1260	10	ND	ND	ND	ND
PCB-1016	10	ND	ND	ND	ND
Toxaphene	5	ND	ND	ND	ND

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REPORT OF ANALYSIS

PESTICIDES AND PCB'S

	<u>Detection Limit</u>	<u>28</u>	<u>29</u>	<u>30</u>	<u>31</u>
			ug/l		
Aldrin	2	ND	ND	ND	ND
BHC, Alpha	2	ND	ND	ND	ND
BHC, Beta	2	ND	ND	ND	ND
BHC, Gamma	2	ND	ND	ND	ND
BHC, Delta	2	ND	ND	ND	ND
Chlordane	5	ND	ND	ND	ND
4,4' DDT	2	ND	ND	ND	ND
4' DDE	2	ND	ND	ND	ND
4' DDD	2	ND	ND	ND	ND
dieldrin	2	ND	ND	ND	ND
Endosulfan-alpha	2	ND	ND	ND	ND
Endosulfan-beta	2	ND	ND	ND	ND
Endosulfan Sulfate	2	ND	ND	ND	ND
Endrin	2	ND	ND	ND	ND
Endrin Aldehyde	2	ND	ND	ND	ND
Heptachlor	2	ND	ND	ND	ND
Heptachlor epoxide	2	ND	ND	ND	ND
PCB-1242	10	ND	ND	ND	ND
PCB-1254	10	ND	ND	ND	ND
PCB-1221	10	ND	ND	ND	ND
PCB-1232	10	ND	ND	ND	ND
PCB-1248	10	ND	ND	ND	ND
PCB-1260	10	ND	ND	ND	ND
PCB-1016	10	ND	ND	ND	ND
Toxaphene	5	ND	ND	ND	ND

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<u>PESTICIDES AND PCB'S</u>					
	Detection Limit	32	33	34	35
			ug/l		
Aldrin	2	< 2 ^a	< 2 ^a	ND	ND
BHC, Alpha	2	< 2 ^a	< 2 ^a	< 2 ^a	ND
BHC, Beta	2	ND	ND	ND	ND
BHC, Gamma	2	2.2	< 2 ^a	ND	ND
BHC, Delta	2	ND	ND	ND	ND
Chlordane	5	ND	ND	ND	ND
,4'DDT	2	ND	ND	ND	ND
4'DDE	2	ND	ND	ND	ND
,4'DDD	2	ND	ND	ND	ND
Dieldrin	2	ND	ND	ND	ND
Endosulfan-alpha	2	ND	2.1	< 2 ^a	ND
Endosulfan-beta	2	ND	ND	ND	ND
Endosulfan Sulfate	2	ND	ND	ND	ND
Endrin	2	ND	< 2 ^a	ND	ND
Endrin Aldehyde	2	ND	ND	ND	ND
Heptachlor	2	ND	ND	ND	ND
Heptachlor epoxide	2	< 2 ^a	ND	ND	ND
PCB-1242	10	<15ND ^b	<25ND ^b	ND	ND
PCB-1254	10	<15ND ^b	<25ND ^b	ND	ND
PCB-1221	10	<15ND ^b	<25ND ^b	ND	ND
PCB-1232	10	<15ND ^b	<25ND ^b	ND	ND
PCB-1248	10	<15ND ^b	<25ND ^b	ND	ND
PCB-1260	10	<15ND ^b	<25ND ^b	ND	ND
PCB-1016	10	<15ND ^b	<25ND ^b	ND	ND
Toxaphene	5	ND	ND	ND	ND

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REPORT OF ANALYSIS

PESTICIDES AND PCB'S

	<u>Detection Limit</u>	<u>36</u>	<u>37</u> ug/l	<u>38</u>	<u>39</u>
Aldrin	2	ND	ND	ND	ND
BHC, Alpha	2	ND	ND	ND	< 2 ^a
BHC, Beta	2	ND	ND	ND	< 2 ^a
BHC, Gamma	2	< 2 ^a	ND	ND	ND
BHC, Delta	2	ND	ND	ND	ND
Chlordane	5	ND	ND	ND	ND
4,4'DDT	2	ND	ND	ND	ND
4'DDE	2	ND	ND	ND	ND
4'DDD	2	ND	ND	ND	ND
Dieldrin	2	ND	ND	ND	ND
Endosulfan-alpha	2	< 2 ^a	ND	< 2 ^a	< 2 ^a
Endosulfan-beta	2	ND	ND	ND	ND
Endosulfan Sulfate	2	ND	ND	ND	ND
Endrin	2	ND	ND	ND	ND
Endrin Aldehyde	2	ND	ND	ND	2
Heptachlor	2	ND	ND	ND	ND
Heptachlor epoxide	2	ND	ND	ND	ND
PCB-1242	10	ND	ND	ND	ND
PCB-1254	10	ND	ND	ND	ND
PCB-1221	10	ND	ND	ND	ND
PCB-1232	10	ND	ND	ND	ND
PCB-1248	10	ND	ND	ND	ND
PCB-1260	10	ND	ND	ND	ND
PCB-1016	10	ND	ND	ND	ND
Toxaphene	5	ND	ND	ND	ND

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SAMPLE:

REPORT OF ANALYSIS

QUALITY ASSURANCE PESTICIDES AND PCB'S DUPLICATE ANALYSIS

	<u>Detection</u>	<u>1st</u>	<u>2nd</u>	<u>1st</u>	<u>2nd</u>
	<u>Limit</u>	<u>Analysis</u>	<u>Analysis</u>	<u>Analysis</u>	<u>Analysis</u>
		<u>Sample 20</u>		<u>Sample 28</u>	
		ug/l			
Aldrin	2	ND	ND	ND	ND
BHC, Alpha	2	ND	ND	ND	ND
BHC, Beta	2	ND	ND	ND	ND
BHC, Gamma	2	ND	ND	ND	ND
BHC, Delta	2	ND	ND	ND	ND
Chlordane	5	ND	ND	ND	ND
.4'DDT	2	ND	ND	ND	ND
4'DDE	2	ND	ND	ND	ND
.,4'DDD	2	ND	ND	ND	ND
Dieldrin	2	ND	ND	ND	ND
Endosulfan-alpha	2	ND	ND	ND	ND
Endosulfan-beta	2	ND	ND	ND	ND
Endosulfan Sulfate	2	ND	ND	ND	ND
Endrin	2	ND	ND	ND	ND
Endrin Aldehyde	2	ND	ND	ND	ND
Heptachlor	2	ND	ND	ND	ND
Heptachlor epoxide	2	ND	ND	ND	ND
PCB-1242	10	ND	ND	ND	ND
PCB-1254	10	ND	ND	ND	ND
PCB-1221	10	ND	ND	ND	ND
PCB-1232	10	ND	ND	ND	ND
PCB-1248	10	ND	ND	ND	ND
PCB-1260	10	ND	ND	ND	ND
PCB-1016	10	ND	ND	ND	ND
Toxaphene	5	ND	ND	ND	ND

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SAMPLE:

REPORT OF ANALYSIS

QUALITY ASSURANCE PESTICIDES AND PCB'S DUPLICATE ANALYSIS

	Detection Limit	1st Analysis Sample 3	2nd Analysis Sample 10	1st Analysis Sample 3	2nd Analysis Sample 10
		ug/l			
Aldrin	2	ND	ND	ND	ND
BHC, Alpha	2	ND	ND	ND	ND
BHC, Beta	2	ND	ND	ND	ND
BHC, Gamma	2	ND	ND	ND	ND
BHC, Delta	2	ND	ND	ND	ND
Chlordane	5	ND	ND	ND	ND
4,4' DDT	2	ND	ND	ND	ND
4' DDE	2	ND	ND	ND	ND
4' DDD	2	ND	ND	ND	ND
Dieldrin	2	ND	ND	ND	ND
Endosulfan-alpha	2	ND	ND	ND	< 2 ^a
Endosulfan-beta	2	ND	ND	ND	ND
Endosulfan Sulfate	2	ND	ND	ND	ND
Endrin	2	ND	ND	ND	ND
Endrin Aldehyde	2	ND	ND	ND	ND
Heptachlor	2	ND	ND	< 2 ^a	< 2 ^a
Heptachlor epoxide	2	ND	ND	< 2 ^a	< 2 ^a
PCB-1242	10	ND	ND	ND	ND
PCB-1254	10	ND	ND	ND	ND
PCB-1221	10	ND	ND	ND	ND
PCB-1232	10	ND	ND	ND	ND
PCB-1248	10	ND	ND	ND	ND
PCB-1260	10	ND	ND	ND	ND
PCB-1016	10	ND	ND	ND	ND
Toxaphene	5	ND	ND	ND	ND

Brian Janke, Manager
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AUTHORIZATION: PO#84-9950

SAMPLE:

REPORT OF ANALYSIS

Samples received 8/11/83				
	2	3	4	5
	mg/l			
Beryllium	< 0.05 ND	< 0.05 ND	< 0.05	< 0.05
~Cadmium	0.021	< 0.01	< 0.01	< 0.01
~Chromium	2.0	< 0.02	1.1	0.95
~Copper	< 0.02	0.027	0.021	0.023
Nickel	0.25	< 0.05	0.056	0.054
~Lead	0.11	0.026	0.037	0.033
~Zinc	0.082	0.073	0.15	0.12
~Arsenic	0.018	0.013	0.016	< 0.01
~Silver	0.012	0.011	0.010	0.013
~Antimony	< 0.20	< 0.20 ND	< 0.20 ND	< 0.20 ND
~Selenium	< 0.01 ND	0.014	< 0.01	< 0.01
Thallium	0.19	< 0.10 ND	< 0.10	< 0.10
~Mercury	< 0.001ND	< 0.001ND	0.013	< 0.001ND
Cyanide	0.02	< 0.01	< 0.01	< 0.01
Phenols	18.4	< 0.1	5.70	16.0

Edna A. Alinea
Edna A. Alinea, Manager
Water, waste water & microbiology

EAA:na

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JOB NO. 29562

AUTHORIZATION: PO#84-9950

SAMPLE:

REPORT OF ANALYSIS

Sample received 8/11/83

	6	7	8	9
	mg/l			
Beryllium	< 0.05 ND	< 0.05 ND	< 0.05	< 0.05
Cadmium	< 0.01	< 0.01	< 0.01 ND	< 0.01
Chromium	0.76	0.21	0.055	0.13
Copper	< 0.02	< 0.02	< 0.02	< 0.02
Nickel	0.080	0.12	< 0.05	0.055
Lead	< 0.02	< 0.02	< 0.02	0.022
Zinc	0.044	0.046	0.026	0.098
Arsenic	< 0.01	< 0.01	< 0.01 ND	< 0.01
Silver	< 0.01	< 0.01	< 0.01	< 0.01
Antimony	< 0.20	< 0.20 ND	< 0.20 ND	< 0.20 ND
Selenium	< 0.01 ND	< 0.01	< 0.01	< 0.01 ND
Thallium	< 0.10	< 0.10 ND	< 0.10 ND	< 0.10 ND
Mercury	< 0.001ND	< 0.001	< 0.001	< 0.001
Cyanide	< 0.01	< 0.01 ND	< 0.01 ND	< 0.01
Phenols	1.70	1.3	0.17	0.21

Edna A. Alinea
Edna A. Alinea, Manager
Water, waste water & microbiolog

EAA:na

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DATE: September 23, 1983

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8400 Westpark Drive
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ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

Sample received 8/11/83

	11	12	13
	mg/l		
Beryllium	< 0.05 ND	< 0.05	< 0.05 ND
Cadmium	< 0.01	< 0.01	< 0.01
Chromium	0.020	0.37	< 0.02 ND
Copper	< 0.02	< 0.02	< 0.02
Nickel	< 0.05	0.066	< 0.05
Lead	< 0.02	< 0.02	< 0.02 ND
Zinc	0.051	0.025	< 0.01
Arsenic	< 0.01 ND	< 0.01 ND	< 0.01
Silver	< 0.01	< 0.01	< 0.01
Antimony	< 0.20 ND	< 0.20 ND	< 0.20 ND
Selenium	< 0.01 ND	< 0.01 ND	< 0.01
Thallium	< 0.10 ND	< 0.10	< 0.10
Mercury	< 0.001	0.0010	< 0.001
Cyanide	< 0.01	< 0.01	< 0.01
Phenols	< 0.1	0.18	< 0.1

Edna A. Alinea
Edna A. Alinea, Manager
Water, waste water & microbiology

EAA:na

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DATE: September 26, 1983

JOB NO. 29562

AUTHORIZATION: PO#84-9950

TO: JRB Associates
8400 Westpark Drive
McLean, VA 22102
ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

samples received 8/11/83

	14	15	16	17
	mg/l			
Beryllium	< 0.05	< 0.05 ND	< 0.05	< 0.05
Cadmium	< 0.01	< 0.01	< 0.01	< 0.01
Chromium	0.072	0.38	0.38	0.89
Copper	< 0.02	< 0.02	< 0.02	< 0.02
Nickel	< 0.05	0.052	0.079	0.13
Lead	0.082	< 0.02	< 0.02	0.030
Zinc	0.021	0.031	0.028	0.040
Arsenic	< 0.01	< 0.01 ND	< 0.01	< 0.01
Silver	< 0.01	< 0.01	< 0.01	< 0.01
Antimony	< 0.20 ND	< 0.20	< 0.20	< 0.20
Selenium	< 0.01 ND	< 0.01	0.014	0.012
Thallium	< 0.10	< 0.10	< 0.10	0.10
Mercury	< 0.001	0.0010	< 0.001	< 0.001
Cyanide	< 0.01 ND	< 0.01	< 0.01	< 0.01
Phenols	0.15	0.37	3.00	7.9

Edna A. Alinea
Edna A. Alinea, Manager
Water, waste water & microbiol.

EAA:na

princeton
testing
laboratory

DATE: September 26, 1983

TO: [

JRB Associates
8400 Westpark Drive
McLean, VA 22102
ATT: Dr. Edward Repa

JOB NO. 29562

AUTHORIZATION: PO#84-9950

SAMPLE:

REPORT OF ANALYSIS

sample received 8/11/83

18

19

mg/l

Beryllium	< 0.05	ND	< 0.05
Cadmium	< 0.01		< 0.01
Chromium	0.74		0.69
Copper	0.020		0.021
Nickel	0.10		0.092
Lead	0.032		0.034
Zinc	0.13		0.11
Arsenic	< 0.01		< 0.01
Silver	< 0.01		< 0.01
Antimony	< 0.20		< 0.20 ND
Selenium	< 0.01		< 0.01
Thallium	< 0.10		< 0.10 ND
Mercury	< 0.001ND		< 0.001ND
Cyanide	< 0.01		< 0.01
Phenols	0.79		0.66

Edna A. Alinea
Edna A. Alinea, Manager
Water, waste water & microbiol

EAA:na

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DATE: Sept 26, 1983

TO: [

JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

Samples received 8/11/83

	31	32	33	34
		mg/l		
Beryllium	< 0.05	< 0.05	< 0.05	< 0.05
Cadmium	0.011	0.016	0.031	0.068
Chromium	1.2	3.2	17.5	51.0
Copper	0.029	0.043	0.058	0.20
Nickel	< 0.05	0.092	0.19	0.70
Lead	0.070	0.040	0.077	0.92
Zinc	0.16	0.26	0.33	1.3
Arsenic	< 0.01	0.038	< 0.01	0.087
Silver	0.011	0.018	0.020	0.080
Antimony	0.21	< 0.20ND	< 0.20	< 0.20
Selenium	< 0.01ND	< 0.01ND	0.026	0.029
Thallium	0.22	< 0.10	< 0.10	0.24
Mercury	0.0016	0.0016	< 0.001ND	0.0024
Cyanide	< 0.01	< 0.01	< 0.01	< 0.01
Phenols	0.12	0.80	6.6	7.1

Edna A. Alinea
Edna A. Alinea, Manager
Water, waste water & microbiology

EAA:na

princeton
testing
laboratory

DATE: Sept 26, 1983

TO: JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

sample received 8/11/83

	35	36	37 mg/l	38	39
Beryllium	< 0.05	< 0.05	< 0.05ND	< 0.05ND	< 0.05ND
Cadmium	0.016	0.023	0.017	0.019	0.015
Chromium	5.1	5.1	3.6	3.9	2.3
Copper	0.050	0.15	0.10	0.12	0.025
Nickel	0.18	0.30	0.18	0.17	0.17
Lead	0.032	0.12	0.050	0.075	0.031
Zinc	1.2	0.98	0.25	0.47	0.25
Arsenic	0.025	0.023	0.015	0.074	< 0.01
Silver	0.015	0.019	0.017	0.010	0.026
Antimony	< 0.20ND	< 0.20	< 0.20	< 0.20	< 0.20ND
Selenium	0.039	0.085	0.19	0.21	0.11
Thallium	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Mercury	0.0011	< 0.001	< 0.001ND	< 0.001	< 0.001
Cyanide	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenols	0.25	0.27	0.87	1.4	8.06

Edna A. Alinea
Edna A. Alinea, Manager
Water, waste water & microbiology

EAA:na

princeton
testing
laboratory

DATE: September 26, 1983

TO: JRB Associates
8400 Westpark Drive
McLean, VA 22102
ATTN: Dr. Edward Repa

JOB NO. 29562

AUTHORIZATION: PO#84-9950

SAMPLE:

REPORT OF ANALYSIS

	Duplicate		Quality Control Sample #1		% Recovery
	I	II	Spiked Solution Added	Spiked Sample	
			mg/l		
Beryllium	<0.05	<0.05	0.50	0.49	98
Cadmium	<0.01	<0.01	0.50	0.48	96
Chromium	1.6	1.7	0.50	2.12	94
Copper	<0.02	<0.02	0.50	0.50	100
Nickel	<0.05	<0.05	0.50	0.52	98
Lead	0.097	0.090	0.50	0.59	99
Zinc	0.073	0.068	0.50	0.56	98
Arsenic	<0.01	<0.01	0.10	0.092	92
Silver	<0.01	0.010	0.50	0.52	102
Antimony	<0.20ND	<0.20ND	0.50	0.48	96
Selenium	<0.01	<0.01	0.10	0.089	89
Thallium	<0.10	<0.10	0.50	0.48	96
Mercury	<0.001ND	<0.001ND	0.01	0.094	94
Cyanide	<0.01	<0.01	0.15	0.153	102
Phenols	16.0	16.1	0.25	16.28	92
					1439

Edna A. Alinea
Edna A. Alinea, Manager
Water, waste water & microbiology

EAA:na

princeton testing laboratory

DATE: September 26, 1983

JOB NO. 29562

AUTHORIZATION: PO#84-9950

TO: JRB Associates
8400 Westpark Drive
McLean, VA 22102
ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

Quality Control Sample #10					
	Duplicate		Spiked Solution Added	Spiked Sample	% Recovery
	I	II			
	mg/l				
Beryllium	< 0.05	< 0.05	0.50	0.48	96
Cadmium	< 0.01ND	< 0.01ND	0.50	0.49	98
Chromium	0.055	0.052	0.50	0.53	95
Copper	0.022	0.023	0.50	0.51	97
Nickel	< 0.05	< 0.05	0.50	0.46	92
Lead	0.035	0.031	0.50	0.54	101
Zinc	0.084	0.078	0.50	0.56	96
Arsenic	< 0.01	< 0.01	0.10	0.096	96
Silver	< 0.01	< 0.01	0.50	0.48	96
Antimony	< 0.20	ND< 0.20ND	0.50	0.47	94
Selenium	< 0.01	< 0.01	0.10	0.096	96
Thallium	< 0.10	ND< 0.10ND	0.50	0.45	90
Mercury	< 0.001	< 0.001	0.01	0.010	100
Cyanide	< 0.01	< 0.01	0.15	0.153	102
Phenols	0.11	0.10	0.25	0.36	102
					<u>51</u>

Edna A. Alinea
Edna A. Alinea, Manager
Water, waste water & microbiology

EAA:na

princeton
testing
laboratory

DATE: Sept 26, 1983

TO: JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

Quality Control Sample #20

	Duplicate		Spiked Solution Added	Spiked Sample	% Recovery
	I	II			
Beryllium	< 0.05ND	< 0.05ND	0.50	0.47	94
Cadmium	< 0.01	< 0.01	0.50	0.48	96
Chromium	< 0.02	< 0.02	0.50	0.49	98
Copper	< 0.02	< 0.02	0.50	0.50	100
Nickel	< 0.05	< 0.05	0.50	0.46	92
Lead	0.026	0.024	0.50	0.51	97
Zinc	< 0.01	< 0.01	0.50	0.50	100
Arsenic	< 0.01	< 0.01	0.10	0.0996	97
Silver	0.018	0.021	0.50	0.45	90
Antimony	< 0.20	< 0.20	0.50	0.48	96
Selenium	0.023	0.026	0.20	0.21	93
Thallium	< 0.10	< 0.10	0.50	0.45	90
Mercury	< 0.001	< 0.001	0.005	0.005	100
Cyanide	< 0.01	< 0.01	0.15	0.14	93
Phenols	0.15	0.15	0.25	0.4	100

1436

Edna A. Alinea

Edna A. Alinea, Manager
Water, waste water & microbiology

EAA:na

princeton
testing
laboratory

DATE: Sept 26, 1983

TO: [

JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

Quality Control Sample 30

	<u>Duplicate</u>		<u>Spiked Solution Added</u>	<u>Spiked Sample</u>	<u>% Recovery</u>
	<u>I</u>	<u>II</u>			
			mg/l		
Beryllium	< 0.05ND	< 0.05ND	0.50	0.48	96
Cadmium	< 0.01	< 0.01	0.50	0.49	98
Chromium	< 0.02ND	< 0.02ND	0.50	0.43	86
Copper	< 0.02	< 0.02	0.50	0.48	96
Nickel	< 0.05	< 0.05	0.50	0.47	94
Lead	< 0.02	< 0.02	0.50	0.49	98
Zinc	0.017	0.015	0.50	0.51	99
Arsenic	< 0.01ND	< 0.01ND	0.10	0.0988	99
Silver	< 0.01ND	< 0.01ND	0.50	0.45	90
Antimony	< 0.20ND	< 0.20ND	0.50	0.47	94
Selenium	< 0.01	< 0.01	0.20	0.18	90
Thallium	< 0.10ND	< 0.10ND	0.50	0.50	100
Mercury	< 0.001	< 0.001	0.005	0.005	100
Cyanide	< 0.01	< 0.01	0.15	0.14	93
Phenols	0.18	0.16	0.25	0.43	104
					1437

Edna A. Alinea
Edna A. Alinea, Manager
Water, waste water & microbiology

EAA:na

PRINCETON SERVICE CENTER
U.S. Route 1
609-452-9050
TLXN4-3492



P.O. Box 3108, Princeton, N.J. 08540

TO: ☐

DATE:

JOB NO.

AUTHORIZATION:

SAMPLE:

REPORT OF ANALYSIS

princeton
testing
laboratory

DATE: Sept 27, 1983

TO: [JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 83-9950

ATT: DR. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

QUALITY ASSURANCE ACID EXTRACTS DUPLICATE ANALYSIS

	<u>Detection Limit</u>	<u>Sample #3</u>		<u>Sample #10</u>	
		<u>Analysis</u>	<u>Analysis</u>	<u>Analysis</u>	<u>Analysis</u>
		<u>1st</u>	<u>2nd</u>	<u>1st</u>	<u>2nd</u>
2-Chlorophenol	25	ND	ND	ND	ND
2,4-Dichlorophenol	25	ND	ND	ND	ND
2,4-Dimethylphenol	25	ND	ND	ND	ND
4,6-Dinitro-o-cresol	250	ND	ND	ND	ND
2,4-Dinitrophenol	250	ND	ND	ND	ND
2-Nitrophenol	25	ND	ND	ND	ND
4-Nitrophenol	25	ND	ND	ND	ND
-chloro-m-cresol	25	ND	ND	ND	ND
ntachlorophenol	25	ND	ND	ND	ND
phenol	25	ND	ND	ND	ND
2,4,6-Trichlorophenol	25	ND	ND	ND	ND

Brian Janke, Manager
Organic Laboratory

BJ:na

princeton
testing
laboratory

DATE: Sept 27, 1983

TO: [

JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

QUALITY ASSURANCE ACID EXTRACTS DUPLICATE ANALYSIS

	Detection Limit	Sample #20 Analysis	Sample #20 Analysis	Sample #28 Analysis	Sample #28 Analysis
		1st	2nd	1st	2nd
2-Chlorophenol	25	ND	ND	ND	ND
2,4-Dichlorophenol	25	ND	ND	ND	ND
2,4-Dimethylphenol	25	ND	ND	ND	ND
4,6-Dinitro-o-cresol	250	ND	ND	ND	ND
2,4-Dinitrophenol	250	ND	ND	ND	ND
2-Nitrophenol	25	ND	ND	ND	ND
4-Nitrophenol	25	ND	ND	ND	ND
2-chloro-m-cresol	25	ND	ND	ND	ND
2,4,6-Trichlorophenol	25	ND	ND	ND	ND


Brian Janke, Manager
Organic Laboratory

BJ:na



QUALITY CONTROL REPORT

Job # 29562
Analyst BJ/SV
Date 9-26-83

A. MATRIX SPIKE ANALYSIS

• P O Box 3108, Princeton N.J. 08540

[illegible]

$$\% \text{ Recovery} = \frac{(SSR - SR)}{(SA)} \times 100$$



QUALITY CONTROL REPORT

A. MATRIX SPIKE ANALYSIS

Job # 4-502
Analyst BJ/SV
Date 9-26-83

• P O Box 3108, Princeton N.J. 08540

[illegible]

$$\% \text{ Recovery} = \frac{(SSR - SR)}{(SA)} \times 100$$

11/17/01



QUALITY CONTROL REPORT

A. MATRIX SPIKE ANALYSIS

• P O Box 3108, Princeton N.J. 08540

Job # 295
Analyst RJ/SV
Date 9-26-83

[illegible]

$$\% \text{ Recovery} = \frac{(SSR - SR)}{(SA)} \times 100$$



QUALITY CONTROL REPORT

Job # 62
Analyst BJ/SV
Date 9-26-83

A. MATRIX SPIKE ANALYSIS

• P O Box 3108, Princeton N.J. 08540

[illegible]

$$\% \text{ Recovery} = \frac{(SSR - SR)}{(SA)} \times 100$$

11/17/01



Princeton Service Center
U.S. Route 1
609-452-9050

• P.O. Box 3108, Princeton, N.J. 08540

Job # 29564
Analyst: BJ/SV
9-26-83

QUALITY CONTROL REPORT

A. MATRIX SPOKE ANALYSIS

[illegible]

****Bis (2-chloroethyl) ether prevent proper quantitation of this compound.**

$$\% \text{ Recovery} = \frac{(SSR - SR)}{(SA)} \times 100$$



QUALITY CONTROL REPORT

A. MATRIX SPIKE ANALYSIS

Job # 2-46
Analyst BJ/SV
Date 9-26-83

[illegible]

$$\% \text{ Recovery} = \frac{(SSR - SR)}{(SA)} \times 100$$

10/07/01



QUALITY CONTROL REPORT

A. MATRIX SPIKE ANALYSIS

Job # 2202
Analyst BJ/SV
Date 9-26-83

• P.O. Box 3108, Princeton, N.J. 08540

[illegible]

$$\% \text{ Recovery} = \frac{(SSR - SR)}{(SA)} \times 100$$



QUALITY CONTROL REPORT

A. MATRIX SPIKE ANALYSIS

Job # 29562 .B
Analyst MFE
Date 9-23-83

• P.O. Box 3108, Princeton, N.J. 08540

[illegible]

$$\% \text{ Recovery} = \frac{(SSR - SR)}{(SA)} \times 100$$



QUALITY CONTROL REPORT

A. MATRIX SPIKE ANALYSIS

• P.O. Box 3108, Princeton, N.J. 08540

Job # 295b JRB
Analyst MEE
Date 9-23-83

[illegible]

$$\% \text{ Recovery} = \frac{(SSR - SR)}{(SA)} \times 100$$

11/13/013



QUALITY CONTROL REPORT

A. MATRIX SPIKE ANALYSIS

• P O Box 3108, Princeton, N.J. 08540

Job # 29562 -B

Analyst: MFE

Date 9-23-83

[illegible]

$$\% \text{ Recovery} = \frac{(SSR - SR)}{(SA)} \times 100$$



QUALITY CONTROL REPORT

A. MATRIX SPOKE ANALYSIS

• P.O. Box 3108, Princeton, N.J. 08540

Job # 2 JRB
Analyst MFE
Date 9-23-83

[illegible]

$$\% \text{ Recovery} = \frac{(SSR - SR)}{(SA)} \times 100$$

81 8121011

CHAIN OF CUSTODY RECORD (AIR)

ANALYSIS REQUIRED

Project #		Project Name:		ANALYSIS REQUIRED														REMARKS
57-3		Lipari		Solids	Aldehydes	Phenolics	Mercury	Metals	Cyanides	Asbestos	Organics GC/MS	Base/Neutral	Volatile Organics	Pesticides & PCB's	Bacteriology	Misc. Chem.	# of Containers	
Samplers Signature: <i>[Signature]</i>																		
Stat. #	Date	Time	Comp	Grab	Station Location													
JRB-20	8/12/83	11:30		X	MASTER DISTRICT HQ FIELD BANK													
JRB-21	8/12/83	11:40		X	K-1 Baker													
JRB-22	8/14/83	12:01		X	K-1													
JRB-23	8/12/83	12:26		X	K-2													
JRB-24	8/12/83	12:54		X	K-3													
JRB-25	8/12/83	12:54		X	K-3 R													
JRB-26	8/12/83	1:32		X	K-4													
JRB-27	8/12/83	2:34		X	CYA													
JRB-28	8/12/83	3:08		X	UP-STREAM K-5-23 water point CONFIDENCE OF TRIP													
JRB-29	8/12/83	3:17		X	K-5-23													
Relinquished by: (signature)		Date/time		Received by: (signature)		Relinquished by: (signature)		Date/time		Received by: (signature)		Relinquished by: (signature)		Date/time		Received by: (signature)		
<i>[Signature]</i>		8/12/83 10:49		<i>[Signature]</i>														
Relinquished by: (signature)		Date/time		Received by: (signature)		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										
								Lab Test: 128 priority pollutants plus Bis(2-chloroethoxy) ether										

CHAIN OF CUSTODY RECORD (AIR)

ANALYSIS REQUIRED

Project #		Project Name:		ANALYSIS REFERENCE																						
37-3		LIPAE.																								
Samplers Signature																										
Stat. #				Date	Time	Comp	Grab	Station Location	Solids	Aldehydes	Phenolics	Mercury	Metals	Cyanides	Asbestos	Organics GC/MS	Base/Neutral	Volatiles	Organics	Pesticides	PCB's	Bacteriology	Misc. Chem.	# of Containers	REMARKS	
SPB-30				8/12/83	3:00		X	SW-1 (downstream)																		
SPB-31				8/12/83	7:20		X	CP-4																		
SPB-32				8/12/83	6:51		X	CP-3																		
SPB-33				8/12/83	6:18		X	CP-2																		
SPB-34				8/12/83	5:45		X	CP-1																		WELL FULL OF SAND SAMPLED 6' below surface
SPB-35				8/12/83	9:29		X	C10A																		
SPB-36				8/12/83	10:00		X	C11																		
SPB-37				8/12/83	10:23		X	C7																		
SPB-38				8/12/83	10:28		X	C7R																		
SPB-39				8/12/83	10:51		X	C6A																		
Relinquished by: (signature)				Date/time		Received by: (signature)				Relinquished by: (signature)				Date/time		Received by: (signature)										
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														

Princeton Testing Laboratory, PO Box 3108, Princeton, NJ 08540

CHAIN OF CUSTODY RECORD (AIR)

Project #

37-3

Project Name: LIPARI

WASTE SITE

Sampler's Signature

[Signature]

ANALYSIS REQUIRED

Solids	Aldehydes	Phenolics	Mercury	Metals	Cyanides	Asbestos	Organics GC/MS	Base/Neutral	Volatile Organics	Pesticides	PCB's	Bacteriology	Misc. Chem.	# of Containers
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

R. HANKS

Stat.#	Date	Time	Comp	Grab	Station Location
JRB-1	8/10/83	9:10		X	C-19
JRB-2	8/10/83	9:37		X	C-19
JRB-3	8/10/83	9:50		X	FIELD BLANK
JRB-4	8/10/83	10:00		X	C-20
JRB-4	8/10/83	10:13		X	C-20
JRB-5	8/10/83	11:01		X	C-17
JRB-6	8/10/83	11:36		X	C-16
JRB-7	8/10/83	12:31		X	C-15
JRB-8	8/10/83	13:55		X	K-5
JRB-9	9/11/83	14:40		X	K-5

1st Well p/for/cag
tripped empty deviceFrank J. J. J.
Number in line

SA/ for lunch

Relinquished by:
(signature)*[Signature]*

Date/time

8/11/83
9:15 AMReceived by:
(signature)*[Signature]*Relinquished by:
(signature)*[Signature]*

Date/time

8/11/83
9Received by:
(signature)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

Lab Test: 12/19/83 pollutants p.
Bis-(2-chloroethoxy) Ethane

Princeton Testing Laboratory, PO Box 3108, Princeton, NJ 08540

CHAIN OF CUSTODY RECORD (AIR)

ANALYSIS REQUIRED

Project #

J7 J

Project Name:

Lipari Waste Site

Samplers Signature

Stat. #

Date

Time

Comp

Grab

Station Location

Solids

Aldehydes

Phenolics

Mercury

Metals

Cyanides

Asbestos

Organics

GC/MS

Base/Neutral

Volatile

Organics

Pesticides

PCB's

Bacteriology

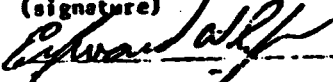
Misc. Chem.

of

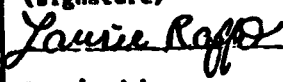
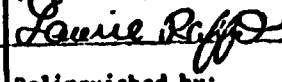
Containers

REMARKS

JRB-10	8/11/83	3:18	/	/	K-6
JRB-11	8/11/83	3:18	/	/	K-6R
JRB-12	8/11/83	4:13	/	/	C-26
JRB-13	8/11/83	4:19	/	/	C25 Baken
JRB-14	8/11/83	5:13	/	/	C25
JRB-15	8/11/83	5:48	/	/	C24
JRB-16	8/11/83	6:22	/	/	C23
JRB-17	8/11/83	6:42	/	/	C21
JRB-18	8/11/83	7:18	/	/	C22
JRB-19	8/11/83	7:31	/	/	C22R

Relinquished by:
(signature)


Date/time

8/11/83
9:15 AMReceived by:
(signature)

Relinquished by:
(signature)


Date/time

8/11/83

Received by:
(signature)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

Lab Test: 12/primary pollutants plus
Bio (2-chloroethane) effluent

Princeton Testing Laboratory, PO Box 3108, Princeton, NJ 08540

CHAIN OF CUSTODY RECORD (AIR)

ANALYSIS REQUIRED

Project #		Project Name:		ANALYSIS REQUIRED													REMARKS		
87-3		Lipari		Solids	Aldehydes	Phenolics	Mercury	Metals	Cyanides	Asbestos	Organics GC/MS	Base/Neutral	Volatile Organics	Pesticides	PCB's	Bacteriology		Misc. Chem.	# of Containers
Stat. #	Date	Time	Comp	Grab	Station Location														
JRB-20	8/12/83	11:30		X	Field Blank														
JRB-21	8/12/83	11:40		X	K-1 Baker														
JRB-22	8/14/83	12:01		X	K-1														
JRB-23	8/12/83	12:26		X	K-2														
JRB-24	8/12/83	12:54		X	K-3														
JRB-25	8/12/83	12:54		X	K-3R														
JRB-26	8/12/83	1:32		X	K-4														
JRB-27	8/12/83	2:34		X	CYA														
JRB-28	8/12/83	3:08		X	UP-PRISM under light fluorescence of TRIS														
JRB-29	8/12/83	3:17		X	SM-2														
Relinquished by: (signature)		Date/time 8/12/83 10:49		Received by: (signature) JAMES A. ZPK		Relinquished by: (signature)		Date/time		Received by: (signature)		Relinquished by: (signature)		Date/time		Received by: (signature)			
Relinquished by: (signature)		Date/time		Received by: (signature)		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 Lab Test: 128 priority pollutants plus Bis(2-chloroethoxy) ether											

princeton
testing
laboratory

1000 Route 510 Princeton, N.J. 08540

DATE: Sept 26, 1983

TO: JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

Samples received 8/11/83

	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>
	mg/l			
Beryllium	< 0.05ND	< 0.05ND	< 0.05	< 0.05
Cadmium	< 0.01ND	< 0.01	< 0.01	< 0.01
Chromium	< 0.02ND	0.059	0.47	0.55
Copper	< 0.02	< 0.02	< 0.02	< 0.02
Nickel	< 0.05	< 0.05	< 0.05	0.12
Lead	< 0.02	0.041	0.036	0.075
Zinc	< 0.01	0.034	0.034	2.1
Arsenic	< 0.01	< 0.01	< 0.01ND	< 0.01
Silver	< 0.01	0.026	0.031	0.010
Antimony	< 0.20ND	0.22	< 0.20	< 0.20
Selenium	< 0.01ND	0.014	< 0.01ND	0.026
Thallium	< 0.10ND	< 0.10	.10	0.12
Mercury	< 0.001ND	< 0.001ND	< 0.001ND	< 0.001ND
Cyanide	< 0.01	< 0.01	< 0.01	< 0.01
Phenols	0.11	0.11	1.05	0.46

Edna A. Alinea
Edna A. Alinea, Manager
Water, waste water & microbiology

EAA:na

princeton
testing
laboratory

DATE: Sept 26, 1983

TO: JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 29562

AUTHORIZATION: 84-9950

ATT: Dr. Edward Repa

SAMPLE:

REPORT OF ANALYSIS

	sample received 8/11/83				
	25	26	27	28	29
	mg/l				
Beryllium	< 0.05	< 0.05ND	< 0.05	< 0.05ND	< 0.05ND
Cadmium	0.010	< 0.01ND	< 0.01	< 0.01	< 0.01
Chromium	0.59	0.022	1.6	< 0.02ND	< 0.02
Copper	< 0.02	< 0.02	0.047	< 0.020	< 0.02
Nickel	0.050	< 0.05	< 0.05	< 0.05ND	< 0.05
Lead	0.054	0.028	0.071	< 0.02	0.020
Zinc	1.1	0.032	0.19	0.012	0.016
Arsenic	< 0.01	< 0.01	0.016	< 0.01	< 0.01
Silver	0.010	< 0.01	< 0.01	< 0.01ND	< 0.01
Antimony	0.27	< 0.20	< 0.20	< 0.20	< 0.20ND
Selenium	< 0.01	< 0.01	< 0.01ND	0.83	0.76
Thallium	0.11	< 0.10	0.27	< 0.10ND	< 0.10ND
Mercury	< 0.001ND	< 0.001	< 0.001	0.0016	< 0.001
Cyanide	< 0.01	< 0.01	< 0.01ND	< 0.01	< 0.01
Phenols	0.42	0.11	0.20	0.21	0.15

Edna A. Alinea

Edna A. Alinea, Manager
Water, waste water & microbiology

EAA:na

1, +, 5 = 31

CHAIN OF CUSTODY RECORD (AIR)

ANALYSIS REQUIRED

Project # 87-3
Project Name: LIPAC

Samplers Signature: [Signature]

Stat. #	Date	Time	Comp	Gr	Station Location																			
JR8-30	8/12/83	3:00		X	SW-1 (downstream)																			
JR8-31	8/12/83	7:20		X	CP-4																			
JR8-32	8/12/83	6:51		X	CP-3																			
JR8-33	8/12/83	6:18		X	CP-2																			
JR8-34	8/12/83	5:45		X	CP-1																			
JR8-35	8/12/83	9:29		X	C10A																			
JR8-36	8/12/83	10:00		X	C11																			
JR8-37	8/12/83	10:23		X	C7																			
JR8-38	8/12/83	10:28		X	C7R																			
JR8-39	8/12/83	10:51		X	C6A																			

WELL TAIL OF SAND
SAMPLED 6 ft below water level

Received by:

WELL TAIL & SAND
SAMPLED 6/12/83 by JPL

Relinquished by: (signature) <u>[Signature]</u>	Date/time <u>8/10/83</u> <u>10:49</u>	Received by: (signature) <u>[Signature]</u>	Relinquished by: (signature)	Date/time	Received by: (signature)
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 <u>Lab Test: 120 priority pollutants</u> <u>plus Bis (2-chloroethoxy) Ethn</u>	

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LIMITED SAMPLING DURING CONSTRUCTION - 2/84



15. Box
10-50-1000
11334-402

princeton
testing
laboratory

DATE: March 15, 1984

TO: [

JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 32197

AUTHORIZATION: verbal

ATT: Dr. Edward Repa

SAMPLE:

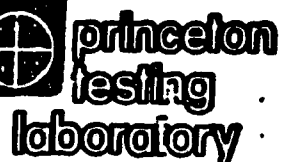
REPORT OF ANALYSIS

<u>Sample #</u>	<u>Well</u>	<u>Bis-(2-chloroethyl)ether</u>	<u>Bis-(2-chloroethoxy)etha</u>
		ug/l	
1	Blank	ND	ND
2	C- 7	19,000	27,000
3	C-23	11,000	9,500
4	K-7	ND	ND
5	C-22	4,200	6,500
6	C-21	36,000	51,000
7	K-6	ND	ND
8	C-18	39,000	68,000
9	C-19	76,000	86,000
10	K-3	3,700	6,700
11	K-3R	3,900	7,700
12	K-2	13,000	24,000
13	K-4	ND	ND
14	K-1	89	88
15	K-5	ND	ND

Brian Janke
Brian Janke, Manager
Organic Laboratory

BJ:na

Princeton Service Center
U.S. Route 1
609-452-9050



Princeton Service Center
U.S. Route 1
609-452-9050

Job # 197
Analyst: SV
Date: 3-15-84

QUALITY CONTROL REPORT

A. MATRIX SPIKE ANALYSIS

• P.O. Box 3106, Princeton, N.J. 08540

[illegible]

$$\% \text{ Recovery} = \frac{(SSR - SR)}{(SA)} \times 100$$

00000000

H₂O
Chain of Custody Record (ASB)

ANALYSIS REQUIRED

Project #		Project Name: <i>LiPmi</i>																			
Sample Signature: <i>E. W. [Signature]</i>							Solids	Aldehydes	Phenolics	Mercury	Metals	Cyanides	Asbestos	Organics GC/MS	Base/Neutral	Volatile Organics	Pesticides & PCB's	Bacteriology	Misc. Chem.	# of Containers	REMARKS
Stat. #	Date	Time	Comp	Grd	Station Location																
1	9/21/14	3:30		✓	Blank															<i>ANALYSIS All Samples</i> B-2 (chloroethy) Ethane B-2 (2 chloroeth) Ethane B-2 (2 chloroethy) Ethane B-2 (2 chloroethy) Ethane B-2 (2 chloroethy) Ethane B-2 (2 chloroethy) Ethane B-2 (2 chloroethy) Ethane B-2 (2 chloroethy) Ethane B-2 (2 chloroethy) Ethane B-2 (2 chloroethy) Ethane	
2		3:30		✓	C-7																
3		3:50		✓	C-23																
4		3:59		✓	K-7																
5		4:04		✓	C-22																
6		4:11		✓	C-21																
7		4:30		✓	K-6																
8		4:37		✓	C-18																
9		4:45		✓	C-19																
10		5:25		✓	K-3																
Relinquished by: (signature)		Date/time		Received by: (signature)		Relinquished by: (signature)		Date/time		Received by: (signature)		Date/time		Received by: (signature)		Date/time		Received by: (signature)			
<i>E. W. [Signature]</i>		10/21/14 9:55		<i>A. Minner</i>		<i>A. Minner</i>		10:05		<i>E. W. [Signature]</i>											
Relinquished by: (signature)		Date/time		Received by: (signature)		Relinquished by: (signature)		Date/time		Received by: (signature)		Date/time		Received by: (signature)		Date/time		Received by: (signature)			
Relinquished by: (signature)		Date/time		Received for laboratory by (signature):		Date/time		REMARKS													

Princeton Testing Laboratory, PO Box 3100, Princeton, NJ 08540

ANALYSIS REQUIRED

Analysts
All samples

Relinquished by:
(signature)

Date/time
10 Feb 84
9:55

Received by:
(signature).

Relinquished by:
(signature),

Date/time
10:02

Received by
(signature)

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

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/84

LIMITED SAMPLING - 12/84

princeton
testing
laboratory

RECEIVED MAR 5 1985

DATE: 2-27-85

TO: [

JRB Associates
8400 Westpark Dr.
McLean Va 22102
ATT: Dr. Edward Repa

JOB NO. 36371

AUTHORIZATION: verbal

SAMPLE: water

REPORT OF ANALYSIS

Volatile Organics analysis

Compound	Method Detection Limit	micrograms per liter				
		K-1	K-5	K-7	C-8A	C-15
Benzene	1	ND	ND	ND	ND	ND
Toluene	1	2.6	1.2	2.4	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND
1,2-dichloroethane	1	ND	ND	ND	ND	ND
1,1-dichloroethane	1	10	ND	ND	ND	ND

Semi-Volatile Organics Analysis

Compound	Method Detection Limit	K-1	K-5	K-7	C-8A	C-15
Bis (2-chloroethoxy) ethane	10	40	ND	ND	ND	ND
Bis (2-chloroethyl) ether	10	20	ND	ND	ND	ND

Gene Dennison PhD, CIH
Technical Director

GD:mm

princeton
testing
laboratory

DATE: 2-27-85

TO: [

JRB Associates
8400 Westpark Dr
McLean, Va 22102
ATT: Dr. Edward Repa

JOB NO. 36371

AUTHORIZATION: verbal

SAMPLE: water

REPORT OF ANALYSIS

Volatile Organics Analysis

Compound	Method Detection Limit	micrograms per liter	
		C-25	C-26
Benzene	1	24	ND
Toluene	1	25	ND
Methylene Chloride	5	ND	ND
1,2-dichloroethane	1	ND	5.8
1,1-dichloroethane	1	ND	1.1

Semi-Volatile Organics Analysis

Compound	Method Detection Limit	C-25	C-26
Bis (2-chloroethoxy) ethane	10	1200	32
Bis (2-chloroethyl) ether	10	1900	86

Gene Dennison, PhD, CIH
Technical Director

GDM

princeton
testing
laboratory

DATE: 2-27-85

TO: [

JRB Associates
8400 Westpark Dr
McLean Va 22102
ATT: Dr. Edward Repa

JOB NO. 36371

AUTHORIZATION: verbal

SAMPLE: water

REPORT OF ANALYSIS

Volatile Organics Analysis

Compound	*Method Detection Limit	micrograms per liter			
		C-7	C-23	C-6A	C-21
Benzene	10	8,700	2,800	4,100	690
Toluene	10	41,000	6,500	26,000	8,400
Methylene Chloride	10	2,900	220	2,600	13
1,2-dichloroethane	50	3,800	ND	8,300	ND
1,1-dichloroethane	10	ND	ND	ND	ND

Semi-Volatile Organics analysis

Compound	Method Detection Limit	C-7	C-23	C-6A	C-21
Bis (2-chloroethoxy) ethane	10	36,000	110	7,100	5,800
Bis (2-chloroethyl) ether	10	79,000	210	15,000	12,000

* Due to the high amount of organics present, the sample size was reduced:
therefore the method detection limit is higher.

Gene Dennison, Ph.D., CIH
Technical Director

GD:mm

princeton testing laboratory

DATE: 2-27-85

TO: [

JRB Associates
8400 Westpark Dr
McLean Va 22102
ATT: Dr. Edward Repa

JOB NO. 36371

AUTHORIZATION: verbal

SAMPLE: water

REPORT OF ANALYSIS

Volatile Organics Analysis

Compound	Method Detection Limit	micrograms per liter				
		K-3R	Trip Blank	BW-1	C-22	C-24
Benzene	1	ND	ND	ND	250	200
Toluene	1	61	ND	ND	1100	700
Methylene Chloride	1	500	ND	ND	ND	ND
1,2-dichloroethane	5	120	ND	ND	ND	680
1,1-dichloroethane	1	ND	ND	ND	ND	ND

Semi-Volatile Organics analysis

Compound	Method Detection Limit	micrograms per liter				
		K-3R	Trip Blank	BW-1	C-22	C-24
Bis (2-chloroethoxy) ethane	10	1700	ND	ND	4100	7100
Bis (2-chloroethyl) ether	10	720	ND	ND	7700	22000

Gene Dennison, PhD, CIH
Technical Director

princeton
testing
laboratory

DATE: 2-27-85

TO: [

JRB Associates
8400 Westpark Dr
McLean Va 22102
ATT: Dr. Edward Repa

JOB NO. 36371

AUTHORIZATION: verbal

SAMPLE: water

REPORT OF ANALYSIS

Volatile Organics Analysis

micrograms per liter

Compound	Method Detection Limit	K-3	Laboratory Blank	C-10A	C-11
Benzene	1	ND	ND	190	390
Toluene	1	62	ND	660	810
Methylene Chloride	1	680	4.8	46	ND
1,2-dichloroethane	5	260	ND	ND	3600
1,1-dichloroethane	1	ND	ND	ND	ND

Semi-Volatile Organics analysis

Compound	Method Detection Limit	K-3	Laboratory Blank	C-10A	C-11
Bis (2-chloroethoxy) ethane	10	1300	ND	5000	21000
Bis (2-chloroethyl) ether	10	880	ND	9700	84000

Gene Dennison, PhD, CIH
Technical Director

GD:nm

princeton
testing
laboratory

DATE: 2-20-85

TO: [

JRB Associates
8400 Westpark Drive
McLean, Va. 22102

JOB NO. 36371

AUTHORIZATION: verbal

Att: Dr. Edward Repa]

SAMPLE: water - 19

REPORT OF ANALYSIS

Sample #	Phenols mg/l
K-5	< 0.1
C-8A	< 0.1
C-15	< 0.1
C-26	< 0.1
C-25	< 0.1
BW-1	0.39
C-10A	< 0.1
C-11	0.44
C-24	0.14
K-7	0.11
C-6H	31
C-7	33
C-23	9.2
C-21	1.2
C-22	0.31
K-3	0.49
K-3R	0.20
K-1	0.16
Trip blank	0.16

Elna A. Alinea, Manager

Water, waste water & microbiology

EAA/bah

princeton
testing
laboratory

DATE: 2-20-85

TO:

JRB Associates
8400 Westpark Drive
McLean, Va.

JOB NO. 36405

AUTHORIZATION: verbal

Att: Dr. Edward Repa

SAMPLE: water - 18

REPORT OF ANALYSIS

Sample #	Phenols mg/l
K-6	0.15 -
C-20	0.16 -
K-2	2.2
K-4	0.23 -
CP-2	21
CP-3	0.79
CP-4	0.27
CP-4R	< 0.1
SW-1	< 0.1
SW-2	0.14 -
SW-3	0.14 -
C-16	0.16 -
C-17	11
C-19	30
CI9R	31
C-18	30
EW-2	< 0.1
Trip blank (muddy sample)	0.16

Edna A. Alinea, Manager
Water, waste water & microbiology

EAA/bah

princeton
testing
laboratory

DATE: 2-26-85

TO: [

JRB Associates
8400 Westpark Dr
McLean Va
ATT: Dr. Edward Repa

JOB NO. 36405

AUTHORIZATION: verbal

SAMPLE: water

REPORT OF ANALYSIS

Volatile Organics Analysis

Compound	Method Detection Limit	Trip Blank	micrograms per liter			
			SW-1	SW-2	SW-3	EW-2
Benzene	1	ND	ND	ND	ND	ND
Toluene	1	ND	ND	ND	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND
1,2-dichloroethane	1	ND	3.7	ND	ND	ND
1,1-dichloroethane	1	ND	1.3	ND	ND	ND

Semi-Volatile Organics Analysis

Compound	Method Detection Limit	Trip Blank	SW-1	SW-2	SW-3	EW-2
Bis (2-chloroethoxy) ethane	10	ND	4.4	ND	ND	ND
Bis (2-chloroethyl) ether	10	ND	36	ND	ND	ND

Gene Dennison, PhD, CIH
Technical Director

GD:mm

princeton
testing
laboratory

DATE: 2-26-85

TO: [

JRB Associates
8400 Westpark Dr
McLean Va
ATT: Dr. Edward Repa

JOB NO. 36405

AUTHORIZATION: verbal

SAMPLE: water

REPORT OF ANALYSIS

Volatile Organics Analysis

micrograms per liter

Compound	Method	Detection Limit
Benzene	1	
Toluene	1	
Methylene Chloride	5	
1,2-dichloroethane	1	
1,1-dichloroethane	1	

K-4	K-6
ND	ND
7.1	1.6
ND	ND
4	ND
15	ND

Semi-Volatile Organics Analysis

Compound	Method	Detection Limit
Bis(2-chloroethoxy) ethane	10	
Bis(2-chloroethyl) ether	10	

K-4	K-6
3.7	ND
6.0	ND

Gene Dennison, PhD, CIH
Technical Director

GD:mm

princeton
testing
laboratory

DATE: 2-26-85

TO: [JRB Associates
8490 Westpark Dr
McLean, Va
ATT: Dr. Edward Repa]

JOB NO. 36405

AUTHORIZATION: verbal

SAMPLE: water

REPORT OF ANALYSIS

Volatile Organics Analysis

micrograms per liter

Compound	Method Detection Limit	CP-4	CP-3	CP-2	C-19R	CP-1
Benzene	10	38	6,900	2,800	29,000	no anal
Toluene	10	ND	850	14,000	48,000	no anal
Methylene Chloride	10	96	900	14,000	6,700	no anal
1,2-dichloroethane	50	480	58	5,800	2,600	no anal
1,1-dichloroethane	10	ND	ND	ND	ND	no anal

Semi-Volatile Organics Analysis

Compound	Method Detection Limit	CP-4	CP-3	CP-2	C-19R	CP-1
Bis (2-chloroethoxy) ethane	10	2,000	2,700	61,000	66,000	17,000
Bis (2-chloroethyl) ether	10	4,700	6,900	240,000	140,000	71,000

Gene Dennison, PhD, CIH
Technical Director

princeton
testing
laboratory

DATE: 2-26-85

TO: [

JRB Associates
8400 Westpark Dr
McLean Va
ATT: Dr. Edward Repa

JOB NO. 36405

AUTHORIZATION: verbal

SAMPLE: water

REPORT OF ANALYSIS

Volatile Organics Analysis

micrograms per liter

Compound	Method Detection Limit	C-19	C-18	C-17	C-16	CP-4R
Benzene	10	8,300	1,600	1,500	240	34
Toluene	10	73,000	26,000	5,700	10	7.2
Methylene Chloride	10	9,600	ND	430	51	70
1,2-dichloroethane	50	2,300	ND	ND	41	440
1,1-dichloroethane	10	ND	ND	ND	ND	ND

Semi-Volatile Organics Analysis

Compound	Method Detection Limit	C-19	C-18	C-17	C-16	CP-4R
Bis (2-chloroethoxy) ethane	10	61,000	5,700	52,000	13,000	4,200
Bis (2-chloroethyl) ether	10	140,000	8,900	49,000	4,400	9,600

Gene Dennison, PhD, CIH
Technical Director

GD:sm

princeton
testing
laboratory

DATE: 2-26-85

TO: [

JOB NO. 36405

JRB Associates
8400 Westpark Dr
McLean Va
ATT: Dr. Edward Repa]

AUTHORIZATION: verbal

SAMPLE: water

REPORT OF ANALYSIS

Volatile Organics Analysis

micrograms per liter

Compound	Method Detection Limit	K-2	C-20
Benzene	1	28	13
Toluene	1	48	250
Methylene Chloride	1	120	48
1,2-dichloroethane	5	600	ND
1,1-dichloroethane	1	ND	ND

Semi-Volatile Organics Analysis

Compound	Method Detection Limit	K-2	C-20
Bis (2-chloroethoxy) ethane	10	5,300	ND
Bis (2-chloroethyl) ether	10	12,000	ND

Gene Dennison, PhD, CIH
Technical Director

GD:mm

QUALITY CONTROL REPORT

B. DUPLICATE ANALYSIS

Analyst: SV
Date: 2-27-85
Matrix Code: water

[illegible]

Matrix Codes:
Soil SO
Sludge SL
Drinking Water DW
Air: Air



QUALITY CONTROL REPORT

A. MATRIX SPIKE ANALYSIS

JOB # 36371
Analyst: _____
Date 2-27-85
MATRIX CODE water

• P.O. Box 3106, Princeton, N.J. 08540

[illegible]

376

$$\text{Recovery} = \frac{(\text{SSR} - \text{SR})}{(\text{SA})} \times 100$$

Matrix Codes:

Soil SO

Sludge **SL**

Drillingmaster

JOB # 36405

Analyst SV
Date 2-26-85
MATRIX CODE H₂O

QUALITY CONTROL REPORT

A. MATRIX SPOKE ANALYSIS

[illegible]

Matrix Codes:

Soil 60

~~CONFIDENTIAL~~

U.S. Navy
Laboratory

100 Princeton, N.J. 08540

U.S. Route 1
609-411-0000

QUALITY CONTROL REPORT A. DUPLICATE ANALYSIS

Date .. 2-26-85

Matrix H 0

2

Method 625

COMPOUND (Include INTERNAL)

Sample ID

COMPOUND NAME

CONCENTRATION (µg/l)

Run 1 (D₁)

Run 2 (D₂)

Relative Percent
Difference
(RPD) =

trip Blank

Bis(2-chloroethyl)ether

ND

ND

0

Bis(2-chloroethoxy)ethane

ND

ND

0

✓ C-20

Bis(2-chloroethyl)ether

ND

ND

0

Bis(2-chloroethoxy)ethane

ND

ND

0

CP-4

Bis(2-chloroethyl)ether

1700

2300

30

Bis(2-chloroethoxy)ethane

3900

5500

34

379

(D₁ - D₂)

(D₁ + D₂)

x 100

CHAIN OF CUSTODY RECORD

Project #		Project Name:		ANALYSTS REQUIRED												# of Containers	REMARKS	
73		JRB ASSOC. LIPARI LANDFILL		LIMITED # BASELINE	LIMITED # VOLATILE	TOTAL PHENOLS												
Samplers Signature <i>Jennifer A. Brantlett</i>																		
Stat. #	Date	Time	Comp	Lab	Station Location													
1 Trip Bk	11 Dec 74	9:15				X	X	X								5	2 - 4cc Vol. 5 1 - Final (Analog) 2 - 3cc/Min (Analog)	
X K-5		10:15				X	X	X									5	Lab Prepared
X C-7		10:30				X	X	X									5	Lab Skipped
X C-15		11:00				X	X	X									5	
X C-26		11:35				X	X	X									5	
X C-25		11:52				X	X	X									5	
X BW-1		12:20			2. 1st W/ish C-10A	X	X	X									4	US Had from / Lab /
C-10A		12:35				X	X	X									5	Black Sus Solos
C-11		1:02				X	X	X									5	Heavy Black Sus. Solos
C-24		2:15				X	X	X									5	

Relinquished by: (signature) <i>Jennifer A. Brantlett</i>	Date/time 12/12/74 10:07 am	Received by: (signature) <i>H. Brantlett</i>	Relinquished by: (signature) <i>H. Brantlett</i>	Date/time 12-12-74 10:10	Received by: (signature)
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 * SEE OPPOSITE SIDE FOR LIMITED LIST.	

CHAIN OF CUSTODY RECORD

Project #		Project Name: JRB Assoc. LIPARI LANDFILL				ANALYSIS REQUIRED												
Samplers Signature: <i>Jennifer A. Bramlett</i>						LIMITED # BASE/NEUT	LIMITED # VOLATILES	TOTAL PHENOLS									# of Containers	REMARKS
Stat. #	Date	Time	Comp	Grav	Station Location													
<i>TRIP</i>	<i>13 Dec 84</i>	<i>8:12</i>				X	X	X									5	2 - B/N Ambers 2 - Yellow VOA 1 - Phos
<i>SW-1</i>		<i>8:33</i>			<i>Ed & Jennifer (samples)</i>	X	X	X									4	Prepared with Lab DE water
<i>SW-2</i>		<i>8:45</i>				X	X	X									5	downstream
<i>SW-3</i>		<i>9:10</i>				X	X	X									5	tributary from homes
<i>C-16</i>		<i>9:00</i>			<i>Nick (samples)</i>	X	X	X									5	upstream
<i>C-17</i>		<i>9:20</i>				X	X	X									5	rust in water
<i>C-18</i>		<i>9:55</i>				X	X	X									5	effluence
<i>C-19R</i>		<i>10:05</i>				X	X	X									5	
<i>C-1V</i>		<i>10:18</i>				X	X	X									5	
<i>C-1V-2</i>		<i>10:40</i>				X	X	X									4	Lab Distill.

Relinquished by: (signature) <i>Nicholas J. DeSantis</i>	Date/time <i>12/14/84 11:45</i>	Received by: (signature) <i>H. Amster</i>	Relinquished by: (signature) <i>H. Amster</i>	Date/time <i>12-14-84 11:50</i>	Received by: (signature)
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 * SEE OPPOSITE SIDE FOR LIMITED LIST.	

Princeton Testing Laboratory, PO Box 3108, Princeton, NJ 08540



Princeton Service Center
U.S. Route 1
609-452-9010

Job # 97
Analyst SV
Date 3-15-84

QUALITY CONTROL REPORT

A. MATRIX SPIKE ANALYSIS

• P.O. Box 3106, Princeton, N.J. 08540

[illegible]

$$\% \text{ Recovery} = \frac{(SSR - SR)}{(SA)} \times 100$$

000000

H₂O

CHAIN OF CUSTODY RECORD (AIA)

Project #		Project Name		ANALYSIS REQUIRED															# of Containers	REMARKS
		<i>LiPmi</i>		Solids	Aldehydes	Phenolics	Mercury	Metals	Cyanides	Asbestos	Organics	DC/MG	Base/Neutral	Volatiles	Organics	Pesticides	PCB's	Bacteriology		
Sample Signature	<i>E. W. [Signature]</i>																			
Stat. #	Date	Time	g	g	Station Location															
1	9/21/74	3:30		✓	Blank															
2		3:30		✓	C-7															
3		3:50		✓	C-23															
4		3:59		✓	K-7															
5		4:04		✓	C-22															
6		4:18		✓	C-21															
7		4:30		✓	K-6															
8		4:37		✓	C-18															
9		4:45		✓	C-19															
10	✓	5:25		✓	K-3															
Relinquished by: (signature)		Date/time		Received by: (signature)		Relinquished by: (signature)		Date/time		Received by: (signature)		Relinquished by: (signature)		Date/time		Received by: (signature)				
<i>E. W. [Signature]</i>		10 Feb 74 9:55		<i>A. Minner</i>		<i>A. Minner</i>		10:05		<i>E. W. [Signature]</i>										
Relinquished by: (signature)		Date/time		Received by: (signature)		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										

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CUSTODY RECORD (AGA)

ANALYSIS REQUIRED

Project #

Project Name: *Lipni*

Sampler's Signature

E. W. J. R.

Stat. #

Date

Time

g

g

Station Location

Solids

Aldehydes

Phenolics

Mercury

Metals

Cyanides

Asbestos

Organics

PC/MS

Acid/Neutral

Volatiles

Organics

Pesticides

PCB's

Bacteriology

Misc. Chem.

of Containers

Analysts All samples

REMARKS

*Br (2-chloroethoxy)
Ethane
Br (2-chloroethoxy)*

Ether

11

9/15/74

5:30

✓

✓

K-3R

12

5:39

✓

✓

K-2

13

5:47

✓

✓

K-4

14

5:55

✓

✓

K-1

15

✓

6:57

✓

✓

K-5

Relinquished by:
(signature)

E. W. J. R.

Date/time

9/15/74

9:55

Received by:

(signature)

A. M. M. M.

Relinquished by:

(signature)

A. M. M. M.

Date/time

10:05

Received by:

(signature)

B. J. J. J.

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

Princeton Testing Laboratory, PO Box 3108, Princeton, NJ 08540

CHAIN OF CUSTODY RECORD

Project #

Project Name: **JRB ASSOC.****LIPARI LANDFILL**

ANALYSIS REQUIRED

Samplers Signature

LIMITED #
ANALYSISLIMITED #
VOLATILESTOTAL
PHENOLS# of
Containers

REMARKS

Stat. #	Date	Time	Comp	Grab	Station Location	LIMITED # ANALYSIS	LIMITED # VOLATILES	TOTAL PHENOLS										# of Containers	REMARKS
✓ K-6	12/1/84	11:54				X	X	X										5	2-B/W Amber 2-4/6 w VOA 1-Phenol
✓ C-20		11:14				X	X	X										5	
✓ K-2		11:25				X	X	X										5	
✓ K-4		12:00				X	X	X										5	
- CP-1		2:10			(3:15 Resample)	X												5	
✓ CP-2		2:24				X	X	X										5	Well dug - not recharging after 1 hr - only limited amount of sample for B/W extracts
✓ CP-3		2:46				X	X	X										5	
✓ CP-4		3:00				X	X	X										5	
✓ CP-4R		3:05				X	X	X										5	

Relinquished by:
(signature)

Date/time

4/1/84 11:45

Received by:
(signature)Relinquished by:
(signature)

Date/time

12-14-84
11:50Received by:
(signature)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 * SEE OPPOSITE SIDE
FOR LIMITED LIST.

Princeton Testing Laboratory, PO Box 3108, Princeton, NJ 08540

התאחדות העובדים

QUALITY CONTROL REPORT

B. DUPLICATE ANALYSIS

WALSH A. 4-26-85

1100 Princeton, N.J. 08540

COMPOUND (including butane)

L
I
M
I
T
E
D
S
A
M
P
L
I
N
G
-
2
/85

LIMITED SAMPLING - 2/85

princeton
testing
laboratory

DATE: 2-20-85

TO:

JRB Associates
8400 Westpark Drive
McLean, Va. 22102

JOB NO. 37038

AUTHORIZATION: verbal

Att: Dr. Edward Repa

SAMPLE: water - 21

REPORT OF ANALYSIS

Sample #	Phenols mg/l
C-15	0.24
C-17	14
C-16	0.24
C-19	26
C-18	1.3
C-21	1.7
C-22	0.25
C-22R	0.25
K-3A	0.24
K-4	0.11
BW-1	< 0.1
K-2	2.1
K2R	2.5
C-6A	26
K-1	0.31
C-8A	0.41
K-5	0.31
SW-D	0.24
SW-V	0.11
SW-T	0.11
Field blank	< 0.1

Edna A. Alinea, Manager
Water, waste water & microbiology

EAA/bah

princeton
testing
laboratory

DATE 2-20-85

TO: [

JRB Associates
8400 Westpark Drive
McLean, Va. 22102

JOB NO. 37088

AUTHORIZATION: verbal

[Att: Dr. Edward Repa]

SAMPLE: water - 16]

REPORT OF ANALYSIS

Sample #	Phenols mg/l
C-25	< 0.1
C-26	< 0.1
C-10A	< 0.1
C-11	0.24
C-24	< 0.1
C-23	5.3
C-20	< 0.1
C-7	19
K-7	< 0.1
K-6	0.46
K6R	0.11
BW-2	< 0.1
CP-2	565
CP-3	0.66
CP-4	< 0.1
Trip blank	< 0.1

Edna A. Alinea, Manager
Water, waste water & microbiology

EEA/bah

Princeton Service Center
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Tlx-84-3942

princeton testing laboratory



March 28, 1985

JOB #: 37088

Volatile Organics Analysis - GC/MS

Compound	METHOD micrograms per liter					
	DETECTION LIMIT	C-10A	K-7	CP-3	CP-4	C-20
Benzene	1	420	ND	3100	92	ND
Toluene	1	1300	ND	2000	43	ND
Methylene chloride	1	3.0	3.6	55	250	84
1,2-dichloroethane	5	32	ND	63	2100	ND
1,1-dichloroethane	1	ND	ND	120	1.2	ND

Semi-volatile Organics Analysis - GC/MS

Compound	METHOD					
	DETECTION LIMIT	C-10A	K-7	CP-3	CP-4	C-20
Bis (2-chloroethoxy)ethane	10	55,000	ND	120,000	7300	ND
Bis (2-chloroethyl)ether	10	120,000	ND	220,000	17,000	ND

ND=not detected

Gene Dennison, PhD, CIH
Technical Director

GD/rk

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princeton testing laboratory



March 28, 1985

JOB: #37088

Volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT	micrograms per liter		
		K-6R	CP-1	TRIP BLANK
Benzene	1	ND	NA	NA
Toluene	1	10	NA	NA
Methylene chloride	1	100	NA	NA
1,2-dichloroethane	5	ND	NA	NA
1,1-dichloroethane	1	ND	NA	NA

Semi-volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT			
		K-6R	CP-1	TRIP BLANK
Bis (2-chloroethoxy)ethane	10	ND	110,000	ND
Bis (2-chloroethyl) ether	10	ND	480,000	ND

ND=not detected

Gene Dennison, PhD., CIH
Technical Director

GD/rk

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princeton testing laboratory



March 28, 1985

JOB: #37088

Volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT	micrograms per liter				FIELD BLANK 2
		C-25	C-26	BW-2	K-6	
Benzene	1	110	ND	ND	ND	ND
Toluene	1	45	1	1.0	4.9	1.6
Methylene chloride	1	ND	ND	ND	43	80
1,2-dichloroethane	5	ND	ND	ND	ND	ND
1,1-dichloroethane	1	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT					FIELD BLANK 2
		C-25	C-26	BW-2	K-6	
Bis(2-chloroethoxy)ethane	10	1200	46	ND	ND	ND
Bis(2-chloroethyl)ether	10	2800	120	ND	ND	ND

ND=not detected

Gene Dennison, PhD, CIH
Technical Director

GD/rk

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March 28, 1985

JOB #: 37088

Volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT	micrograms per liter			
		C-7	C-11	C-23	C-24
Benzene	1	8700	690	6200	120
Toluene	1	7000	1000	9600	ND
Methylene chloride	1	4800	290	990	6.6
1,2-dichloroethane	5	6900	7000	2600	1000
1,1-dichloroethane	1	ND	ND	ND	31

Semi-volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT	C-7	C-11	C-23	C-24
Bis (2-chloroethoxy)ethane	10	47,000	39,000	7,800	40,000
Bis (2-chloroethyl) ether	10	130,000	170,000	7,900	81,000

ND=not detected

Gene Dennison, PhD, CIH
Technical Director

GD/rk

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March 28, 1985

JOB: #37088

Volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT	micrograms per liter CP-2
Benzene	10	8,600
Toluene	10	87,000
Methylene chloride	10	46,000
1,2-dichloroethane	50	54,000
1,1-dichloroethane	10	ND

Semi-volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT	CP-2
Bis (2-chloroethoxy)ethane	10	38,000
Bis (2-chloroethyl)ether	10	92,000

ND=not detected

Gene Dennison, PhD, CIH
Technical Director

GD/zk

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princeton testing laboratory



March 28, 1985

JOB #: 37038

Volatile Organics Analysis - GC/MS

Compound	micrograms per liter	
	METHOD DETECTION LIMIT	C-22R
Benzene	1	300
Toluene	1	1,300
Methylene chloride	1	28
1,2-dichloroethane	5	ND
1,1-dichloroethane	1	ND

Semi-volatile Organics Analysis - GC/MS

Compound	micrograms per liter	
	METHOD DETECTION LIMIT	C-22R
Bis (2-chloroethoxy)ethane	10	4500
Bis (2-chloroethyl)ether	10	6600

ND=not detected

Gene Dennison, PhD, CIH
Technical Director

ED:rk

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March 28, 1985

JOB #: 37038

Volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT	micrograms per liter				
		C-22	SW-U	SW-T	C-17	C-16
Benzene	1	200	ND	ND	1300	440
Toluene	1	900	ND	ND	4100	5
Methylene chloride	1	14	5.4	61	1100	82
1,2-dichloroethane	5	ND	ND	ND	180	60
1,1-dichloroethane	1	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT					
		C-22	SW-U	SW-T	C-17	C-16
Bis (2-chloroethoxy)ethane	10	3,500	ND	ND	88,000	60,000
Bis (2-chloroethyl)ether	10	5,200	ND	ND	71,000	10,000

ND=not detected

Gene Dennison, PhD, CIH
Technical Director

GD:rk

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Tlx-84-3942

princeton testing laboratory



March 28, 1985

JOB #: 37038

Volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT	micrograms per liter				FIELD BLANK - 1
		C-15	K-5	C-8A	K-4	
Benzene	1	ND	ND	ND	ND	ND
Toluene	1	ND	ND	ND	ND	ND
Methylene chloride	1	ND	18	9	11	ND
1,2-dichloroethane	5	ND	ND	ND	ND	ND
1,1-dichloroethane	1	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT	C-15	K-5	C-8A	K-4	FIELD BLANK - 1
Bis (2-chloroethoxy)ethane	10	68	ND	ND	ND	ND
Bis (2-chloroethyl) ether	10	390	ND	ND	ND	ND

ND=not detected

Gene Dennison, PhD, CIH
Technical Director

GD:Rg

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Tlx-84-3942

princeton testing laboratory



March 27, 1985

JOB #: 37038

Volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT	micrograms per liter				
		BW-1	K-2R	SW-D	C-6A	K-2
Benzene	1	ND	44	ND	8400	53
Toluene	1	ND	4.5	1.6	5700	7.9
Methylene chloride	1	100	2400	150	8200	3,000
1,2-dichloroethane	5	ND	2600	ND	18000	3,800
1,1-dichloroethane	1	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT	micrograms per liter				
		BW-1	K-2R	SW-D	C-6A	K-2
Bis (2-chloroethoxy)ethane ¹⁰		ND	19,000	5.9	20,000	27,000
Bis (2-chloroethyl)ether ¹⁰		ND	43,000	40	34,000	60,000

ND=not detected

Gene Dennison, PhD, CIH
Technical Director

GD:RK

Princeton Service Center
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Tlx-84-3942

princeton testing laboratory



March 28, 1985

JOB #: 37038

Volatile Organics Analysis - GC/MS

micrograms per liter

Compound	METHOD DETEC- TION LIMIT	C-21	C-18	K-1	K-3A	C-19
Benzene	1	1100	2800	ND	3.6	6700
Toluene	1	8900	9200	ND	41	8300
Methylene chloride	1	66	ND	16	2300	3800
1,2-dichloroethane	5	ND	ND	ND	730	3500
1,1-dichloroethane	1	ND	ND	ND	ND	630

Semi-volatile Organics Analysis - GC/MS

Compound	METHOD DETECTION LIMIT	C-21	C-18	K-1	K-3A	C-19
Bis (2-chloroethoxy)ethane	10	41,000	58,000	77	8400	240,000
Bis (2-chloroethyl) ether	10	79,000	98,000	36	7900	510,000

ND=not detected

Gene Dennison, Technical Director
PhD, CIH

GD:RK

Princeton Service Center
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(609) 452-9050
Tlx-84-3942

princeton testing laboratory



Job #38050
6-21-85

Volatile Organics Analysis - GC/MS Hall/PID (EPA 601/602)

Compound	micrograms per liter					
	Detection Limit	CP-4	K-6	K-2	C-17	CP-4R
Benzene	20	< 20	ND	35	1100	< 20
Toluene	20	ND	ND	< 20	2200	50
Methylene chloride	100	200	110	750	1300	<100
1,2-dichloroethane	20	400	ND	480	180	400
1,1-dichloroethane	20	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS

Compound						
Bis(2-chloroethoxy)ethane	100	7900	ND	18,000	160,000	8700
Bis(2-chloroethyl)ether	100	3600	ND	8100	230,000	3100

ND=not detected

Jon Gabry, PhD
Asst. Organic Lab Manager

SV:na

Princeton Service Center
U.S. Route 1
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Tlx-84-3942

princeton testing laboratory



Job #38050
6-21-85

Volatile Organics Analysis - GC/MS Hall/PID (EPA 601/602)

Compound	Detection Limit	micrograms per liter				Field Blank
		C-20	C-16	K-1	BW-2	
Benzene	20	25	330	< 20	< 20	ND
Toluene	20	100	25	40	25	< 20
Methylene chloride	100	<100	<100	<100	<100	ND
1,2-dichloroethane	20	ND	ND	ND	ND	ND
1,1-dichloroethane	20	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound						
Bis(2-chloroethoxy)ethane	100	ND	6600	ND	ND	ND
Bis(2-chloroethyl)ether	100	ND	36,000	ND	ND	ND

ND=not detected

Jon Gabry, PhD
Asst. Organic Lab Manager

SV:na

Princeton Service Center
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princeton testing laboratory



Job #38050
6-21-85

Volatile Organics Analysis - GC/MS Hall/PID (EPA 601/602)

micrograms per liter

Compound	Detection Limit	C-18	C-19	CP-1	K-4	CP-2
Benzene	20	1700	600	1500	ND	3000
Toluene	20	22,000	60,000	22,000	< 20	29,000
Methylene chloride	100	300	4800	2400	320	10,000
1,2-dichloroethane	20	ND	2600	ND	ND	12,000
1,1-dichloroethane	20	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound						
Bis(2-chloroethoxy)ethane	100	38,000	220,000	1,600,000	ND	520,000
Bis(2-chloroethyl)ether	100	23,000	220,000	390,000	ND	260,000

ND=not detected

Jon Gabry, PhD
Asst. Organic Lab Manager

SV:na

Princeton Service Center
U.S. Route 1
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Tlx-84-1942

princeton testing laboratory



Job 38050
6-21-85

Volatile Organics Analysis - GC/MS Hall/PID (EPA 601/602)

Compound	micrograms per liter	
	Detection Limit	CP-3
Benzene	20	2,600
Toluene	20	2,000
Methylene chloride	100	330
1,2-dichloroethane	20	ND
1,1-dichloroethane	20	ND

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound		
Bis (2-chloroethoxy) ethane	100	33,000
Bis (2-chloroethyl) ether	100	23,000

ND=not detected

Jon Gabry, PhD
Asst. Organic Lab Manager

Princeton Service Center
U.S. Route 1
(609) 452-9050
Tlx-84-3842

princeton testing laboratory



Job #37994
6-21-85

Volatile Organics Analysis - GC/MS Hall/PID (EPA 601/602)

Compound	micrograms per liter					
	Detection Limit	C-26	C-21	C-23	C-6AR	C-6A
Benzene	20	< 20	350	4400	8000	6600
Toluene	20	25	3100	8500	29,000	25,000
Methylene chloride	100	1200	1200	1100	5200	6000
1,2-dichloroethane	20	100	100	1600	8600	7200
1,1-dichloroethane	20	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound						
Bis(2-chloroethoxy)ethane	100	ND	4800	25,000	93,000	71,000
Bis(2-chloroethyl)ether	100	ND	5400	23,000	50,000	31,000

ND=not detected

Jon Gabry, PhD
Asst. Organic Lab Manager

SV:na

Princeton Service Center
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(609) 452-9050
Tlx-84-3942

princeton testing laboratory



Job #37994
6-20-85

Volatile Organics Analysis - GC/MS Hall/PID (EPA 601/602)

Compound	micrograms per liter					
	Limit Detection	C-15	C-10A	C-22	C-8A	C-25
Benzene	20	< 20	650	250	< 20	280
Toluene	20	< 20	1800	750	25	1400
Methylene chloride	100	<100	<100	900	1400	1000
1,2-dichloroethane	20	ND	120	75	120	50
1,1-dichloroethane	20	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound						
Bis(2-chloroethoxy)ethane	100	ND	67,000	8600	ND	14,000
Bis(2-chloroethyl)ether	100	ND	28,000	6800	ND	12,000

ND=not detected

Jon Gabry, PhD
Asst.Organic Lab Manag.

SV:na

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Job #37994
6-20-85

Volatile Organics Analysis - GC/MS Hall/PID (EPA 601/602)

micrograms per liter

Compound	Detection Limit	BW-1	K-3	K-7	K-7R	SW-U
Benzene	20	ND	< 20	ND	ND	ND
Toluene	20	< 20	< 20	ND	ND	ND
Methylene chloride	100	<100	1000	<100	<100	ND
1,2-dichloroethane	20	ND	250	ND	ND	ND
1,1-dichloroethane	20	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS EPA 625

Compound						
Bis(2-chloroethoxy)ethane	100	ND	1800	ND	ND	ND
Bis(2-chloroethyl)ether	100	ND	1900	ND	ND	ND

ND=not detected

Jon Gabry, PhD
Asst. Organic Lab Manager

SV:na

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princeton testing laboratory



Job #37994
6-21-85

Volatile Organics Analysis - GC/MS Hall/PID (EPA 601/602)

Compound	Detection Limit	micrograms per liter				
		C-11	C-24	Field Blank	SW-D	SW-T
Benzene	20	250	250	ND	ND	ND
Toluene	20	320	280	ND	ND	ND
Methylene chloride	100	ND	ND	ND	ND	<100
1,2-dichloroethane	20	2200	500	< 20	ND	ND
1,1-dichloroethane	20	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound						
Bis(2-chloroethoxy)ethane	100	200,000	110,000	ND	ND	ND
Bis(2-chloroethyl)ether	100	28,000	45,000	ND	ND	ND

ND=not detected

Jon Gabry, PhD
Asst. Organic Lab Manager

SV:na

Princeton Service Center
U.S. Route 1
(609) 452-9050
Tlx-64-3942

princeton testing laboratory



Job #37994
6-21-85

Volatile Organics Analysis - GC/MS Hall/PID (EPA 601/602)

Compound	micrograms per liter		
	Detection Limit	C-7	K-5
Benzene	20	6200	< 20
Toluene	20	22,000	ND
Methylene chloride	100	2900	ND
1,2-dichloroethane	20	2200	ND
1,1-dichloroethane	20	ND	ND

Semi-volatile Organics Analysis - GC/MS

Compound			
Bis(2-chloroethoxy)ethane	100	160,000	ND
Bis(2-chloroethyl)ether	100	72,000	ND

ND=not detected

Jon Gabry, PhD
Asst.Organic Lab Manager

SV:na

princeton
testing
laboratory

DATE: May 16, 1985

TO: [JRB Associates
8400 Westpark Drive
McLean, VA 22102

JOB NO. 37994

AUTHORIZATION: verbal

[Att: Dr. Edward Repa]

SAMPLE: water - 21

REPORT OF ANALYSIS

Sample #	Phenols mg/l
SW-D	< 0.1
C-26	< 0.1
SW-T	< 0.1
C-21	< 0.1
C-24	0.10
C-15	0.21
K7R	0.14
C-22	0.11
K-7	0.14
BN-1	< 0.1
C-23	5.6
C8A	0.21
C-11	< 0.1
C-10A	0.11
K-5	< 0.1
C-25	< 0.1
SW-U	< 0.1
K-3	0.23
C-6AR	24.0
C-6A	26.0
C-12	14.0

Edna A. Alinea
Edna A. Alinea, Manager
Water, Waste Water, & Microbiologic

princeton
testing
laboratory

DATE: May 16, 1985

TO: [

JRB Associates
8400 Westpark Drive
McLean, VA 22102

JOB NO. 38050

AUTHORIZATION: verbal

Att: Dr. Edward Repa]

SAMPLE: Water - 16

REPORT OF ANALYSIS

Sample #	Phenols mg/l
FB-2	< 0.1
C-17	16.0
C-16	0.28
C-19	23.0
C-18	< 0.1
K-1	0.13
K-2	0.16
K-4	< 0.1
K-6	0.13
C-20	0.10
BT-2	< 0.1
CP-1	0.28
CP-2	52
CP-3	0.49
CP-4	< 0.1
CP-4R	< 0.1

Edna A. Alinea
Edna A. Alinea, Manager
Water, Waste Water & Microbiology

EAA/rk



Environmental
Protection Agency

U.S. Route 1
Princeton Service Center
(609) 452-9050

P.O. Box 3108, Princeton, N.J. 08540

QUALITY CONTROL REPORT

Matrix Spike Analysis

JOB NO. 38050
ANALYST: SV
DATE: 6-21-85
MATRIX: Water
METHOD: EPA 625

COMPOUND		ug/liter			% Recovery*
Sample ID	COMPOUND NAME	Sample Result (SR)	Spiked Sample Result (SSR)	Spike Added (SA)	
FB-2	1,2,4-trichlorobenzene	ND	590	1000	59
	Acenaphthene	ND	1350	1000	135
	Pyrene	ND	770	1000	77
	1,4-dichlorobenzene	ND	630	1000	63
K-2	1,2,4-trichlorobenzene	ND	780	1000	78
	Acenaphthene	ND	1330	1000	133
	Pyrene	ND	760	1000	76
	1,4-dichlorobenzene	ND	820	1000	82
BW-2	1,2,4-trichlorobenzene	ND	780	1000	78
	Acenaphthene	ND	1350	1000	135
	Pyrene	ND	810	1000	81
	1,4-dichlorobenzene	ND	850	1000	85
CP-4	1,2,4-trichlorobenzene	ND	850	1000	85
	Acenaphthene	ND	1400	1000	140
	Pyrene	ND	780	1000	78
	1,4-dichlorobenzene	ND	930	1000	93



U.S. Route 1
Princeton Service Center
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QUALITY CONTROL REPORT Duplicate Analysis

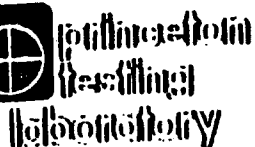
JOB NO. 250
ANALYST: SV
DATE: 6-21-85
MATRIX: Water
METHOD: EPA 625

P.O. Box 3108, Princeton, N.J. 08540

COMPOUND		CONCENTRATION (ug/l)		Relative Percent Difference (RPD)*
Sample ID	COMPOUND NAME	Run 1 (D ₁)	Run 2 (D ₂)	
C-16	Bis (2-chloroethyl) ether	33,000	40,000	19
	Bis (2-chloroethoxy) ethane	6,600	6,600	0
C-19	Bis (2-chloroethyl) ether	200,000	240,000	18
	Bis (2-chloroethoxy) ethane	200,000	250,000	22
C-17	Bis (2-chloroethyl) ether	290,000	180,000	45
	Bis (2-chloroethoxy) ethane	160,000	160,000	0
CP-2	Bis (2-chloroethyl) ether	280,000	250,000	11
	Bis (2-chloroethoxy) ethane	570,000	470,000	19
BW-2	Bis (2-chloroethyl) ether	ND	ND	0
	Bis (2-chloroethoxy) ethane	ND	ND	0
FB-2	Bis (2-chloroethyl) ether	ND	ND	0
	Bis (2-chloroethoxy) ethane	ND	ND	0

413

$$RPD = \frac{(D_1 - D_2)}{(D_1 + D_2)} \times 100$$



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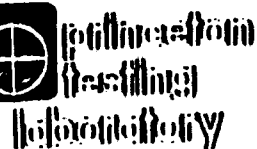
QUALITY CONTROL REPORT

Duplicate Analysis

38050
JOB NO. _____
ANALYST: RVD _____
DATE: 6-21-85 _____
MATRIX: PE/MW _____
METHOD: _____

414

$$\text{NPD} = \frac{(D_1 - D_2)}{(D_1 + D_2)} \times 100$$



QUALITY CONTROL REPORT

Duplicate Analysis

JOB NO. 21094 SV

ANALYST: _____
DATE: 6-21-85
MATRIX: Water
METHOD: EPA 625

P.O. Box 3108, Princeton, N.J. 08540

415

$$\bullet \text{NPD} = \frac{(D_1 - D_2)}{[(D_1 + D_2) / 2]} \times 100$$

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QUALITY CONTROL REPORT

Duplicate Analysis

JOB NO.: 37994
ANALYST: SV
DATE: 6-21-85
MATRIX: Water
METHOD: EPA 625

416

$$RPO = \left[\frac{(D_1 - D_2)}{(D_1 + D_2)} \right] \times 100$$



Princeton Service Center
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609-452-9838

Box 3108, Princeton, N.J. 08540

QUALITY CONTROL REPORT
B. DUPLICATE ANALYSIS

Job # 37038
Analyst S. Van Etten/JA
Date
Matrix Code Water

COMPOUND (Including Surrogates)			CONCENTRATION (ug/l)		Relative Percent Difference (RPD)
Sample ID	COMPOUND NAME	METHOD	Run 1 (D ₁)	Run 2 (D ₂)	
K-2		624			
	Benzene		64	42	42
	Toluene		7.0	ND	
	Methylene Chloride		3900	2000	64
	1,2 dichloromethane		4900	2600	61
K-3A		624			
	Benzene		ND	3.6	
	Toluene		67	14	130
	Methylene Chloride		3300	1200	91
	1,2 dichloromethane		1100	350	103
G-22R		624			
	Benzene		430	180	83
	Toluene		1900	780	86
	Methylene Chloride		32	24	29

417

RPD =

$(D_1 - D_2)$

$\times 100$

Matrix Codes:
Soil SO
Sludge SL
Drinking Water DW

AI

Analyst: S. Van Ritten
Date: 170
Matrix Code: Water

1 Box 3108, Princeton, N.J. 08540

Matrix Codes:
Soil SO
Sludge SL
Drinking Water DW
Air AIR

$$\text{RPD} = \frac{(D_1 - D_2)}{(D_1 + D_2)} \times 100$$

LIMITED SAMPLING - 4/85

CHAIN OF CUSTODY RECORD

Project #		Project Name: JRB ASSOC. LIPARI LANDFILL		ANALYSIS REQUIRED												# of Containers	REMARKS
Samplers Signature		G. A. Krantz		LIMITED # BASEMENT	LIMITED # VOLATILES	TOTAL PHENOLES											
Stat. #	Date	Time	Comp	Grab	Station Location												
✓ K-6	2/7/85	1:14				✓	✓	✓								5	
✓ K-6R		1:14				✓	✓	✓								5	
✓ C-20		1:29				✓	✓	✓								5	
✓ CP-1		2:45				✓										1	
✓ CP-2		2:00				✓	✓	✓								5	
✓ CP-3		2:19				✓	✓	✓								5	
✓ CP-4		2:26				✓	✓	✓								5	
BN-Trip Blank						✓										2	
Relinquished by: (signature)			Date/time		Received by: (signature)			Relinquished by: (signature)			Date/time		Received by: (signature)				
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 * SEE OPPOSITE SIDE FOR LIMITED LIST.							

Prir esting Laboratory, PO Box 3108, Princeton, NJ 07

CHAIN OF CUSTODY RECORD

Project #		Project Name: JRB ASSOC.		ANALYSIS REQUIRED														
		LIPARI LANDFILL																
Sampler's Signature <i>Jeanette A. Bramlett</i>				LIMITED # BASEMENT	LIMITED # VOLATILES	TOTAL PHENOLS										# of Containers	REMARKS	
Stat. #	Date	Time	Comp	Grab	Station Location													
Field	2/7/85	9:07																
C-25		9:16			✓	✓	✓									9		
C-26		9:32			✓	✓	✓									9		
C-10A		9:47			✓	✓	✓									9		
C-11		10:03			✓	✓	✓									9		
C-24		10:19			✓	✓	✓									9		
C-23		10:32			✓	✓	✓									9		
K-7		10:44			✓	✓	✓									9		
C-7		10:51			✓	✓	✓									5	black color	
BWS-2		12:18			✓	✓	✓									4		
Relinquished by: (signature) <i>Hubert A. S. S. S. S.</i>				Date/time <i>2/7/85 11:51</i>		Received by: (signature) <i>M. Ruster</i>				Relinquished by: (signature)				Date/time		Received by: (signature)		
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 * SEE OPPOSITE SIDE FOR LIMITED LIST.						

Princeton Testing Laboratory, PO Box 3108, Princeton, NJ 08

CHAIN OF CUSTODY RECORD

Project #		Project Name: JRB ASSOC.		ANALYSIS REQUIRED											
		LIPARI LANDFILL													
Samplers Signature				LIMITED # BASELINE	LIMITED # VOLATILES	TOTAL PHENOLS							# of Containers	REMARKS	
Stat. #	Date	Time	Comp	Sta	Station Location										
✓ PV															
✓ K-4	2/5/85	11:09				✓	✓	✓						5	
✓ BU-1		10:56				✓	✓	✓						4	
✓ K-2		11:32				✓	✓	✓						5	Effluent carry
✓ K-3		11:32				✓	✓	✓						5	Effluent
✓ C-6A		1:19				✓	✓	✓						3	Black, sediment
✓ K-1		1:37				✓	✓	✓						5	
✓ C-8a		2:10				✓	✓	✓						5	
✓ K-5		2:16				✓	✓	✓						5	
✓ K-4D		2:45				✓	✓	✓						5	
✓ SWU	✓	2:45				✓	✓	✓						5	

Relinquished by: (signature) <i>[Signature]</i>	Date/time 2-6-85 10:45	Received by: (signature) <i>[Signature]</i>	Relinquished by: (signature)	Date/time	Received by: (signature)
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 * SEE OPPOSITE SIDE FOR LIMITED LIST.	

Prince
ting Laboratory, PO Box 3108, Princeton, NJ 0854

n Testing Laboratory, PO Box 3108, Princeton, NJ

Project #		Project Name: JRB Assoc.		Sample Signature		* one of von, up and pushed in, and empty		LIMITED # BASELHUT		LIMITED # VOLATILES		TOTAL PHENOLS		# of Containers		REMARKS	
Station #	Date	Time	Comp	Grab	Station Location												
11/Field	2/5/75	8:27													4		
11/C-15		8:36													5		
11/C-17		8:54								*					5	VON samples & effluents	
11/C-16		9:14													5		
11/C-19		9:42													5		
11/C-18		9:54													5		
11/C-21		10:10													5		
11/C-22		10:29													5		
11/C-23		10:29													5		
11/C-24		10:44													5		

REMARKS * SEE OPPOSITE SIDE FOR LIMITED LIST.

CHAIN OF CUSTODY RECORD

ANALYSIS REQUIRED

RECORD (AIR)

Project #

Project Name:

Sampler's Signature

Stat. #

Date

Time

பேரவையுள்

Grab!

Station Location

spit

Aldehydes

Phenolics

Mercury

Metals

yanides

а б в г д е ж з

9074882C

5A/25

3388/2117

Graphics

Pesticide

...

107 777 986

Misc. Chem.

30
31

MARKS

Relinquished by:
(signature) *[Signature]*

Date/Time

Received by:
(signature)

Relinquished by:
(signature)

Date/time

Received by:-
(signature)

Relinquished by:
(signature)

Date/Time

Received by:
(signature)

Relinquished by:
(signature)

Date/time

Received by:
(signature)

Relinquish: by:
(signature)

Date/Time

Received for laboratory
by(signature):

Date: time

REMARKS

Lab test: 12/ print poll tests fls
Rin (2-chloroethyl) effluent

CHAIN OF

RECORD (AIR)

ANALYSIS REQUIRED

Project #

Project Name: LIPARE

37-3

WASTE SITE

Sample Signature

Stat. #

Date

Time

Comp

Gr

Station Location

Solids

Aldehydes

Phenolics

Mercury

Metals

Cyanides

Asbestos

Organics

SC/MS

Base/Neutral

Volatile

Organics

Pesticides

PCBs

Bacteriology

Misc. Chem.

of Containers

REMARKS

JRB-1

8/10/83

9:10

X

C-17

JRB-2

8/10/83

9:37

X

C-17

JRB-3

8/10/83

9:50

X

FIELD BLANK

JRB-4

8/10/83

10:22

X

C-20

JRB-5

8/10/83

10:53

X

C-20

JRB-6

8/10/83

11:01

X

C-17

JRB-7

8/10/83

11:36

X

C-16

JRB-8

8/10/83

12:31

X

C-15

JRB-9

8/10/83

13:55

X

K-5

JRB-9

8/10/83

14:40

X

K-5

Relinquished by:

(signature)

Date/time

8/11/83

9:15 AM

Received by:

(signature)

Lamieroff

Relinquished by:

(signature)

Lamieroff

Date/time

8/11/83

9

Received by:

(signature)

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

Lab test: 12/22/83 full test
Bis-(2-chloroethoxy)ethane

Inceon Testing Laboratory, PO Box 3000, Princeton, NJ 08540

Pinecones Service Center
U.S. Route 1
609-432-9050

QUALITY CONTROL REPORT

B. DUPLICATE ANALYSIS

Analyst : S. Va
Date : Mar 1985
Matrix Code WATER

1 Box 3108, Princeton, N.J. 08540

Matrix Codes:
Soil SO
Sludge SL
Drinking Water DW
Air: Air

$$PD = \frac{(D_1 - D_2)}{(D_1 + D_2)} \times 100$$

**Princeton Service Center
U.S. Route 1
609-412-9010**

• P.O. Box 1106, Princeton, N.J. 08540

QUALITY CONTROL REPORT

Analyst: S. Van Botten
Date: May 1985
MATRIX CODE: Water

A. MATRIX SPIKE ANALYSIS

Matrix Codes:

Soil SO

Sludge	SL
--------	----

bringing paper

Air **Air**

429

$$\text{Recovery} = \frac{(\text{SSR} - \text{SR})}{(\text{SA})} \times 100$$

**Princeton Service Center
U.S. Route 1
609-412-9050**

QUALITY CONTROL REPORT

Analyst: S. Van Pelt W/IA
Date: March 5
MATRIX CODE WATER

• P.O. Box 3106, Princeton, N.J. 08540

A. MATRIX SPOKE ANALYSIS

[illegible]

Matrix Codes:

Soil	SO
Sludge	SL
Drinking water	DW
Air	AI

430 recovery = $\frac{(SSR - SR)}{(SA)} \times 100$

Princeton Service Center
U.S. Route 1
609-412-9010

• P.O. Box 3106, Princeton, N.J. 08540

Analyst: S. Var Eiten/JA
Date: March 1985
MATRIX CODE: Water

QUALITY CONTROL REPORT

A. MATRIX SPOKE ANALYSIS

Matrix Codes:

Soil . SO

Sludge **SL**

Drilling Center 7W

Air **Air**

$$\text{Recovery} = \frac{(\text{SSR} - \text{SR})}{(\text{SA})} \times 100$$

Matrix Codes:
Soil SO
Sludge SL
Drinking water DW

3/994

JOB NO. _____

ANALYST: _____ RVD _____

DATE: _____ 6-21-85 _____

MATRIX: _____ PE/MW _____

METHOD: _____



Environmental
Protection Agency
Hollister Laboratory

U.S. Route 1
Princeton Service Center
(609) 452-9050

P.O. Box 3108, Princeton, N.J. 08540

QUALITY CONTROL REPORT

Matrix Spike Analysis

JOB NO. 37994
ANALYST: SV
DATE: 6-21-85
MATRIX: Water
METHOD: EPA 625

COMPOUND		ug/liter			% Recovery*
Sample ID	COMPOUND NAME	Sample Result (SR)	Spiked Sample Result (SSR)	Spike Added (SA)	
C-11	1,2,4-trichlorobenzene	ND	770	1000	77
	Acenaphthene	ND	1340	1000	134
	Pyrene	ND	760	1000	76
	1,4-dichlorobenzene	ND	770	1000	77
BW-1	1,2,4-trichlorobenzene	ND	470	1000	47
	Acenaphthene	ND	990	1000	99
	Pyrene	ND	580	1000	58
	1,4-dichlorobenzene	ND	470	1000	47
K-7R	1,2,4-trichlorobenzene	ND	600	1000	60
	Acenaphthene	ND	1260	1000	126
	Pyrene	ND	730	1000	73
	1,4-dichlorobenzene	ND	610	1000	61
C-15	1,2,4-trichlorobenzene	ND	650	1000	65
	Acenaphthene	ND	1390	1000	139
	Pyrene	ND	730	1000	73
	1,4-dichlorobenzene	ND	630	1000	63

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QUALITY CONTROL REPORT

Matrix Spike Analysis

JOB NO. 37994

ANALYST: RVD

DATE: 6-21-85

MATRIX: PE/MW

METHOD: EPA 601/602

$$\% \text{ NECL} = \frac{(\text{SSR} - \text{SR})}{(\text{SA})} \times 100$$

CHAIN OF CUSTODY RECORD

Project #		Project Name:		ANALYSIS REQUIRED													
73		JRB ASSOC. LIPARI LANDFILL															
Sampler's Signature				LIMITED ANALYSIS	LIMITED ANALYSIS	TOTAL PHENOLS						# of Containers	REMARKS				
Stat. #	Date	Time	Comp	Grab	Station Location												
AVI	4/16/85	9:05			Field Blank	✓	✓								3 ^E	only bottle	
✓✓ FB-1		9:20			K-5	✓	✓								4	Phenols to be taken later	
✓✓ CBA		9:27			C-8A	✓	✓								4		
✓✓✓ C15		9:53			C-15	✓	✓								4		
✓✓✓ C26		10:12			C-26	✓	✓								4		
✓✓✓ C25		10:21			C-25	✓	✓								4		
✓✓✓ C11		10:44			C-11	✓	✓								4	WATER ONE EFFLUENT	
✓✓✓ C10-A		11:01			C-10A	✓	✓								4		
✓✓✓ C24		11:24			C-24	✓	✓								4		
✓✓✓ K-7		12:08			K-7	✓	✓								5	Start Phenols	
Relinquished by: (signature)				Date/time	Received by: (signature)				Relinquished by: (signature)				Date/time	Received by: (signature)			
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 * SEE OPPOSITE SIDE FOR LIMITED LIST.				

CHAIN OF CUSTODY RECORD

Project #		Project Name: JRB ASSOC.		ANALYSIS REQUIRED													
B3		LIPARI LANDFILL															
Samplers Signature				LIMITED # BENTONITE	LIMITED # VOLATILES	TOTAL PHENOLS									# of Containers	REMARKS	
Stat. #	Date	Time	Comp	Grab	Station Location												
BVP																	
K7R	4/15/85				K-7R	✓	✓	✓							5		
✓✓✓ K7R	4/16/85	12:01			K-7R	✓	✓	✓							5		
✓✓✓ C-23		12:34			C-23	✓	✓	✓							5		
✓✓✓ C-7		12:48			C-7	✓	✓	✓							5		
✓✓✓ K-3		1:14			K-3A	✓	✓	✓							5		
✓✓✓ C-21		1:23			C-21	✓	✓	✓							5	effluence	
✓✓✓ C-22		1:35			C-22	✓	✓	✓							5	effluence	
✓✓✓ B-1		1:05			Baiker Wash 1	✓	✓	✓							4	C-22	
✓✓✓ C-6A		2:06			C-6A	✓	✓	✓							5	EFFLUENCE	
✓✓✓ C-6AR		2:06			C-6A	✓	✓	✓							5		
Relinquished by: (signature)				Date/time 4/17/85 10:30 AM		Received by: (signature)				Relinquished by: (signature)				Date/time 4/17/85 11:35		Received by: (signature)	
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 * SEE OPPOSITE SIDE FOR LIMITED LIST.					

son Testing Laboratory, PO Box 3108, Princeton, NJ 08540

CHAIN OF CUSTODY RECORD

Project #		Project Name: JRB ASSOC. LIPARI LANDFILL		ANALYSTS REQUIRED												# of Containers	REMARKS
Samplers Signature: <i>[Signature]</i>				LIMITED ASSIGNMENT	LIMITED TESTING	TOTAL PHENOLS											
Stat. #	Date	Time	Comp	Grab	Station Location												
✓ C-24	4/16/85	2:16			C-24			✓							1		
✓ C-11		2:16			C-11			✓							1		
✓ C-10A		2:20			C-10A			✓							1		
C-25		2:26			C-25			✓							1		
C-26		2:26			C-26			✓							1		
C-15		2:39			C-15			✓							1		
C-9A		2:50			C-9A			✓							1		
✓ K-5		2:50			K-5			✓							1		
✓ SW-U		3:25			SW-U	✓	✓	✓							5 upstream		
✓ SW-T		3:40			SW-T	✓	✓	✓							5 tributary		

Relinquished by: (signature) <i>[Signature]</i>	Date/time 4/17/85 10:20 AM	Received by: (signature) <i>[Signature]</i>	Relinquished by: (signature) <i>[Signature]</i>	Date/time 4/17/85 10:25	Received by: (signature) <i>[Signature]</i>
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 * SEE OPPOSITE SIDE FOR LIMITED LIST.	

ANALYSIS REQUIRED

* SEE OPPOSITE SIDE
FOR LIMITED LIST.

CHAIN OF CUSTODY RECORD

Project # 73		Project Name: JRB Assoc. LIPARI LANDFILL				ANALYSIS REQUIRED												
Samplers Signature						LIMITED ANALYSIS	LIMITED ANALYSIS	TOTAL PHENOLS									# of Containers	REMARKS
Stat. #	Date	Time	Comp	Grab	Station Location													
BPV																		
✓✓✓ FB-2	4/19/85	9:07			Field Blank	✓	✓	✓									5	Lab Supplied D3
✓✓✓ C-17		9:34			C-17	✓	✓	✓									5	Effluence
✓✓✓ C-16		9:51			C-16	✓	✓	✓									5	
✓✓✓ C-19		10:05			C-19	✓	✓	✓									5	
✓✓✓ C-18		10:12			C-18	✓	✓	✓									5	
✓✓✓ K-1		10:25			K-1	✓	✓	✓									5	effluence
✓✓✓ K-2		10:40			K-2	✓	✓	✓									5	effluence
✓✓✓ K-4		10:58			K-4	✓	✓	✓									5	
✓✓✓ K-6		11:12			K-6	✓	✓	✓									5	
✓✓✓ C-20		11:28			C-20	✓	✓	✓									5	
Relinquished by: (signature) <i>[Signature]</i>			Date/time 4/19/85 1:55 PM			Received by: (signature) <i>[Signature]</i>			Relinquished by: (signature) <i>[Signature]</i>			Date/time 4/19/85 1:55 PM			Received by: (signature) <i>[Signature]</i>			
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 * SEE OPPOSITE SLIP FOR LIMITED LIST.						

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LIMITED SAMPLING - 6/85

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princeton testing laboratory



JRB Associates

JOB #: 38852

July 24, 1985

Volatile Organics Analysis - HALL/PID (EPA 601/602)

micrograms per liter

Compound	MDL	SW-T	C-15	K-7	C-24R	C-16
Benzene	20	ND	ND	ND	300	300
Toluene	20	ND	< 20	100	300	ND
Methylene chloride	100	ND	800	1000	800	800
1,2-dichloroethane	20	ND	ND	ND	300	ND
1,1-dichloroethane	20	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound	MDL	SW-T	C-15	K-7	C-24R	C-16
Bis (2-chloroethoxy)ethane	100	ND	ND	ND	12,000	300
Bis (2-chloroethyl)ether	100	ND	ND	ND	4,300	15,000

ND=not detected

Jon Gabry, PhD.
Asst. Organic Lab. Mgr.

JG/rk

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princeton testing laboratory



JRB Associates

July 24, 1985

JOB: #38852

Volatile Organics Analysis - FID/PID (EPA 601/602)

Compound	MDL	micrograms per liter				
		Field Blank	C-21	C-17	K-1	C-19
Benzene	20	ND	240	1400	< 20	6200
Toluene	20	<20	1500	3800	< 20	61000
Methylene chloride	100	<100	< 100	1200	<100	2200
1,2-dichloroethane	20	ND	ND	260	< 20	2200
1,1-dichloroethane	20	ND	ND	ND	ND	1000

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound	MDL	Field				
		Blank	C-21	C-17	K-1	C-19
Bis(2-chloroethoxy)ethane	100	ND	ND	94,000	ND	15,000
Bis(2-chloroethyl)ether	100	ND	ND	110,000	ND	43,000

ND=not detected

Jon Gabry, PhD.
Asst. Organic Lab. Mgr.

JG/rk

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JRB Associates

July 24, 1985

JOB: #38852

Volatile Organics Analysis - HALL/PID (EPA 601/602)

micrograms per liter

Compound	MDL	C-24	C-18	K-7R	C-25	K-3A
Benzene	20	200	2,000	ND	300	ND
Toluene	20	200	23,000	50	1,400	ND
Methylene chloride	100	800	1,000	1,000	1,000	1,000
1,2-dichloroethane	20	500	ND	ND	ND	500
1,1-dichloroethane	20	ND	400	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound	MDL	C-24	C-18	K-7R	C-25	K-3A
Bis (2-chloroethoxy)ethane	100	12,000	2,700	ND	1,500	ND
Bis (2-chloroethyl)ether	100	5,300	2,300	ND	1,100	560

ND=not detected

JG/rk

Jon Gabry, PhD.
Asst. Organic Lab. Mgr.

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July 24, 1985

JOB #: 38852

Volatile Organics Analysis - HALL/PID (EPA 601/602)

micrograms per liter

Compound	MDL	SW-D	C-22	C-8A	K-5	SW-V
Benzene	20	ND	ND	ND	ND	ND
Toluene	20	ND	640	ND	ND	ND
Methylene chloride	100	<100	400	400	500	ND
1,2-dichloroethane	20	< 20	ND	ND	ND	ND
1,1-dichloroethane	20	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound	MDL	SW-D	C-22	C-8A	K-5	SW-V
Bis (2-chloroethoxy)ethane	100	ND	ND	ND	ND	ND
Bis (2-chloroethyl)ether	100	ND	ND	ND	ND	ND

ND=not detected

Jon Gabry, PhD.
Asst. Organic Lab. Mgr.

JG/rk

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July 24, 1985

JOB: 38852

Volatile Organics Analysis - BALL/PID (EPA 601/602) micrograms per liter

Compound	MDL	C-26	BW-1	C-23	C-20	K-6
Benzene	20	ND	ND	2500	ND	ND
Toluene	20	< 20	30	5400	ND	ND
Methylene chloride	100	ND	ND	ND	ND	ND
1,2-dichloroethane	20	ND	ND	250	ND	ND
1,1-dichloroethane	20	ND	ND	ND	ND	ND

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound	MDL	C-26	BW-1	C-23	C-20	K-6
	100					
Bis(2-chloroethoxy)ethane		ND	ND	1000	ND	ND
	100					
Bis(2-chloroethyl)ether		ND	ND	790	ND	ND

ND=not detected

Jon Gabry, PhD.
Asst. Organic Lab. Mgr.

JG/rk

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Job #38909
7-29-85

Volatile Organics Analysis - HALL/PID (EPA 601/602)

Compound	micrograms per liter				
	Detection Limit	K-4	C-7	CP-4	CP-2
Benzene	20	ND	7,600	ND	3,500
Toluene	20	ND	33,000	ND	31,000
Methylene chloride	100	ND	2,000	400	11,000
1,2-dichloroethane	20	ND	2,000	500	10,000
1,1-dichloroethane	20	ND	300	ND	600

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound					
Bis (2-chloroethoxy)ethane	100	ND	47,000	800	1,400,000
Bis (2-chloroethyl)ether	100	ND	14,000	390	190,000

ND=not detected


Gene Dennison, PhD, CIH
Technical Director

SV:na

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princeton testing laboratory



Job #38909
7-29-85

Volatile Organics Analysis - HALL/PID (EPA 601/602)

Compound	micrograms per liter					
	C-7R	Field Blank	K-2	C-10A	CP-3	BW-2
Benzene	7,300	ND	ND	200	2,500	ND
Toluene	30,000	ND	ND	800	2,700	ND
Methylene chloride	2,000	(ND)	1,100	500	200	(ND)
1,2-dichloroethane	2,000	ND	700	200	ND	
1,1-dichloroethane	300	ND	ND	ND	200	ND

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound						
Bis (2-chloroethoxy)ethane	56,000	ND	4,700	17,000	4,200	ND
Bis (2-chloroethyl) ether	20,000	ND	2,100	6,200	2,500	ND

ND=not detected


Gene Dennison, PhD, CIH
Technical Director

SV:na

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Job #38909
7-29-85

Volatile Organics Analysis - HALL/PID (EPA 601/602)

micrograms per liter

Compound	C-6A	CP-1	C-11
Benzene	10,000	1,200	200
Toluene	35,000	8,000	300
Methylene chloride	4,000	300	400
1,2-dichloroethane	6,000	ND	2,000
1,1-dichloroethane	400	ND	ND

Semi-volatile Organics Analysis - GC/MS (EPA 625)

Compound			
Bis(2-chloroethoxy)ethane	13,000	180,000	20,000
Bis(2-chloroethyl)ether	6,200	27,000	2,500

ND=not detected


Gene Dennison, PhD, CIH
Technical Director

princeton
testing
laboratory

RECEIVED JUL 12 1985

DATE: 7-10-85

TO: JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 38852

AUTHORIZATION: verbal

ATT: Dr. Edward Repa

SAMPLE: water - 25

REPORT OF ANALYSIS

	Phenols mg/l
C 21	0.30
C 22	0.10
BW 1	0.17
K 1	< 0.10
SW U	< 0.10
SW T	0.20
SW D	< 0.10
C 17	29.0
C 16	0.17
C 19	27.0
C 18	1.70
C 20	< 0.10
K 6	< 0.10
C 8A	0.15
K 5	< 0.10
K 3A	0.47
FB 1	< 0.10
C 15	< 0.10
C 26	0.29
C 25	0.15
C 24	< 0.1
C 24R	0.24
K 7	0.24
K 7R	0.24
C 23	3.2

Edna A. Alinea, Manager
Water, waste water & microbiology

EAA:na

princeton
testing
laboratory

DATE: 7-10-85

TO: [

JRB Associates
8400 Westpark Dr
McLean Va 22102

JOB NO. 38909

AUTHORIZATION: verbal

ATT: Dr. Edward Repa]

SAMPLE: water - 13]

REPORT OF ANALYSIS

	Phenols mg/l
FB 2	0.15
C 11	0.58
C 7	9.5
C 7R	16.0
K 4	< 0.10
C 10A	0.10
BW 2	0.10
C 6A	21.0
K 2	1.3
CP 1	lost
CP 2	4.0
CP 3	2.2
CP 4	< 0.10

Edna A. Alinea, Manager
Water, waste water & microbiology

EAA:na



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QUALITY CONTROL REPORT

Duplicate Analysis

P.O. Box 3108, Princeton, N.J. 08540

JOB NO. 38909

ANALYST: RD

DATE: 7-29-85

MATRIX: PE/MW

METHOD: _____

[illegible]

$$\text{APD} = \left[\frac{(D_1 - D_2)}{D_2} \right] \times 100$$



QUALITY CONTROL REPORT

Duplicate Analysis

JOB NO. 38852
ANALYST: S. Van Etten
DATE: July 24, 1985
MATRIX: Water
METHOD: 625

$$\text{RPD} = \frac{(D_1 - D_2)}{\left[\frac{(D_1 + D_2)}{2} \right]} \times 100$$

Project #				Project Name: <i>Lipar. Landfill</i>				CHAIN OF RECORD												ANALYSIS REQUIRED												REMARKS	
Sampler Signature: <i>Jennifer Bramlett</i>																																	
Stat. #	Date	Time	Station Location	Solids	Fluoride	Mercury	Metals	Cyanides	Asbestos	Organics	CC/MS	Base/Neutral	Volatile Organics	Pesticides	PCB's	Bacteriology	Misc. Chem.																
FB-1	6/10/85	8:55	Field Blank		1								1	2			4	01 water from lab															
C-15	"	9:20	C-15		1								2	2			5																
C-26	"	9:35	C-26		1								2	2			5	Effluence															
C-25	"	9:45	C-25		1								2	2			5	Effluence															
C-24	6/10	10:00	C-24		1								2	2			5																
C-21R	6/10	10:10	C-24		1								2	2			5																
K-7	6/10	10:20	K-7		1								2	2			5																
K-7R	6/10	10:30	K-7		1								2	2			5																
C-23	6/10	10:45	C-23		1								2	2			5	Effluence															

SAMPLES RECEIVED: 9 HOW MANY CONTAINERS? 44

Relinquished by: (signature) <i>Jennifer A. Bramlett</i>	Date/time <i>6/11/85</i> <i>10:30</i>	Received by: (signature) <i>Maryann</i> <i>McCarton</i>	Relinquished by: (signature)	Date/time	Received by: (signature)
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	

Princeton Testing Laboratory, PO Box 3108, Princeton, NJ 08540



**U.S. Route 1
Princeton Service Center
(609) 452-9050**

QUALITY CONTROL REPORT

Matrix Spike Analysis

P.O. Box 3108, Princeton, N.J. 08540

JOB NO. 38852

ANALYST: RVD

DATE: July 24, 1985

MATRIX: DE/MV.

METHOD:

[illegible]

Project #		Project Name: <i>Liquid Candle</i>		CHAIN OF CUSTODY RECORD														ANALYSIS REQUIRED	REMARKS	
Sampler Signature: <i>Janice Brantlett</i>																				
Stat. #	Date	Time	Station Location	Solids	Plastics	Mercury	Metals	Cyanides	Asbestos	Organics	GC/MS	Base/Neutral	Volatile	Organics	Pesticides	PCB's	Bacteriology	Miss. Chem.		
C-1	6/10/85	2:20	C-1		1								X	X					5	Effluence
C-2	6/10/85	2:35	C-2		1								X	X					5	Effluence
K-1	6/10/85	2:51	Sample K-1		1								1	X					4	Effluence
K-1	6/10/85	3:15	K-1		1								X	X					5	Effluence
SW-U	6/10/85	5:00	Upstream SW		1								X	X					5	
SW-T	6/10/85	5:15	Tributary SW		1								X	X					5	
SW-P	6/10/85	5:30	Downstream SW		1								X	X					5	

SAMPLES RECEIVED: 1		HOW MANY CONTAINERS? 3					
Relinquished by: (signature)	Date/time 6/11/85	Received by: (signature)	Date/time 6/11/85	Relinquished by: (signature)	Date/time	Received by: (signature)	
Relinquished by: (signature)	Date/time	Received by: (signature)	Date/time	Relinquished by: (signature)	Date/time	Received by: (signature)	
Relinquished by: (signature)	Date/time	Received for laboratory by (signature):	Date/time	REMARKS			

459

Aceton Testing Laboratory, PO Box 3108, Princeton, NJ 08540

CHAIN OF CUSTODY RECORD

Project #		Project Name:		ANALYSIS REQUIRED														REMARKS
				Solids	Phenols	Mercury	Metals	Cyanides	Asbestos	Organics GC/MS	Base/Neutral	Volatile Organics	Pesticides	PCB's	Bacteriology	Misc. Chem.		
Sampler Signature: <i>Jennifer Premitt</i>																		
Stat.#	Date	Time	Station Location															
C-17	6/10/85	11:05	C-17		/						X	X					5 Effluence	
C-16	6/10/85	11:15	C-16		/						X	X					5 Effluence	
C-14	6/10/85	11:30	C-14		/						X	X					5 Effluence	
C-17	6/10/85	11:40	C-17		/						X	X					5	
C-20	6/10/85	12:10	C-20		/						X	X					5	
K-6	6/10/85	12:20	K-6		/						X	X					5	
C-7A	6/10/85	12:55	C-7A		/						X	X					5	
K-5	6/10/85	1:10	K-5		/						X	X					5	
K-3A	6/10/85	2:05	K-3A		/						X	X					5 Effluence	

SAMPLES RECEIVED: 9

HOW MANY CONTAINERS? 45

Relinquished by: (signature) <i>Jennifer Premitt</i>	Date/time 6/11/85	Received by: (signature) <i>[Signature]</i>	Relinquished by: (signature)	Date/time	Received by: (signature)
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	

• (DR)

ANALYSIS REQUIRED

Project #

Project Name:

Samplers Signature

REMARKS

[illegible]

SAMPLES RECEIVED:

HOW MANY CONTAINERS?

Relinquished by: (signature) <i>[Signature]</i>	Date/time 6/12/85 4:00 PM	Received by: (signature) <i>[Signature]</i>	Relinquished by: (signature)	Date/time	Received by: (signature)
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	

Testing Laboratory, PO Box 3108, Princeton, NJ 08540

CHAIN OF CUSTODY RECORD

ANALYSIS REQUIRED

Project #

Project Name: *Lipari Landfill*Sampler Signature *Janet Brantlett*

Solids	Phenols	Mercury	Metals	Cyanides	Asbestos	Organics	PCBS	Base/Neutral	Volatiles	Organics	Pesticides	PCBs	Bacteriology	Misc. Chem.
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REMARKS

Stat.#	Date	Time	Station Location	Solids	Phenols	Mercury	Metals	Cyanides	Asbestos	Organics	PCBS	Base/Neutral	Volatiles	Organics	Pesticides	PCBs	Bacteriology	Misc. Chem.	REMARKS
FB-2	6/1/85	9:30	Field Blank		1								12						11- Low level
C-11	6/1/85	11:00	C-11		1								22						
C-7	6/1/85	11:01	C-7		1								5						
C-10	6/1/85	11:02	C-10		1								1						
K-4	6/1/85	11:03	K-4		1								1						11:03
C-10.1	6/1/85	11:04	C-10.1		1								27						
C-11.1	6/1/85	11:05	C-11.1		1								15						
C-6.1	6/1/85	11:06	C-6.1		1								25						5
K-2	6/1/85	11:40	K-2		1								25						3

SAMPLES RECEIVED:

HOW MANY CONTAINERS?

Relinquished by: (signature) <i>Janet Brantlett</i>	Date/time 6/12/85 4:00 PM	Received by: (signature) <i>N. Amato</i>	Relinquished by: (signature)	Date/time	Received by: (signature)
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	

TABLE C-1. SPIKE ANALYSIS FOR PRIORITY POLLUTANT

Volatiles - August 1983

SAMPLE	COMPOUND NAME	CONCENTRATION (ug/l)			RECOVERY %
		Sample Result	Spike Added	Spiked Sample Result	
Field Blank	Benzene	ND	4	33	83
	Bromoform	ND	42	40	95
	Carbon tetrachloride	ND	12	14	117
	Chlorobenzene	ND	2.2	2.4	109
	Chloroform	ND	11	12	109
	Dichlorobromomethane	ND	15	15	100
	1,1-dichloroethane	ND	6	7	117
	1,2-dichloroethane	ND	6.2	7.4	119
	1,1-dichloroethylene	ND	6.1	7.0	115
	1,2-dichloropropane	ND	6	6	100
	Ethyl benzene	ND	3	3.2	107
	Tetrachloroethylene	ND	12.2	13	107
	1,2-trans-dichloroethylene	ND	6	6	100
	1,1,1-trichloroethane	ND	7	7	100
	Trichloroethylene	ND	7.3	6.3	86
K-6 dup	Benzene	ND	2.2	2.4	109
	Bromoform	ND	41	46	110
	Carbon tetrachloride	ND	12	13	108
	Chlorobenzene	ND	2	2	100
	Chloroform	ND	17	16	94
	Dichlorobromomethane	ND	15	15	100
	1,1-dichloroethane	ND	6	6	100
	1,2-dichloroethane	ND	10	10	100
	1,1-dichloroethylene	ND	6	6.4	106
	1,2-dichloropropane	ND	6	6	100
	Ethyl benzene	ND	3	3	100
	Tetrachloroethylene	ND	12	12	100
	1,2-trans-dichloroethylene	ND	6	6	100
	1,1,1-Trichloroethane	ND	6.3	7	110
	Trichloroethylene	ND	7	8	114
C-8a	Benzene	ND	2.3	2	87
	Bromoform	ND	44	45	102
	Carbon tetrachloride	ND	13	12	92
	Chlorobenzene	ND	2.3	2.5	109
	Chloroform	ND	12	13	108
	Dichlorobromomethane	ND	16	15	94
	1,1-dichloroethane	ND	6.3	6.6	105
	1,2-dichloroethane	ND	6.5	6.1	94
	1,1-dichloroethylene	ND	6.4	7	109
	1,2-dichloropropane	ND	6.1	6.4	105
	Ethyl benzene	ND	3	3.3	110
	Tetrachloroethylene	ND	13	15	115