

LABORATORIES, INC. 5910 Breckenridge Pkwy., Suite H, Tampa, FL 33610

Sampling, testing, mobile labs

ANALYTICAL REPORT

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LAIDLAW

16 NOVEMBER 1991

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DEC 4 1991

SOUTHWEST DISTRICT

Presented to:

STEVE TAYLOR

LAIDLAW ENVIRONMENTAL SERVICES

WADSWORTH/ALERT LABORATORIES, INC.

Jay Apitz Project Manager

Randall C. Grubbs

Laboratory Director - Florida

November 22, 1991



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INVOLVEMENT

This report summarizes the analytical results of the Laidlaw site submitted by Laidlaw Environmental Services to Wadsworth/ALERT Laboratories, Inc. who provided independent, analytical services for this project under the direction of Steve Taylor. The samples were accepted into Wadsworth's Florida facility on 16 November 1991, in accordance with documented sample acceptance procedures. The associated analytical methods and sample results are outlined sequentially in this report.

Analytical results included in this report have been reviewed for compliance with the Laboratory QA/QC Plan as summarized in the Quality Control Section at the rear of the report. Sample custody documentation describing the number of samples and sample matrices is also included. Any qualifications and/or noncompliant items have been noted below.



ANALYTICAL METHODS

Wadsworth/ALERT Laboratories utilizes only USEPA approved analytical methods and instrumentation. The analytical methods utilized for the analysis of these samples are listed below.

PARAMETER METHOD

ORGANICS

Volatile Organics Extraction

** SW846 Method 8240 ** SW846 Method 5030

NOTE: ** Indicates usage of this method to obtain results for this report. EPA Methods -Methods for Chemical Analysis of Water and Wastes, USEPA, 600/4-79-020, March, 1983. July, 1982 Drinking Waters USEPA, 600/4-88/039, December, 1988. Std. Methods -Standard Methods for the Examination of Water and Wastewater, APHA, 16th edition, 1985. USEPA Methods -From 40CFR Part 136, published in Federal Register on October 26, 1984. SW846 Methods -Test Methods for Evaluating Solid Waste Physical/Chemical Methods, 3rd Edition, USEPA, 1986. -American Society for Testing and Materials. ASTM Methods -NIOSH Manual of Analytical Methods, National Institute for NIOSH Method Occupational Safety and Health, 2nd Edition, April 1977.



LAB #: 1K1601-1 MATRIX: WATER

DATE RECEIVED: 11/16/91 DATE EXTRACTED: NA DATE ANALYZED: 11/18/91

SAMPLE ID: MW-1A

CERTIFICATION #: E84059

VOLATILE ORGANICS

HRS84297

USEPA METHOD 8240 - GC/MS

Acetone Benzene Bromodichloromethane	ND** ND ND	cis-1,3-Dichloropropene trans-1,3-dichloropropene Ethylbenzene	ND ND ND
Bromoform :	ND ND	2-Hexanone Methylene chloride	ND**
2-Butanone	ND**	4-Methyl-2-pentanone	ND**
Carbon disulfide	ND	Styrene	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chlorodibromomethane	ND	Toluene	ND
Chloroethane	ND	1,1,1-Trichloroethane	ND
Chloroform	ND	1,1,2-Trichloroethane	ND
Chloromethane	ND	Trichloroethene	ND
1,1-Dichloroethane	ND	Vinyl chloride	ND
1,2-Dichloroethane	ND	Xylene(Total)	ND
1,1-Dichloroethene	ND		
1,2-Dichloroethene(Total)	ND		
1,2-Dichloropropane	ND		

```
NOTE:
      ND
            (None Detected, lower detectable limit = 1
                                                                  ug/L) as rec'd
            (None Detected, lower detectable limit =
       ND*
                                                                  ug/L) as rec'd
                                                                  ug/L) as rec'd
       ND** (None Detected, lower detectable limit = 10
            (Detected, but below quantitation limit; estimated value)
       В
            (Compound detected in method blank associated with this sample)
            (Not Analyzed)
```

SURROGATE RECOVERY:	x	ACCEPTABL	E LIMITS	
		WATER	SOLID	LOW LEVEL
1,2-Dichloroethane	114	(75-123)	(85-126)	(85-138)
Toluene-d8	102	(92-107)	(89-124)	(89-128)
Bromofluorobenzene	104	(86-115)	(84-124)	(83-128)



LAB #: 1K1601-2 MATRIX: WATER DATE RECEIVED: 11/16/91
DATE EXTRACTED: NA
DATE ANALYZED: 11/18/91

SAMPLE ID: MW-2

CERTIFICATION #: E84059

VOLATILE ORGANICS
USEPA METHOD 8240 - GC/MS

HRS84297

Acetone	ND**	cis-1,3-Dichloropropene	ND
Benzene	ND	trans-1,3-dichloropropene	
Bromodichloromethane	ND	Ethylbenzene	ND
n	N.D.	0. 13	Model
Bromoform	ND	2-Hexanone	ND**
Bromomethane	ND	Methylene chloride	ND
2-Butanone	ND**	4-Methyl-2-pentanone	ND**
Carbon disulfide	ND	Styrene	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chlorodibromomethane	ND	Toluene	ND
Chloroethane	ND	1,1,1-Trichloroethane	ND
Chloroform	ND	1,1,2-Trichloroethane	ND
Chloromethane	ND	Trichloroethene	ND
1,1-Dichloroethane	ND	Vinyl chloride	ND
1,2-Dichloroethane	ND	Xylene(Total)	ND
1,1-Dichloroethene	ND		
1,2-Dichloroethene(Total)	ND		
1,2-Dichloropropane	ND		
1) 2 Dichiolopiopane	ND		

(Not Analyzed)	NOTE:	ND* ND** J B	(None Detected, lower detectable limit = ug/ * (None Detected, lower detectable limit = 10 ug/ (Detected, but below quantitation limit; estimated value) (Compound detected in method blank associated with this s	L) as L) as L) as	re	ec'	d
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SURROGATE RECOVERY:	*	ACCEPTABLE LIMITS	
		WATER SOLID LOW LEVEL	
1,2-Dichloroethane	102	(75-123) (85-126) (85-138)	
Toluene-d8	104	(92-107) (89-124) (89-128)	
${\tt Bromofluorobenzene}$	100	(86-115) (84-124) (83-128)	



LAB #: 1K1601-3 MATRIX: WATER DATE RECEIVED: 11/16/91
DATE EXTRACTED: NA
DATE ANALYZED: 11/19/91

SAMPLE ID: MW-3A

CERTIFICATION #: E84059

VOLATILE ORGANICS
USEPA METHOD 8240 - GC/MS

HRS84297

Acetone	ND**	cis-1,3-Dichloropropene	ND
Benzene	ND	trans-1,3-dichloropropene	ND
Bromodichloromethane	ND	Ethylbenzene	ND
Bromoform Bromomethane 2-Butanone	ND	2-Hexanone	ND**
	ND	Methylene chloride	10
	ND**	4-Methyl-2-pentanone	ND**
Carbon disulfide	ND	Styrene	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chlorodibromomethane	ND	Toluene 1,1,1-Trichloroethane 1,1,2-Trichloroethane	ND
Chloroethane	ND		64
Chloroform	ND		ND
Chloromethane	ND	Trichloroethene Vinyl chloride Xylene(Total)	ND
1,1-Dichloroethane	21		ND
1,2-Dichloroethane	ND		ND
1,1-Dichloroethene 1,2-Dichloroethene(Total) 1,2-Dichloropropane	16 ND ND		

```
NOTE: ND (None Detected, lower detectable limit = 3 ug/L) as rec'd ND* (None Detected, lower detectable limit = ug/L) as rec'd ND** (None Detected, lower detectable limit = 30 ug/L) as rec'd J (Detected, but below quantitation limit; estimated value)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)
```

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS
		WATER SOLID LOW LEVEL
1,2-Dichloroethane	104	(75-123) (85-126) (85-138)
Toluene-d8	102	(92-107) (89-124) (89-128)
Bromofluorobenzene	101	(86-115) (84-124) (83-128)



LAB #: 1K1601-3 MATRIX: WATER

DATE EXTRACTED: DATE ANALYZED:

11/16/91 NA

DATE RECEIVED:

11/19/91

SAMPLE ID: MW-3A

CERTIFICATION #: E84059

HRS84297

VOLATILE ORGANICS OTHER COMPOUNDS

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS with their estimated concentrations

1,1,2-Trichloro-1,2,2-Trifluoromethane

4 ug/L



LAB #: 1K1601-4 MATRIX: WATER DATE RECEIVED: 11/16/91
DATE EXTRACTED: NA
DATE ANALYZED: 11/18/91

HRS84297

SAMPLE ID: MW-4

CERTIFICATION #: E84059

VOLATILE ORGANICS
USEPA METHOD 8240 - GC/MS

Acetone ND** cis-1,3-Dichloropropene ND Benzene trans-1,3-dichloropropene ND ND Bromodichloromethane ND Ethylbenzene ND Bromoform ND** ND 2-Hexanone Bromomethane Methylene chloride ND ND 2-Butanone 4-Methyl-2-pentanone ND** ND** Carbon disulfide ND ND Styrene Carbon tetrachloride ND 1,1,2,2-Tetrachloroethane ND Chlorobenzene Tetrachloroethene ND ND Chlorodibromomethane ND ND Toluene Chloroethane ND 1,1,1-Trichloroethane ND Chloroform 1,1,2-Trichloroethane ND ND Chloromethane ND Trichloroethene ND 1,1-Dichloroethane Vinyl chloride ND ND 1,2-Dichloroethane ND Xylene(Total) ND 1,1-Dichloroethene ND 1,2-Dichloroethene(Total) ND 1,2-Dichloropropane ND

NOTE: ND (None Detected, lower detectable limit = 1 ug/L) as rec'd ND* (None Detected, lower detectable limit = ug/L) as rec'd ND** (None Detected, lower detectable limit = 10 ug/L) as rec'd J (Detected, but below quantitation limit; estimated value)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	* * *	ACCEPTABLE LIMITS	
		WATER SOLID	LOW LEVEL
1,2-Dichloroethane	104	(75-123) (85-126)	(85-138)
Toluene-d8	103	(92-107) (89-124)	(89-128)
Bromofluorobenzene	102	(86-115) (84-124)	(83-128)



LAB #: 1K1601-5 MATRIX: WATER

DATE RECEIVED: 11/16/91 DATE EXTRACTED: **DATE ANALYZED: 11/18/91**

SAMPLE ID: MW-5

CERTIFICATION #: E84059

VOLATILE ORGANICS

HRS84297

USEPA METHOD 8240 - GC/MS

Acetone Benzene Bromodichloromethane	ND** ND ND	cis-1,3-Dichloropropene trans-1,3-dichloropropene Ethylbenzene	ND ND ND
Bromoform Bromomethane	ND ND	2-Hexanone Methylene chloride	ND**
2-Butanone	ND**	4-Methyl-2-pentanone	ND**
Carbon disulfide	ND	Styrene	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chlorodibromomethane	ND	Toluene	ND
Chloroethane	ND	1,1,1-Trichloroethane	ND
Chloroform	ND	1,1,2-Trichloroethane	ND
Chloromethane	ND	Trichloroethene	ND
1,1-Dichloroethane	ND	Vinyl chloride	ND
1,2-Dichloroethane	ND	Xylene(Total)	ND
1,1-Dichloroethene	ND		
1,2-Dichloroethene(Total)	ND		
1,2-Dichloropropane	ND		

```
(None Detected, lower detectable limit = 1
NOTE:
      ND
                                                               ug/L) as rec'd
                                                               ug/L) as rec'd
      ND* (None Detected, lower detectable limit =
      ND** (None Detected, lower detectable limit = 10
                                                               ug/L) as rec'd
           (Detected, but below quantitation limit; estimated value)
      J
      В
           (Compound detected in method blank associated with this sample)
           (Not Analyzed)
```

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS
		WATER SOLID LOW LEVEL
1,2-Dichloroethane	103	(75-123) (85-126) (85-138)
Toluene-d8	102	(92-107) (89-124) (89-128)
Bromofluorobenzene	101	(86-115) (84-124) (83-128)



LAB #: 1K1601-6 MATRIX: WATER DATE RECEIVED: 11/16/91
DATE EXTRACTED: NA
DATE ANALYZED: 11/18/91

SAMPLE ID: MW-6

CERTIFICATION #: E84059

HRS84297

VOLATILE ORGANICS
USEPA METHOD 8240 - GC/MS

Acetone Benzene Bromodichloromethane	1,600 J ND ND	cis-1,3-Dichloropropene trans-1,3-dichloropropene Ethylbenzene	ND ND ND
DI OMOGICITATIO	ND	Beny Ibenzene	112
Bromoform	ND	2-Hexanone	ND**
Bromomethane	ND	Methylene chloride	35
2-Butanone	210	4-Methyl-2-pentanone	ND**
Carbon disulfide	ND	Styrene	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	3
Chlorodibromomethane	ND	Toluene	2
Chloroethane	ND	1,1,1-Trichloroethane	24
Chloroform	ND	1,1,2-Trichloroethane	ND
Chloromethane	ND	Trichloroethene	440
1,1-Dichloroethane	36	Vinyl chloride	ND
1,2-Dichloroethane	ND	Xylene(Total)	ND
1,1-Dichloroethene	11		
1,2-Dichloroethene(Total)	ND		
1,2-Dichloropropane	ND		

NOTE:	ND	(None Detected, lower detectable limit = 1 ug/L) as rec'd
	ND*	(None Detected, lower detectable limit = ug/L) as rec'd
	ND**	(None Detected, lower detectable limit = 10 ug/L) as rec'd
	J	(Detected, but below quantitation limit; estimated value)
	В	(Compound detected in method blank associated with this sample)
		(Not Analyzed)

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS		
	,	WATER	SOLID	LOW LEVEL
1,2-Dichloroethane	106	(75-123)	(85-126)	(85-138)
Toluene-d8	105	(92-107)	(89-124)	(89-128)
Bromofluorobenzene	104	(86-115)	(84-124)	(83-128)



LAB #: 1K1601-7 MATRIX: WATER DATE RECEIVED: 11/16/91
DATE EXTRACTED: NA
DATE ANALYZED: 11/18/91

SAMPLE ID: MW-7

CERTIFICATION #: E84059

VOLATILE ORGANICS
USEPA METHOD 8240 - GC/MS

HRS84297

Acetone ND** cis-1,3-Dichloropropene ND trans-1,3-dichloropropene ND Benzene ND Bromodichloromethane Ethylbenzene ND ND Bromoform ND** ND 2-Hexanone Bromomethane ND Methylene chloride 2 2-Butanone ND** 4-Methyl-2-pentanone ND** Carbon disulfide ND ND Styrene Carbon tetrachloride ND 1,1,2,2-Tetrachloroethane ND Chlorobenzene Tetrachloroethene ND Chlorodibromomethane ND Toluene Chloroethane ND 1,1,1-Trichloroethane 14 Chloroform 1,1,2-Trichloroethane ND ND Chloromethane ND Trichloroethene 1,1-Dichloroethane Vinyl chloride ND 7 1,2-Dichloroethane ND Xylene(Total) 1 1,1-Dichloroethene 5 1,2-Dichloroethene(Total) ND 1,2-Dichloropropane ND

NOTE:	ND	(None Detected, lower detectable limit = 1 ug/I	,) as	rec'd
	ND*	(None Detected, lower detectable limit = ug/I	as (,	rec'd
	ND**	(None Detected, lower detectable limit = 10 ug/I	as (a	rec'd
	J	(Detected, but below quantitation limit; estimated value)		
	В	(Compound detected in method blank associated with this sa	mple)
		(Not Analyzed)		

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS		
		WATER SOLID	LOW LEVEL	
1,2-Dichloroethane	104	(75-123) (85-126)	(85-138)	
Toluene-d8	103	(92-107) (89-124)	(89-128)	
Bromofluorobenzene	101	(86-115) (84-124)	(83-128)	



LAB #: 1K1601-7 MATRIX: WATER

DATE RECEIVED:

11/16/91

DATE EXTRACTED: DATE ANALYZED:

NA 11/18/91

SAMPLE ID: MW-7

CERTIFICATION #: E84059

VOLATILE ORGANICS OTHER COMPOUNDS

HRS84297

Trichlorofluoromethane

38 ug/L

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS with their estimated concentrations

1,1,2-Trichloro-1,2,2-trifluoro-ethane

260 ug/L



LAB #: 1K1601-8 MATRIX: WATER DATE RECEIVED: 11/16/91
DATE EXTRACTED: NA
DATE ANALYZED: 11/18/91

SAMPLE ID: FIELD BLANK

CERTIFICATION #: E84059

VOLATILE ORGANICS
USEPA METHOD 8240 - GC/MS

HRS84297

Acetone	ND**	cis-1,3-Dichloropropene	ND
Benzene	ND	trans-1,3-dichloropropene	ND
Bromodichloromethane	ND	Ethylbenzene	ND
Bromoform .	ND	2-Hexanone	ND**
Bromomethane	ND	Methylene chloride	2
2-Butanone	570 J	4-Methyl-2-pentanone	ND**
Carbon disulfide	ND	Styrene	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chlorodibromomethane	ND	Toluene 1,1,1-Trichloroethane 1,1,2-Trichloroethane	ND
Chloroethane	ND		ND
Chloroform	ND		ND
Chloromethane	ND	Trichloroethene	ND
1,1-Dichloroethane	ND	Vinyl chloride	ND
1,2-Dichloroethane	ND	Xylene(Total)	ND
1,1-Dichloroethene 1,2-Dichloroethene(Total) 1,2-Dichloropropane	ND ND ND		

```
NOTE: ND (None Detected, lower detectable limit = 1 ug/L) as rec'd ND* (None Detected, lower detectable limit = ug/L) as rec'd ND** (None Detected, lower detectable limit = 10 ug/L) as rec'd J (Detected, but below quantitation limit; estimated value)

B (Compound detected in method blank associated with this sample)
```

	(Not Analyzed)			
GATE	RECOVERY:	x	ACCEPTABLE LIMITS	

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS	
		WATER SOLID	LOW LEVEL
1,2-Dichloroethane	98	(75-123) (85-126)	(85-138)
Toluene-d8	102	(92-107) (89-124)	(89-128)
Bromofluorobenzene	99	(86-115) (84-124)	(83-128)



LAB #: 1K1601-8 MATRIX: WATER

DATE RECEIVED: 11/16/91 DATE EXTRACTED: NA DATE ANALYZED:

11/18/91

SAMPLE ID: FIELD BLANK

CERTIFICATION #: E84059

HRS84297

VOLATILE ORGANICS OTHER COMPOUNDS

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS with their estimated concentrations

2-Methoxy-1-propene

130 ug/L



LAB #: 1K1601-9 MATRIX: WATER

DATE RECEIVED: 11/16/91 DATE EXTRACTED: DATE ANALYZED: 11/18/91

SAMPLE ID: TRIP BLANK

CERTIFICATION #: E84059

HRS84297

VOLATILE ORGANICS

USEPA METHOD 8240 - GC/MS

Acetone	ND**	cis-1,3-Dichloropropene	ND
Benzene	ND	trans-1,3-dichloropropene	ND
Bromodichloromethane	ND	Ethylbenzene	ND
Bromoform	ND	2-Hexanone	ND**
Bromomethane	ND	Methylene chloride	2
2-Butanone	ND**	4-Methyl-2-pentanone	ND**
Carbon disulfide	ND	Styrene	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chlorodibromomethane	ND	Toluene 1,1,1-Trichloroethane 1,1,2-Trichloroethane	ND
Chloroethane	ND		ND
Chloroform	ND		ND
Chloromethane 1,1-Dichloroethane 1,2-Dichloroethane	ND	Trichloroethene	ND
	ND	Vinyl chloride	ND
	ND	Xylene(Total)	ND
1,1-Dichloroethene 1,2-Dichloroethene(Total) 1,2-Dichloropropane	ND ND ND		

```
(None Detected, lower detectable limit = 1
                                                                 ug/L) as rec'd
NOTE:
      ND
            (None Detected, lower detectable limit =
                                                                 ug/L) as rec'd
      ND** (None Detected, lower detectable limit = 10
                                                                 ug/L) as rec'd
            (Detected, but below quantitation limit; estimated value)
```

В (Compound detected in method blank associated with this sample)

(Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS		
		WATER	SOLID	LOW LEVEL
1,2-Dichloroethane	105	(75-123)	(85-126)	(85-138)
Toluene-d8	104	(92-107)	(89-124)	(89-128)
Bromofluorobenzene	100	(86-115)	(84-124)	(83-128)



QUALITY CONTROL SECTION

- Quality Control Summary
- Laboratory Blanks
- Laboratory Control Sample
- Matrix Spike/Matrix Spike Duplicate Results
- Sample Custody Documentation



QUALITY ASSURANCE / QUALITY CONTROL PROGRAM SUMMARY

Wadsworth/ALERT Laboratories considers continuous analytical method performance evaluations to be an integral portion of the data package, and routinely includes the pertinent QA/QC data associated with various analytical result reports. Brief discussions of the various QA/QC procedures utilized to measure acceptable method and matrix performance follow.

Surrogate Spike Recovery Evaluations

Known concentrations of designated surrogate spikes, consisting of a number of similar, non-method compounds or method compound analogues, are added, as appropriate, to routine GC and GC/MS sample fractions prior to extraction and analysis. The percent recovery determinations calculated from the subsequent analysis is an indication of the overall method efficiency for the individual sample. This surrogate spike recovery data is displayed alongside acceptable analytical method performance limits at the bottom of each applicable analytical result report sheet.

NOTE: Acceptable method performance for Base/Neutral Acid extractables is indicated by two (2) of three (3) surrogates for each fraction with a minimum recovery of ten (10) percent each. For Pesticides one (1) of two (2) surrogates meeting performance criteria is acceptable.

Laboratory Analytical Method Blank Evaluations

Laboratory analytical method blanks are systematically prepared and analyzed in order to continuously evaluate the system interferences and background contamination levels associated with each analytical method. These method blanks include all aspects of actual laboratory method analysis (chemical reagents, glassware, etc.), substituting laboratory reagent water or solid for actual sample. The method blank must not contain any analytes above the reported detection limit. The following common laboratory contaminants are exceptions to this rule provided they are not present at greater than five times the detection limit.

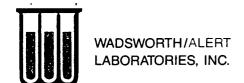
VolatilesSemi-volatilesMethylene chlorideDimethyl phthalateTolueneDiethly phthalate2-ButanoneDi-n-butyl phthalateAcetoneButyl benzyl phthalateBis (2-ethylhexyl) phthalate

Metals Calcium Magnesium Sodium

A minimum of five percent (5%) of all laboratory analyses are laboratory analytical method blanks.

Laboratory Analytical Method Check Sample Evaluations

Known concentrations of designated matrix spikes (actual analytical method compounds) are added to a laboratory reagent blank prior to extraction and analysis. Percent recovery determinations demonstrate the performance of the analytical method. Failure of a check sample to meet established laboratory recovery criteria is cause to stop the analysis until the problem is resolved.



QUALITY ASSURANCE / QUALITY CONTROL PROGRAM SUMMARY (cont'd)

At that time all associated samples must be re-analyzed. A minimum of five percent (5%) of all laboratory analyses are laboratory analytical method check samples.

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Recovery Evaluations

Known concentrations of designated matrix spikes (actual analytical method compounds) are added to two of three separate aliquots of a sequentially predetermined sample prior to extraction and analysis. Percent recovery determinations are calculated from both of the spiked samples by comparison to the actual values generated from the unspiked sample. These percent recovery determinations indicate the accuracy of the analysis at recovering actual analytical method compounds from the matrix. Relative percent determinations calculated from a comparison of the MS/MSD recoveries demonstrate the precision of the analytical method. Actual percent recovery and relative percent difference data is displayed alongside their respective acceptable analytical method performance limits in the QA/QC section of the report. MS/MSD are considered in control when the precision is within established control limits and the associated check sample has been found to be acceptable. minimum of ten percent (10%) of all analyses are MS/MSD quality control samples.

******************************<u>FXAMPLE</u>************************

COMPOUND	SAMPLE CONC.	MS %REC	Ą	MSD REC	RPD	QC RPD	LIMITS RECOVERY
4,4'-DDT	0	95		112	16	22	66-119
Benzene	10	86		93	8	20	39-150
(cmpd. name)	sample result	1st%	2nd% recov.	Rel.%	accep. metho		

Analytical Result Qualifiers

The following qualifiers, as defined below, may be appended to analytical results in order to allow proper interpretation of the results presented:

- J indicates an estimated concentration (typically used when a dilution, matrix interference or instrumental limitation prevents accurate quantitation of a particular analyte).
- B indicates the presence of a particular analyte in the laboratory blank analyzed concurrently with the samples. Results must be interpreted accordingly.
- DIL indicates that because of matrix interferences and/or high analyte concentrations, it was necessary to dilute the sample to a point where the surrogate or spike concentrations fell below a quantifiable amount and could not be reported.



LAB #: 1K1601-BK MATRIX: WATER

DATE RECEIVED: 11/16/91
DATE EXTRACTED: NA
DATE ANALYZED: 11/18/91

SAMPLE ID: LABORATORY BLANK

CERTIFICATION #: E84059

VOLATILE ORGANICS
USEPA METHOD 8240 - GC/MS

HRS84297

Acetone Benzene Bromodichloromethane	ND** ND ND	cis-1,3-Dichloropropene trans-1,3-dichloropropene Ethylbenzene	ND ND ND
Bromoform ,	ND	2-Hexanone	ND**
Bromomethane	ND	Methylene chloride	ND
2-Butanone	ND**	4-Methyl-2-pentanone	ND**
Carbon disulfide	ND	Styrene	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	
Chlorobenzene	ND	Tetrachloroethene	ND
Chlorodibromomethane	ND	Toluene	ND
Chloroethane	ND	1,1,1-Trichloroethane	ND
Chloroform	ND	1,1,2-Trichloroethane	ND
Chloromethane	ND	Trichloroethene	ND
1,1-Dichloroethane	ND	Vinyl chloride	ND
1,2-Dichloroethane	ND	Xylene(Total)	ND
1,1-Dichloroethene	ND		
1,2-Dichloroethene(Total)	ND		
1,2-Dichloropropane	ND		

```
NOTE: ND (None Detected, lower detectable limit = 1 ug/L) as rec'd ND* (None Detected, lower detectable limit = ug/L) as rec'd ND** (None Detected, lower detectable limit = 10 ug/L) as rec'd J (Detected, but below quantitation limit; estimated value)
B (Compound detected in method blank associated with this sample)
-- (Not Analyzed)
```

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS
		WATER SOLID LOW LEVEL
1,2-Dichloroethane	99	(75-123) $(85-126)$ $(85-138)$
Toluene-d8	102	(92-107) $(89-124)$ $(89-128)$
Bromofluorobenzene	99	(86-115) (84-124) (83-128)



LAB #: 1K

1K1601-LCS

MATRIX: WATER

METHOD: 8240

DATE RECEIVED:

11/16/91

DATE EXTRACTED: NA

DATE ANALYZED:

11/18/91

LABORATORY CHECK SAMPLE

COMPOUND	LCS %REC	QC LIMITS %RECOVERY	
1,1-Dichloroethene	63	56-133	
Trichloroethene	78	67-106	
Chlorobenzene	89	78-122	
Toluene	88	64-128	
Benzene	88	83-123	
Dichlorobromomethane	75	71-123	

P.E. LaMoreaux & Associates, Inc.

Hydrologists, Geologists Engineers & Environmental Scientists

TE' OIL

August 29, 1991

Laidlaw 170 Bartow Air Base Bartow, Florida 33830

REF: Chemical Analysis Reports

Dear Sir:

P. E. LaMoreaux and Associates, Inc. (PELA) respectfully submit your chemical analyses reports for the sample(s) you submitted to our laboratory.

Thank you for giving PELA the opportunity to be of service to you. Your patronage of our laboratory is important to us.

If you have any questions or need any additional information, please call 813/646-8526.

Sincerely yours,

Amal E. Mostafa

Acting Laboratory Director

PELA Lakeland Division

AEM/ae TL:LE

Enclosures

Offices: P.O. Box 6719, Lakeland, FL 33807 813/646-8526 FAX 813/646-1042



EPORT OF ANALYS'S

P.E. LaMoreaux & Associates, Inc. Geochemistry Laboratory

4320 Old Highway 37

Lakeland, Florida 33813

BDL

BDL

BDT.

 1_{\searrow}

Telephone 813 / 646-8526

Client Name : TAIDLAW

Identification: MW 7

Site : SOLVENT RECYCLE PLANT

Турс

: WATER

Designator

: PURGEABLES

: 08 19-LE-437 PELA Lab No.

Collection Datc: 08-19-91

Completion Date: 08 22-91

PURGEABLES - EPA METHOD 8260

----- Units: ug/l -----Quanti-Detection tation Paramotor Results Limits Limits BDL 0.04 Benzene . 8 0.08 Bromodichlormethane BDL BDL 0,12 1,2 Tribromomethane (Bromoform) BDL 0.11 1.1 Bromomethane 0.21 Carbon Tetrachloride BDI. 2.1 0.04 Chlorobenzene BDL . 4 Chloroethane BDT. 0,10 1.00 2 Chlorocthylvinyl ether BDL 0.03 . 3 0.03 . 3 BDT. Trichloromethane (Chloroform) Chloromothane BDL 0.13 1.3 . 5 0.05 Dibromochloromethane RDI. 0.03 . 3 1,2 Dichlorobenzene BDL BDT. 0.12 1.2 1,3 Dichlorobenzene 1,4 Dichlorobenzene BDL 0.03 . 3 . 4 RDI. 0.04 1,1 Dichlorocthanc BDL 0.06 . 6 1,2 Dichloroethane 1.2 BDT. 0,12 1,1 Dichloroethche trans 1,2 Dichloroethene BDL 0.06 . 6 0.04 . 4 1,2 Dichloropropane BDL 0.05 0.5 cis 1,3 Dichloropropene BDL trans 1,3 Dichloropropene BDT. 0.04 . 4 Ethylbenzene 0.06 .6 BDL Methylene Chloride BDL 0.03 . 3 1,1,2,2 Tetrachloroethane . 4 BDL 0.04 0,14 1.4 Tetrachloroethene BDT. Toluene 4,63 0.11 1.1 1,1,1 Trichlorocthane BDL 0.08 . 8 1,1,2 Trichloroethane BDL 0,10 1,0 Trichloroethene BDL 0.19 1.9 Trichlorofluoromethane 0.08 63.1 , 8

Detection limits reported are method detection limits which may vary with matrix and concentration. nd Not determined.

* Parameters detected in concentrations below quantitation limit. Only parameters detected are reported, BDT - Below detection

Chief Chomist

0.17

0,02

0.02

State of Florida Certification #84183

Vinyl Chloride

M,P Xylene

o Xylene

State of Alabama Certification #40120

State of Kentucky Certification #90013

1.7

0.2

0.2



P PORT OF ANALYS

P.E. LaMoreaux & Associates, Inc. **Geochemistry Laboratory**

Lakeland, Florida 33813

Telephone 813 / 646-8526

CLIENT/SAMPLE INFORMATION

Client:

LATDLAW

170 BARTOW AIR BASE BARTOW, FL 33830

Attention : STEVE TAYLOR

Sample Identification: MW 7

Sample Site

SOLVENT RECYCLE PLANT

Sample Type

WATER

PELA Laboratory No. : Sample Designators :

08 19 LE 437

PURCEABLES

SAMPLE COLLECTION INFORMATION

Collection Date

08 - 19 - 91

Collected by

PELA

Received by Laboratory: 08 - 19 91

FIELD PARAMETERS

Specific Conductance:

50 micromhos

рН

5.57 standard units

Water Temperature

27.0 °C

COMMENTS

State of Kentucky Certification #90013

P.E. LaMoreaux & Associates, Inc.

Hydrologists, Geologists Engineers & Environmental Scientists

I AIDI AVI

November 5, 1991

Laidlaw 170 Bartow Air Base Bartow, Florida 33830

REF: Chemical Analysis Reports

Dear Sir:

P. E. LaMoreaux and Associates, Inc. (PELA) respectfully submit your chemical analyses reports for the sample(s) you submitted to our laboratory.

Thank you for giving PELA the opportunity to be of service to you. Your patronage of our laboratory is important to us.

If you have any questions or need any additional information, please call 813/646-8526.

Sincerely yours,

Amal E. Mostafa Laboratory Director PELA Lakeland Division

AEM/ae TL1:LE

Enclosures





4320 Old Highway 37

Lakeland, Florida 33813

Telephone 813 / 646-8526

CLIENT/SAMPLE INFORMATION

Client: LAIDLAW

170 BARTOW AIR BASE BARTOW, FL 33830

Attention : STEVE TAYLOR

Sample Identification: MW #7

Sample Site : BARTOW AIRPORT

Sample Type : WATER

PELA Laboratory No. : 10-19-LE-549
Sample Designators : PURGEABLES

SAMPLE COLLECTION INFORMATION

Collection Date : 10-19-91 Collected by : PELA Received by Laboratory: 10-19-91

FIELD PARAMETERS

Specific Conductance: 60 micromhos

pH : 4.94 standard units

Water Temperature : 27.0 °C

Initial Water Level: 5.41' BMP AT 14:45

COMMENTS

LOCATION: N.E. CORNER OF PROPERTY, NEAR FENCE

Senior Chemist/QA Officer





4320 Old Highway 37

Lakeland, Florida 33813

Telephone 813 / 646-8526

CLIENT/SAMPLE INFORMATION

Client:

LAIDLAW

170 BARTOW AIR BASE BARTOW, FL 33830

Attention

STEVE TAYLOR

Sample Identification:

TRIP BLANK

Sample Site

BARTOWN AIRPORT

Sample Type

WATER

PELA Laboratory No.

10-19-LE-550

Sample Designators

PURGEABLES

8

SAMPLE COLLECTION INFORMATION

Collection Date

10-19-91

Collected by

PELA

Received by Laboratory:

10-19-91

FIELD PARAMETERS

COMMENTS

Senior Chemist/QA Officer





4320 Old Highway 37

Lakeland, Florida 33813

Telephone 813 / 646-8526

Client Name : LAIDLAW

Identification: MW #7 PELA Lab No. : 10-19-LE-549

Site : BARTOW AIRPORT Collection Date: 10-19-91
Type : WATER Completion Date: 10-28-91

Designator : PURGEABLES

PURGEABLES - EPA METHOD 8260

		Units: ug/l -	
		-	Quanti-
		Detection	tation
Parameter	Results	Limits	Limits
Benzene	BDL	0.04	. 4
Bromodichlormethane	BDL	0.08	. 8
Tribromomethane (Bromoform)	BDL	0.12	1,2
Bromomethane	BDL .	0.11	1.1
Carbon Tetrachloride	BDL	0.21	2.1
Chlorobenzene	BDL	0.04	. 4
Chloroethane	BDL	0.10	1.00
2-Chloroethylvinyl ether	BDL	0.03	. 3
Trichloromethane (Chloroform)	BDL	0.03	. 3
Chloromethane	BDL	0.13	1.3
Dibromochloromethane	BDL	0.05	. 5
1,2-Dichlorobenzene	BDL	0.03	. 3
1,3-Dichlorobenzene	BDL	0.12	1.2
1,4-Dichlorobenzene	BDL	0.03	. 3
1,1-Dichloroethane	7.34	0.04	. 4
1,2-Dichloroethane	BDL	0.06	. 6
1,1-Dichloroethene	6.55	0.12	1.2
trans-1,2-Dichloroethene	BDL	0.06	. 6
1,2-Dichloropropane	BDL	0.04	. 4
cis-1,3-Dichloropropene	BDL	0.05	0.5
trans-1,3-Dichloropropene	BDL	0.04	. 4
Ethylbenzene	BDL	0.06	. 6
Methylene Chloride	BDL	0.03	. 3
1,1,2,2-Tetrachloroethane	BDL	0.04	. 4
Tetrachloroethene	BDL	0.14	1.4
Toluene	9.98	0.11	1.1
1,1,1-Trichloroethane	63.0	0.08	. 8
1,1,2-Trichloroethane	BDL	0.10	1.0
Trichloroethene	1.64	0.19	1.9
Trichlorofluoromethane	69.6	0.08	. 8
Vinyl Chloride	BDL	0.17	1.7
M,P-Xylene	BDL	0.13	1.3
o-Xylene	BDL	0.11	1.1

Detection limits reported are method detection limits which may vary with matrix and concentration.

BDL - Below detection limit.

Chief Chemist

State of Florida Certification #84183

State of Alabama Certification #40120

State of Kentucky Certification #90013





4320 Old Highway 37

Lakeland, Florida 33813

Telephone 813 / 646-8526

Client Name : LAIDLAW

Identification: TRIP BLANK PELA Lab No. : 10-19-LE-550

Collection Date: 10-19-91 Site : BARTOWN AIRPORT Completion Date: 10-28-91 Type : WATER

: PURGEABLES Designator

PURGEABLES - EPA METHOD 8260

	Units: ug/l		
		. ,	Quanti-
		Detection	tation
Parameter	Results	Limits	Limits
Benzene .	BDL	0.04	. 4
Bromodichlormethane	BDL	0.08	. 8
Tribromomethane (Bromoform)	BDL	0.12	1.2
Bromomethane	BDL	0.11	1.1
Carbon Tetrachloride	BDL	0.21	2.1
Chlorobenzene	BDL	0.04	. 4
Chloroethane	BDL	0.10	1.00
2-Chloroethylvinyl ether	BDL	0.03	. 3
Trichloromethane (Chloroform)	BDL	0.03	. 3
Chloromethane	BDL	0.13	1.3
Dibromochloromethane	BDL	0.05	. 5
1,2-Dichlorobenzene	BDL	0.03	, 3
1,3-Dichlorobenzene	BDL	0.12	1.2
1,4-Dichlorobenzene	BDL	0.03	. 3
1,1-Dichloroethane	BDL	0.04	. 4
1,2-Dichloroethane	BDL	0.06	. 6
1,1-Dichloroethene	BDL	0.12	1.2
trans-1,2-Dichloroethene	BDL	0.06	.6
1,2-Dichloropropane	BDL	0.04	. 4
cis-1,3-Dichloropropene	BDL	0.05	0.5
trans-1,3-Dichloropropene	BDL	0.04	. 4
Ethylbenzene	BDL	0.06	. 6
Methylene Chloride	BDL	0.03	. 3
1,1,2,2-Tetrachloroethane	BDL	0.04	. 4
Tetrachloroethene	BDL	0.14	1.4
Toluene	BDL	0.11	1.1
1,1,1-Trichloroethane	BDL	0.08	. 8
1,1,2-Trichloroethane	BDL	0.10	1.0
Trichloroethene	BDL	0.19	1.9
Trichlorofluoromethane	BDL	0.08	.8
Vinyl Chloride	BDL	0.17	1.7
M,P-Xylene	BDL	0.13	1.3
o-Xylene	BDL	0.11	1,1

Detection limits reported are method detection limits which may vary with matrix and concentration.

BDL - Below detection limit.

State of Florida Certification #84183

State of Alabama Certification #40120

State of Kentucky Certification #90013





Lakeland, Florida 33813

Telephone 813 / 646-8526

CLIENT/SAMPLE INFORMATION

Client: LAIDLAW

> 170 BARTOW AIR BASE BARTOW, FL 33830

Attention

STEVE TAYLOR

Sample Identification:

FIELD BLANK BARTOW AIRPORT

Sample Site

:

Sample Type

WATER

4320 Old Highway 37

PELA Laboratory No. : Sample Designators

10-19-LE-551 **PURGEABLES**

SAMPLE COLLECTION INFORMATION

Collection Date 10-19-91

Collected by PELA

Received by Laboratory: 10-19-91

FIELD PARAMETERS

COMMENTS





4320 Old Highway 37

Lakeland, Florida 33813

Telephone 813 / 646-8526

Client Name : LAIDLAW

PELA Lab No. : 10-19-LE-551 Identification: FIELD BLANK

Collection Date: 10-19-91 : BARTOW AIRPORT Completion Date: 10-28-91

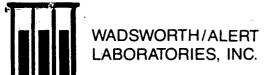
Type : WATER Designator : PURGEABLES

PURGEABLES - EPA METHOD 8260

	U	nits: ug/l -	
		·	Quanti-
		Detection	tation
Parameter	Results	Limits	Limits
Benzene	BDL	0.04	. 4
Bromodichlormethane	BDL	0.08	.8
Tribromomethane (Bromoform)	BDL	0.12	1.2
Bromomethane	BDL	0.11	1.1
Carbon Tetrachloride	BDL	0.21	2.1
Chlorobenzene	BDL	0.04	. 4
Chloroethane	BDL	0.10	1.00
2-Chloroethylvinyl ether	BDL	0.03	. 3
Trichloromethane (Chloroform)	BDL	0.03	. 3
Chloromethane	\mathtt{BDL}	0.13	1.3
Dibromochloromethane	BDL	0.05	. 5
1,2-Dichlorobenzene	\mathtt{BDL}	0.03	. 3
1,3-Dichlorobenzene	\mathtt{BDL}	0.12	1.2
1,4-Dichlorobenzene	BDL	0.03	. 3
1,1-Dichloroethane	BDL	0.04	. 4
1,2-Dichloroethane	BDL	0.06	. 6
1,1-Dichloroethene	BDL	0.12	1.2
trans-1,2-Dichloroethene	BDL	0.06	. 6
1,2-Dichloropropane	BDL	0.04	. 4
cis-1,3-Dichloropropene	BDL	0.05	0.5
trans-1,3-Dichloropropene	BDL	0.04	. 4
Ethylbenzene	BDL	0.06	. 6
Methylene Chloride	BDL	0.03	. 3
1,1,2,2-Tetrachloroethane	BDL	0.04	. 4
Tetrachloroethene	BDL	0.14	1.4
Toluene	BDL	0.11	1,1
1,1,1-Trichloroethane	BDL	0.08	. 8
1,1,2-Trichloroethane	BDL	0.10	1.0
Trichloroethene	BDL	0.19	1.9
Trichlorofluoromethane	BDL	0.08	. 3
Vinyl Chloride	BDL	0.17	1.7
M,P-Xylene	BDL	0.13	1.3
o-Xylene	BDL	0.11	1.1
o ni terre	201	~	

Detection limits reported are method detection limits which may vary with matrix and concentration.

BDL - Below detection limit.



LABORATORIES, INC. 5910 Breckenridge Pkwy., Suite H. Tampa, FL 33610

Sampling, testing, mobile labs

ANALYTICAL REPORT

RECEIVED

JUN 25 1991

LAIDLAW-TRICIL

22 MAY 1991

Presented to:

STEVE TAYLOR

LAIDLAW ENVIRONMENTAL SERVICES

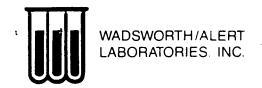
WADSWORTH/ALERT LABORATORIES, INC.

Jay Apitz Project Manager

Randall C. Grubbs
Laboratory Director - Florida

June 19, 1991





INVOLVEMENT

This report summarizes the analytical results of the Laidlaw-Tricil site submitted by Laidlaw Environmental Services to Wadsworth/ALERT Laboratories, Inc. who provided independent, analytical services for this project under the direction of Steve Taylor. The samples were accepted into Wadsworth's Florida facility on 22 May 1991, in accordance with documented sample acceptance procedures. The associated analytical methods and sample results are outlined sequentially in this report.

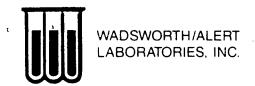
Analytical results included in this report have been reviewed for compliance with the Laboratory QA/QC Plan as summarized in the Quality Control Section at the rear of the report. Sample custody documentation describing the number of samples and sample matrices is also included. Any qualifications and/or non-compliant items have been noted below.

Laboratory ID #

1E2207-2

Narrative

Although this sample was originally analyzed for volatile organic compounds within the EPA recommended holding time, the high analyte concentrations necessitated a dilution to within the range of the instruments. This dilution was made after the holding time had expired. Results may be interpreted accordingly.



ANALYTICAL METHODS

Wadsworth/ALERT Laboratories utilizes only USEPA approved analytical methods and instrumentation. The analytical methods utilized for the analysis of these samples are listed below.

PARAMETER	METHOD
ORGANICS	
Volatile Organics	** EPA Method 624
Base/Neutral Acid Extractables	** EPA Method 625
Pesticides/PCBs	** EPA Method 608
METALS	
Antimony Arsenic Beryllium Cadmium Chromium Copper Iron Lead Mercury Manganese	** EPA Method 200.7 ** EPA Method 206.2 ** EPA Method 200.7 ** EPA Method 239.2 ** EPA Method 245.1 ** EPA Method 200.7

Continued Page Two

NOTE: ** Indicates usage of this method to obtain results for this report.

EPA Methods - Methods for Chemical Analysis of Water and Wastes, USEPA,

600/4-79-020, March, 1983. July, 1982

Drinking Waters USEPA, 600/4-88/039, December, 1988.

Std. Methods -Standard Methods for the Examination of Water and Waste-

water, APHA, 16th edition, 1985.

USEPA Methods -From 40CFR Part 136, published in Federal Register on

October 26, 1984.

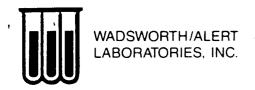
SW846 Methods -Test Methods for Evaluating Solid Waste Physical/Chemical

Methods, 3rd Edition, USEPA, 1986.

ASTM Methods -American Society for Testing and Materials.

NIOSH Method -NIOSH Manual of Analytical Methods, National Institute for

Occupational Safety and Health, 2nd Edition, April 1977.



ANALYTICAL METHODS

Wadsworth/ALERT Laboratories utilizes only USEPA approved analytical methods and instrumentation. The analytical methods utilized for the analysis of these samples are listed below.

PARAMETER	METHOD

Page Two

METALS (continued)

Nickel		**	EPA	Method	200.7
Selenium		**	EPA	Method	270.2
Silver		**	EPA	Method	200.7
Sodium		**	EPA	Method	200.7
Thallium		**	EPA	Method	279.2
Zinc		**	EPA	Method	200.7
	MISCELLANEOUS				

pH	** EPA Method 150.1
Total Cyanide '	** EPA Method 335.2
Nitrate/Nitrite	** EPA Method 353.3
Sulfate	** EPA Method 375.4
Chloride	** EPA Method 325.3
Conductivity	** SM 205

NOTE: ** Indicates usage of this method to obtain results for this report. EPA Methods -Methods for Chemical Analysis of Water and Wastes, USEPA,

600/4-79-020, March, 1983. July, 1982

Drinking Waters USEPA, 600/4-88/039, December, 1988.

Std. Methods -Standard Methods for the Examination of Water and Wastewater, APHA, 16th edition, 1985.

USEPA Methods - From 40CFR Part 136, published in Federal Register on

October 26, 1984.

SW846 Methods -Test Methods for Evaluating Solid Waste Physical/Chemical Methods, 3rd Edition, USEPA, 1986.

ASTM Methods -American Society for Testing and Materials.

NIOSH Method -NIOSH Manual of Analytical Methods, National Institute for Occupational Safety and Health, 2nd Edition, April 1977.



LAB #: 1E2207-1 MATRIX: WATER

DATE EXTRACTED: DATE ANALYZED:

DATE RECEIVED:

5/22/91 NA

6/ 5/91

SAMPLE ID: MW-1A LAIDLAW-TRICIL

CERTIFICATION #: E84059

HRS84297

VOLATILE ORGANICS USEPA METHOD 624 - GC/MS

Acrolein	ND*	1,1-Dichloroethene	ND
Acrylonitrile	ND*	1,2-Dichloroethene(Total)	ND
Benzene	ND	1,2-Dichloropropane	ND
Bromodichloromethane	ND	cis-1,3-Dichloropropene	ND
Bromoform	ND	trans-1,3-Dichloropropene	ND
Bromomethane	ND	Ethylbenzene	ND
Carbon tetrachloride	ND	Methylene chloride	2 B
Chlorobenzene	2	1,1,2,2-Tetrachloroethane	ND
Chloroethane	ND	Tetrachloroethene	ND
2-Chloroethylvinyl ether	ND	Toluene	ND
Chloroform ·	ND	1,1,1-Trichloroethane	ND
Chloromethane	ND	1,1,2-Trichloroethane	ND
Dibromochloromethane	ND	Trichloroethene	ND
1,2-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,3-Dichlorobenzene	ND	Vinyl chloride	ND
•			
1,4-Dichlorobenzene	ND	<pre>Xylene(Total)</pre>	ND
1,1-Dichloroethane	ND		
1,2-Dichloroethane	ND		
-,			

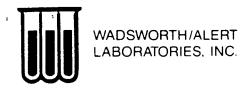
```
ug/L) as rec'd
NOTE: ND
            (None Detected, lower detectable limit = 1
                                                                  ug/L) as rec'd
      ND* (None Detected, lower detectable limit = 50
                                                                  ug/L) as rec'd
      ND** (None Detected, lower detectable limit =
            (Detected, but below quantitation limit; estimated value)
```

(Compound detected in method blank associated with this sample)

(Not Analyzed)

В

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS	•
	•	WATER SOLID	LOW LEVEL
1,2-Dichloroethane	83	(75-123) (85-126)	(85-138)
Toluene-d8	98	(75-123) (89-124)	(89-128)
Bromofluorobenzene	92	(86-115) (84-124)	(83-128)



LAB #: 1E2207-1 MATRIX: WATER DATE RECEIVED: 5/22/91
DATE EXTRACTED: 5/22/91
DATE ANALYZED: 5/31/91

SAMPLE ID: MW-1A LAIDLAW-TRICIL

CERTIFICATION #: E84059

HRS84297

BASE/NEUTRAL -- EXTRACTABLE ORGANICS

USEPA METHOD 625 - GC/MS (1 of 2)

Acenaphthene	ND	Dibenzo(a,h)anthracene	ND
Acenaphthylene	ND	Di-n-butyl phthalate	ND
Anthracene	ND	1,2-Dichlorobenzene	ND
Benzidine	ND*	1,3-Dichlorobenzene	ND
Benzo(a)anthracene	ND	1,4-Dichlorobenzene	ND
Benzo(b)fluoranthene	ND	3,3'-Dichlorobenzidine	ND*
Benzo(k)fluoranthene	ND	Diethyl phthalate	ND
Benzo(ghi)perylene	ND	Dimethyl phthalate	ND
Benzo(a)pyrene	ND	2,4-Dinitrotoluene	ND
Bis(2-Chloroethoxy)methane	ND	2,6-Dinitrotoluene	ND
Bis(2-Chloroethyl)ether	ND	Di-n-octyl phthalate	ND
Bis(2-Chloroisopropyl)ether	ND	Fluoranthene	ND
Bis(2-Ethylhexyl)phthalate	ND	Fluorene	ND
4-Bromophenyl phenyl ether	ND	Hexachlorobenzene	ND
Butyl benzyl phthalate	ND	Hexachlorobutadiene	ND .
2-Chloronaphthalene	ND	Hexachlorocyclopentadiene	ND
4-Chlorophenyl phenyl ether	ND	Hexachloroethane	ND
Chrysene	ND	Indeno(1,2,3-cd)pyrene	ND

NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd

J (Detected, but below quantitation limit; estimated value)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)



DATE RECEIVED: 5/22/91

LAB #: 1E2207-1 MATRIX: WATER

DATE EXTRACTED: 5/22/91 DATE ANALYZED:

5/31/91

SAMPLE ID: MW-1A LAIDLAW-TRICIL

CERTIFICATION #: E84059

BASE/NEUTRAL EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (2 of 2)

Isophorone	ND
Naphthalene	1 J
Nitrobenzene	ND
N-Nitrosodimethylamine	ND
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1,2,4-Trichlorobenzene	ND

NOTE:	ND	(None Detected, lowe	r detectable limit =	10 ug/L) as rec'd
	ND*	(None Detected, lowe	r detectable limit =	50 ug/L) as rec'd
	_	15 1 1 1 1 1		

(Detected, but below quantitation limit: estimated value)

(Compound detected in method blank associated with this sample) В

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS
		WATER SOLID
Nitrobenzene-d5	42	(22-135) (10-155)
Fluorobiphenyl	39	(34-140) (12-153)
Terphenyl-d14	36	(10-132) (13-140)



LAB #: 1E2207-1 MATRIX: WATER DATE RECEIVED: 5/22/91
DATE EXTRACTED: 5/22/91
DATE ANALYZED: 5/31/91

SAMPLE ID: MW-1A LAIDLAW-TRICIL

CERTIFICATION #: E84059

HRS84297

ACID EXTRACTABLE ORGANICS USEPA METHOD 625 - GC/MS

4-Chloro-3-methylphenol	ND
2-Chlorophenol	ND
2,4-Dichlorophenol	ND
2,4-Dimethylphenol	ND
2,4-Dinitrophenol	ND*
2-Methyl-4,6-dinitrophenol	ND*
2-Nitrophenol	ND
4-Nitrophenol	ND*
Pentachlorophenol	ND*
Phenol	ND
2,4,6-Trichlorophenol	ND

NOTE:	ND	(None Detected, lower detectable limit = 10 ug/L) as rec'd	l
	ND*	(None Detected, lower detectable limit = 50 ug/L) as rec'd	Ĺ
	J	(Detected, but below quantitation limit; estimated value)	
	n	(Company) detected in method blank appropriated with this sample)	

B (Compound detected in method blank associated with this sample)

SURROGATE RECOVERY:	*	ACCEPTABLE LIMITS
		WATER SOLID
2-Fluorophenol	44	(17-95) (24-118)
Phenol-d5	43	(11-89) (17-124)
2,4,6-Tribromophenol	15	(10-134) (10-156)



SAMPLE ID: MW-1A LAIDLAW-TRICIL

LAB #: 1E2207-1 MATRIX: WATER

DATE RECEIVED: DATE EXTRACTED:

DATE ANALYZED:

5/22/91 5/22/91 5/31/91

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CERTIFICATION #: E84059

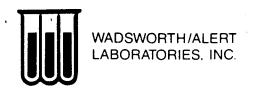
E84059 HRS84297

EXTRACTABLE ORGANICS
OTHER COMPOUNDS

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS with their estimated concentrations

(5) Unknowns

110 ug/L



DATE RECEIVED:

5/22/91

LAB #: 1E2207-1 MATRIX: WATER

DATE EXTRACTED: 5/22/91 DATE ANALYZED:

5/28/91

SAMPLE ID: MW-1A LAIDLAW-TRICIL

CERTIFICATION #: E84059

HRS84297

CHLORINATED PESTICIDES

METHOD 608 LIST - GC

	RESULT (ug/L)	DETECTION LIMIT
Alpha-BHC	ND	0.2
Beta-BHC	ND	0.2
Delta-BHC	ND	0.2
Lindane	ND	0.2
Heptachlor	ND	0.2
Aldrin	ND	0.2
Heptachlor Epoxide	ND	0.2
Endosulfan I	ND	0.2
Dieldrin	ND	0.2
4,4'-DDE	ND	0.2
Endrin	ND	0.2
Endosulfan II	ND	0.2
4,4'-DDD	ND	0.2
Endrin Aldehyde	ND	0.2
Endosulfan Sulfate	ND	0.2
4,4'-DDT	ND	0.2
Chlordane	ND	2.4
Toxaphene	ND	9.4

(None Detected) as rec'd NOTE: ND

SURROGATE RECOVERY:	X	ACCEPTABLE	LIMITS
		WATER	SOLID
Tetrachloro(m)xylene	DIL	(33-122)	(32-154)
Dibutylchlorendate	DIL	(18-129)	(27-139)



LAB #: 1E2207-1 MATRIX: WATER

PCB-1260

PCB-1262

DATE RECEIVED: 5/22/91 DATE EXTRACTED: 5/22/91 DATE ANALYZED: 5/28/91

SAMPLE ID: MW-1A LAIDLAW-TRICIL

CERTIFICATION #: E84059

POLYCHLORINATED BIPHENYLS METHOD 608 LIST - GC

ND

HRS84297

ND PCB-1016 ND PCB-1221 PCB-1232 ND PCB-1242 ND ND PCB-1248 ND PCB-1254

(None Detected, lower detectable limit = 5 NOTE: ND

ug/L) as rec'd ug/L) as rec'd

ND* (None Detected, lower detectable limit =

(Not Analyzed)

SURROGATE RECOVERY:

X

ACCEPTABLE LIMITS

DIL

WATER SOLID

Tetrachloro(m)xylene

(33-122) (32-154)



DATE RECEIVED: 5/22/91

LAB #: 1E2207-1
MATRIX : WATER

SAMPLE ID : MW-1A LAIDLAW-TRICIL

CERTIFICATION #: E84059

HRS84297

METALS ANALYTICAL REPORT SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	result	DETECTION LIMIT	NC
Silver	5/24- 5/28/91	ND	50	ug/L
Arsenic	5/24- 5/29/91	ND	10	ug/L
Beryllium	5/24- 5/28/91	ND	50	ug/L
Cadmium	5/24/91	ND	10	ug/L
Chromium	5/24/91	ND	50	ug/L
Copper	5/24- 5/28/91	ND	50	ug/L
Iron	5/24- 5/28/91	220	100	ug/L
Mercury	5/23- 5/28/91	ND	2.0	ug/L
Manganese	5/24- 5/28/91	ND	50	ug/L
Sodium	5/24- 5/28/91	22,000	200	ug/L
Nickel	5/24- 5/28/91	ND	50	ug/L
Lead	5/24- 5/28/91	ND	5	ug/L
Antimony	5/24- 5/28/91	ND	300	ug/L
Selenium	5/24- 5/29/91	ND	5	ug/L
Thallium	5/24- 5/30/91	ND	10	ug/L
Zinc	5/24- 5/28/91	200	50	ug/L

NOTE: ND (None Detected) as rec'd



COMPANY: LAIDLAW ENVIRONMENTAL SERVICES

DATE RECEIVED: 5/22/91

LAB #: 1E2207-1 MATRIX : WATER

SAMPLE ID : MW-1A LAIDLAW-TRICIL

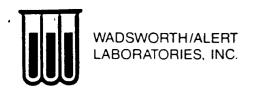
CERTIFICATION #: E84059

HRS84297

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECT LIMI	
Chloride	5/27/91	36	5	mg/L
Cyanide	5/24/91	ND	.005	mg/L
Specific Conductance	5/22/91	240		umhos/cm
Nitrate-Nitrite Nitrogen	5/30/91	. ND	.05	mg/L
pH - Water	5/22/91	5.6		SU
Sulfate	5/27/91	26	5	mg/L

NOTE: ND (None Detected)



LAB #: 1E2207-2 MATRIX: WATER

SAMPLE ID: MW-7 LAIDLAW-TRICIL

DATE RECEIVED: 5/22/91

CERTIFICATION #: E84059

DATE EXTRACTED: NA
DATE ANALYZED: 6/6/91

•

VOLATILE ORGANICS
USEPA METHOD 624 - GC/MS

HRS84297

Acrolein	ND*	1,1-Dichloroethene	ND
Acrylonitrile	ND*	1,2-Dichloroethene(Total)	ND
Benzene	ND	1,2-Dichloropropane	ND
	• ,		
Bromodichloromethane	ND	cis-1,3-Dichloropropene	ND
Bromoform	ND	trans-1,3-Dichloropropene	ND
Bromomethane	ND	Ethylbenzene	10
Carbon tetrachloride	ND	Methylene chloride	58 B
		1,1,2,2-Tetrachloroethane	ND D
Chlorobenzene	ND	Tetrachloroethene	ND
Chloroethane	ND	letrachioroethene	ND
2-Chloroethylvinyl ether	ND	Toluene	120
Chloroform	ND	1,1,1-Trichloroethane	20
Chloromethane	ND	1,1,2-Trichloroethane	ND
0.1101.0200		-,-,	
Dibromochloromethane	ND	Trichloroethene	ND
1,2-Dichlorobenzene	ND	Trichlorofluoromethane	580 J
1,3-Dichlorobenzene	ND	Vinyl chloride	ND
•			
1,4-Dichlorobenzene	ND	Xylene(Total)	35
1,1-Dichloroethane	36		
1,2-Dichloroethane	ND		
-,			

```
NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 100 ug/L) as rec'd ND** (None Detected, lower detectable limit = ug/L) as rec'd J (Detected, estimated value)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)
```

SURROGATE RECOVERY:	*	ACCEPTABLE LIMITS	
		WATER SOLID	LOW LEVEL
1,2-Dichloroethane	82	(75-123) (85-126)	(85-138)
Toluene-d8	98	(75-123) (89-124)	(89-128)
Bromofluorobenzene	88	(86-115) (84-124)	(83-128)



LAB #: 1E2207-2 MATRIX: WATER

DATE RECEIVED: DATE EXTRACTED: DATE ANALYZED: 5/22/91 NA 6/ 6/91

SAMPLE ID: MW-7 LAIDLAW-TRICIL

CERTIFICATION #: E84059

HRS84297

VOLATILE ORGANICS OTHER COMPOUNDS

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS with their estimated concentrations

1,1,2-Trichloro-1,2,2-triflouro ethane

180 ug/L



DATE RECEIVED: 5/22/91 DATE EXTRACTED: 5/22/91

LAB #: 1E2207-2 MATRIX: WATER

DATE ANALYZED: 5/31/91

SAMPLE ID: MW-7 LAIDLAW-TRICIL

CERTIFICATION #: E84059

BASE/NEUTRAL -- EXTRACTABLE ORGANICS

HRS84297

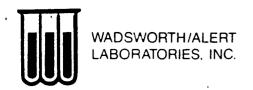
USEPA METHOD 625 - GC/MS (1 of 2)

Acenaphthene	ND	Dibenzo(a,h)anthracene Di-n-butyl phthalate	ND ND
Acenaphthylene Anthracene	ND ND	1,2-Dichlorobenzene	ND
		•	
Benzidine	ND*	1,3-Dichlorobenzene	ND
Benzo(a)anthracene	ND	1,4-Dichlorobenzene	ND
Benzo(b)fluoranthene	ND	3,3'-Dichlorobenzidine	ND*
Benzo(k)fluoranthene	ND	Diethyl phthalate	ND
Benzo(ghi)perylene	ND	Dimethyl phthalate	ND
Benzo(a)pyrene	ND	2,4-Dinitrotoluene	ND
, , ,			
Bis(2-Chloroethoxy)methane	ND	2,6-Dinitrotoluene	ND
Bis(2-Chloroethyl)ether	ND	Di-n-octyl phthalate	ND
Bis(2-Chloroisopropyl)ether	ND	Fluoranthene	ND
Bis(2-Ethylhexyl)phthalate	ND	Fluorene	ND
4-Bromophenyl phenyl ether	ND	Hexachlorobenzene	ND
Butyl benzyl phthalate	ND	Hexachlorobutadiene	ND
2-Chloronaphthalene	ND	Hexachlorocyclopentadiene	ND
4-Chlorophenyl phenyl ether	ND	Hexachloroethane	ND
Chrysene	ND	Indeno(1,2,3-cd)pyrene	ND

(None Detected, lower detectable limit = 10 ug/L) as rec'd (Detected, but below approximately ug/L) as rec'd (Detected, but below approximately ug/L) as rec'd NOTE: ND ND*

(Detected, but below quantitation limit; estimated value) J

В (Compound detected in method blank associated with this sample)



DATE RECEIVED: 5/22/91

LAB #: 1E2207-2

DATE EXTRACTED: 5/22/91 **DATE ANALYZED:** 5/31/91

MATRIX: WATER

DAIE ANALIZED

SAMPLE ID: MW-7 LAIDLAW-TRICIL

CERTIFICATION #: E84059

BASE/NEUTRAL EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (2 of 2)

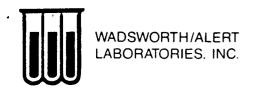
Isophorone	- ND
Naphthalene	3 J
Nitrobenzene	ND
N-Nitrosodimethylamine	ND
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1.2.4-Trichlorobenzene	ND

NOTE:	ND	(None Detected,	lower	detectable	limit = 10	ug/L) as rec'd
	ND*	(None Detected,	lower	detectable	limit = 50	ug/L) as rec'd
	_				3	

J (Detected, but below quantitation limit: estimated value)

B (Compound detected in method blank associated with this sample)

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS WATER SOLID
Nitrobenzene-d5	80	(22-135) (10-155)
Fluorobiphenyl	68	(34-140) (12-153)
Terphenyl-d14	81	(10-132) (13-140)



LAB #: 1E2207-2 MATRIX: WATER

DATE RECEIVED: 5/22/91 DATE EXTRACTED: 5/22/91 DATE ANALYZED: 5/31/91

SAMPLE ID: MW-7 LAIDLAW-TRICIL

CERTIFICATION #: E84059

HRS84297

ACID EXTRACTABLE ORGANICS USEPA METHOD 625 - GC/MS

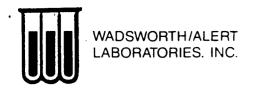
4-Chloro-3-methylphenol	ND
2-Chlorophenol	ND
2,4-Dichlorophenol	ND
2,4-Dimethylphenol	ND
2,4-Dinitrophenol	ND*
2-Methyl-4,6-dinitrophenol	ND*
2-Nitrophenol	ND
4-Nitrophenol	ND*
Pentachlorophenol	ND*
Phenol	ND
2,4,6-Trichlorophenol	ND

NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ug/L) as rec'd (None Detected, lower detectable limit = 50 ND*

(Detected, but below quantitation limit; estimated value) J

(Compound detected in method blank associated with this sample) В

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS
	•	WATER SOLID
2-Fluorophenol	22	(17-95) (24-118)
Phenol-d5	25	(11-89) (17-124)
2,4,6-Tribromophenol	16	(10-134) (10-156)



LAB #: 1E2207-2 MATRIX: WATER

DATE RECEIVED: DATE EXTRACTED: 5/22/91 5/22/91

DATE ANALYZED:

5/31/91

SAMPLE ID: MW-7 LAIDLAW-TRICIL

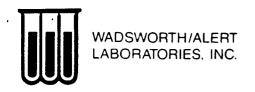
CERTIFICATION #: E84059

HRS84297

EXTRACTABLE ORGANICS OTHER COMPOUNDS

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS with their estimated concentrations

1,4 Dimethyl benzene (4) Unknowns 2-Butoxy-ethanol		ug/L ug/L ug/L
2-(2 butoxyl-ethanol Ethyl benzene		ug/L ug/L



SAMPLE ID: MW-7 LAIDLAW-TRICIL

DATE RECEIVED: DATE EXTRACTED: 5/22/91 DATE ANALYZED:

5/22/91 5/28/91

LAB #: 1E2207-2 MATRIX: WATER

CERTIFICATION #: E84059

HRS84297

CHLORINATED PESTICIDES METHOD 608 LIST - GC

	RESULT (ug/L)	DETECTION LIMIT
Alpha-BHC	ND	0.1
Beta-BHC	ND	0.1
Delta-BHC	ND	0.1
Lindane	ND	0.1
Heptachlor	ND	0.1
Aldrin	ND	0.1
Heptachlor Epoxide	ND	0.1
Endosulfan I	ND	0.1
Dieldrin	ND	0.1
4,4'-DDE	ND	0.1
Endrin	ND	0.1
Endosulfan II	ND	0.1
4,4'-DDD	ND	0.1
Endrin Aldehyde	ND	0.1
Endosulfan Sulfate	ND	0.1
4,4'-DDT	ND	0.1
Chlordane	ND	1
Toxaphene	ND	1

(None Detected) as rec'd NOTE: ND

SURROGATE RECOVERY:	x	ACCEPTABLE WATER	LIMITS SOLID
Tetrachloro(m)xylene	92	(33-122)	(32-154)
Dibutylchlorendate	62	(18-129)	(27-139)



DATE RECEIVED:

5/22/91

LAB #: 1E2207-2 MATRIX: WATER

DATE EXTRACTED: 5/22/91 DATE ANALYZED:

5/28/91

SAMPLE ID: MW-7 LAIDLAW-TRICIL

CERTIFICATION #: E84059

POLYCHLORINATED BIPHENYLS

HRS84297

METHOD 608 LIST - GC

PCB-1016	ND
PCB-1221	ND
PCB-1232	ND
PCB-1242	ND
PCB-1248	ND.
PCB-1254	ND
PCB-1260	ND
PCB-1262	

ND (None Detected, lower detectable limit = 1 ND* (None Detected, lower detectable limit = NOTE: ND

ug/L) as rec'd

ug/L) as rec'd

(Not Analyzed)

SURROGATE RECOVERY:

X

ACCEPTABLE LIMITS

Tetrachloro(m)xylene

62

WATER SOLID (33-122) (32-154)



DATE RECEIVED: 5/22/91

LAB #: 1E2207-2 MATRIX : WATER

SAMPLE ID: MW-7 LAIDLAW-TRICIL

CERTIFICATION #: E84059

METALS ANALYTICAL REPORT

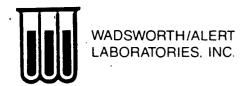
HRS84297

SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	DETECTION LIMIT		
Silver	5/24- 5/28/91	ND	50	ug/L
	5/24- 5/29/91	ND	10	ug/L
Arsenic	•		50	
Beryllium	5/24- 5/28/91	ND	30	ug/L
Cadmium	5/24/91	ND	10	ug/L
Chromium	5/24/91	54	50	ug/L
Copper	5/24- 5/28/91	ND	50	ug/L
COPPEI	0,21 0,00,01			.
Iron	5/24- 5/28/91	4,100	100	ug/L
Mercury	5/23- 5/28/91	ND	2.0	ug/L
Manganese	5/24- 5/28/91	ND	50	ug/L
Manganese	0,21 0,20,01			-0, -
Sodium	5/24- 5/28/91	4,000	100	ug/L
Nickel	5/24- 5/28/91	ND	50	ug/L
Lead	5/24- 5/28/91	24	10	ug/L
Lead	0/24 0/20/31		10	46/ -
Antimony	5/24- 5/28/91	ND	300	ug/L
Selenium	5/24- 5/29/91	ND	5	ug/L
Thallium	5/24- 5/30/91	ND	10	ug/L
INGTIIOM	3,24- 0,00,31	ND	10	~6/ 2
Zinc	5/24- 5/28/91	ND	50	ug/L
4 1 HC	0/24 0/20/31	ND	00	~6/ ~

NOTE: ND (None Detected) as rec'd



QUALITY CONTROL SECTION

- Quality Control Summary
- Laboratory Blanks
- Laboratory Control Sample
- Matrix Spike/Matrix Spike Duplicate Results
- Sample Custody Documentation



QUALITY ASSURANCE / QUALITY CONTROL PROGRAM SUMMARY

Wadsworth/ALERT Laboratories considers continuous analytical method performance evaluations to be an integral portion of the data package, and routinely includes the pertinent QA/QC data associated with various analytical result reports. Brief discussions of the various QA/QC procedures utilized to measure acceptable method and matrix performance follow.

Surrogate Spike Recovery Evaluations

Known concentrations of designated surrogate spikes, consisting of a number of similar, non-method compounds or method compound analogues, are added, as appropriate, to routine GC and GC/MS sample fractions prior to extraction and analysis. The percent recovery determinations calculated from the subsequent analysis is an indication of the overall method efficiency for the individual sample. This surrogate spike recovery data is displayed alongside acceptable analytical method performance limits at the bottom of each applicable analytical result report sheet.

NOTE: Acceptable method performance for Base/Neutral Acid extractables is indicated by two (2) of three (3) surrogates for each fraction with a minimum recovery of ten (10) percent each. For Pesticides one (1) of two (2) surrogates meeting performance criteria is acceptable.

Laboratory Analytical Method Blank Evaluations

Laboratory analytical method blanks are systematically prepared and analyzed in order to continuously evaluate the system interferences and background contamination levels associated with each analytical method. These method blanks include all aspects of actual laboratory method analysis (chemical reagents, glassware, etc.), substituting laboratory reagent water or solid for actual sample. The method blank must not contain any analytes above the reported detection limit. The following common laboratory contaminants are exceptions to this rule provided they are not present at greater than five times the detection limit.

Volatiles
Methylene chloride
Toluene
2-Butanone
Acetone

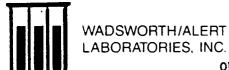
Semi-volatiles
Dimethyl phthalate
Diethly phthalate
Di-n-butyl phthalate
Butyl benzyl phthalate
Bis (2-ethylhexyl) phthalate

Metals Calcium Magnesium Sodium

A minimum of five percent (5%) of all laboratory analyses are laboratory analytical method blanks.

Laboratory Analytical Method Check Sample Evaluations

Known concentrations of designated matrix spikes (actual analytical method compounds) are added to a laboratory reagent blank prior to extraction and analysis. Percent recovery determinations demonstrate the performance of the analytical method. Failure of a check sample to meet established laboratory recovery criteria is cause to stop the analysis until the problem is resolved.



QUALITY ASSURANCE / QUALITY CONTROL PROGRAM SUMMARY (cont'd)

At that time all associated samples must be re-analyzed. A minimum of five percent (5%) of all laboratory analyses are laboratory analytical method check samples.

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Recovery Evaluations

Known concentrations of designated matrix spikes (actual analytical method compounds) are added to two of three separate aliquots of a sequentially predetermined sample prior to extraction and analysis. Percent recovery determinations are calculated from both of the spiked samples by comparison to the actual values generated from the unspiked sample. These percent recovery determinations indicate the accuracy of the analysis at recovering actual analytical method compounds from the matrix. Relative percent difference determinations calculated from a comparison of the MS/MSD recoveries demonstrate the precision of the analytical method. Actual percent recovery and relative percent difference data is displayed alongside their respective acceptable analytical method performance limits in the QA/QC section of the report. The MS/MSD are considered in control when the precision is within established control limits and the associated check sample has been found to be acceptable. A minimum of ten percent (10%) of all analyses are MS/MSD quality control samples.

COMPOUND	SAMPLE CONC.	MS %REC		MSD REC	RPD ·	QC RPD	LIMITS RECOVERY
4,4'-DDT Benzene	0 10	95 86		112 93	16 8	22 20	66-119 39-150
(cmpd. name)	sample result	lst% recov.	2nd% recov.	Rel.% diff.	accep. metho- perform range		

Analytical Result Qualifiers

The following qualifiers, as defined below, may be appended to analytical results in order to allow proper interpretation of the results presented:

- J indicates an estimated concentration (typically used when a dilution, matrix interference or instrumental limitation prevents accurate quantitation of a particular analyte).
- B indicates the presence of a particular analyte in the laboratory blank analyzed concurrently with the samples. Results must be interpreted accordingly.
- DIL indicates that because of matrix interferences and/or high analyte concentrations, it was necessary to dilute the sample to a point where the surrogate or spike concentrations fell below a quantifiable amount and could not be reported.



LAB #: 1E2207-BK MATRIX: WATER

DATE RECEIVED: 5/22/91
DATE EXTRACTED: NA
DATE ANALYZED: 6/5/91

SAMPLE ID: LABORATORY BLANK

CERTIFICATION #: E84059

HRS84297

VOLATILE ORGANICS
USEPA METHOD 624 - GC/MS

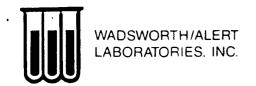
Acrolein	ND*	1,1-Dichloroethene 1,2-Dichloroethene(Total) 1,2-Dichloropropane	ND
Acrylonitrile	ND*		ND
Benzene	ND		ND
Bromodichloromethane	ND	cis-1,3-Dichloropropene	ND
Bromoform	ND	trans-1,3-Dichloropropene	ND
Bromomethane	ND	Ethylbenzene	ND
Carbon tetrachloride	ND	Methylene chloride	1
Chlorobenzene	ND	1,1,2,2-Tetrachloroethane	ND
Chloroethane	ND	Tetrachloroethene	ND
2-Chloroethylvinyl ether	ND	Toluene 1,1,1-Trichloroethane 1,1,2-Trichloroethane	ND
Chloroform	ND		ND
Chloromethane	ND		ND
Dibromochloromethane	ND	Trichloroethene	ND
1,2-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,3-Dichlorobenzene	ND	Vinyl chloride	ND
1,4-Dichlorobenzene 1,1-Dichloroethane 1,2-Dichloroethane	ND ND ND	Xylene(Total)	ND

NOTE:	ND	(None	Detected,	lower	detectable	limit =	1	ug/L)	as	rec'd
	ND*	(None	Detected,	lower	detectable	limit =	10	ug/L)	as	rec'd
	ND**	(None	Detected,	lower	detectable	limit =		ug/L)	as	rec'd
	_									

J (Detected, but below quantitation limit; estimated value)

B (Compound detected in method blank associated with this sample)

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS	
	•	WATER SOLID	LOW LEVEL
1.2-Dichloroethane	95	(75-123) (85-126)	(85-138)
Toluene-d8	95	(75-123) (89-124)	(89-128)
Bromofluorobenzene	94	(86-115) (84-124)	(83-128)



DATE RECEIVED: 5/22/91 NA DATE EXTRACTED:

MATRIX: WATER

LAB #: 1E2207-BK

DATE ANALYZED:

6/6/91

SAMPLE ID: LABORATORY BLANK

CERTIFICATION #: E84059

VOLATILE ORGANICS USEPA METHOD 624 - GC/MS HRS84297

Acrolein	ND*	1,1-Dichloroethene	ND
Acrylonitrile	ND*	1,2-Dichloroethene(Total)	ND
Benzene	ND	1,2-Dichloropropane	ND
Bromodichloromethane	ND	cis-1,3-Dichloropropene	ND
Bromoform	ND	trans-1,3-Dichloropropene	ND
Bromomethane	ND	Ethylbenzene	ND
DI OMOME CHAME		2011, 200110	_
Carbon tetrachloride	ND	Methylene chloride	2
Chlorobenzene	ND	1,1,2,2-Tetrachloroethane	ND
Chloroethane	ND	Tetrachloroethene	ND
onioi de diidiie			
2-Chloroethylvinyl ether	ND	Toluene	ND
Chloroform	ND	1,1,1-Trichloroethane	ND
Chloromethane	ND	1,1,2-Trichloroethane	ND
,		• •	
Dibromochloromethane	ND	Trichloroethene	ND
1,2-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,3-Dichlorobenzene	ND	Vinyl chloride	ND
1,0 220 2010		•	
1,4-Dichlorobenzene	ND	<pre>Xylene(Total)</pre>	ND
1,1-Dichloroethane	ND		
1,2-Dichloroethane	ND		

```
(None Detected, lower detectable limit = 1
                                                                 ug/L) as rec'd
NOTE:
      ND
                                                                 ug/L) as rec'd
      ND* (None Detected, lower detectable limit = 10
                                                                 ug/L) as rec'd
      ND** (None Detected, lower detectable limit =
           (Detected, but below quantitation limit; estimated value)
```

J

(Compound detected in method blank associated with this sample) В

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS	
	•	WATER SOLID	LOW LEVEL
1.2-Dichloroethane	80	(75-123) (85-126) (85-138)
Toluene-d8	95	(75-123) (89-124) (89-128)
Bromofluorobenzene	88	(86-115) (84-124) (83-128)



DATE RECEIVED: 5/22/91 DATE EXTRACTED: 5/22/91 DATE ANALYZED: 5/25/91

LAB #: 1E2207-BK MATRIX: WATER

SAMPLE ID: LABORATORY BLANK

CERTIFICATION #: E84059

BASE/NEUTRAL -- EXTRACTABLE ORGANICS

HRS84297

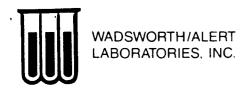
(1 of 2)USEPA METHOD 625 - GC/MS

Acenaphthene	ND	Dibenzo(a,h)anthracene	ND
Acenaphthylene	ND	Di-n-butyl phthalate	ND
Anthracene	ND	1,2-Dichlorobenzene	ND
Benzidine	ND*	1,3-Dichlorobenzene 1,4-Dichlorobenzene 3,3'-Dichlorobenzidine	ND
Benzo(a)anthracene	ND		ND
Benzo(b)fluoranthene	ND		ND*
Benzo(k)fluoranthene	ND	Diethyl phthalate	ND
Benzo(ghi)perylene	ND	Dimethyl phthalate	ND
Benzo(a)pyrene	ND	2,4-Dinitrotoluene	ND
Bis(2-Chloroethoxy)methane	ND	2,6-Dinitrotoluene Di-n-octyl phthalate Fluoranthene	ND
Bis(2-Chloroethyl)ether	ND		ND
Bis(2-Chloroisopropyl)ether	ND		ND
Bis(2-Ethylhexyl)phthalate	ND	Fluorene	ND
4-Bromophenyl phenyl ether	ND	Hexachlorobenzene	ND
Butyl benzyl phthalate	ND	Hexachlorobutadiene	ND
2-Chloronaphthalene	ND	Hexachlorocyclopentadiene Hexachloroethane Indeno(1,2,3-cd)pyrene	ND
4-Chlorophenyl phenyl ether	ND		ND
Chrysene	ND		ND

NOTE:	ND	(None Detected,	lower detects	ble limit = 10	ug/L) as rec'd
	ND*	(None Detected,	lower detecta	ble limit = 50	ug/L) as rec'd

⁽Detected, but below quantitation limit; estimated value) J

⁽Compound detected in method blank associated with this sample) В



DATE RECEIVED: 5/22/91

LAB #: 1E2207-BK MATRIX: WATER

5/22/91 DATE EXTRACTED: DATE ANALYZED: 5/25/91

SAMPLE ID: LABORATORY BLANK

CERTIFICATION #: E84059

BASE/NEUTRAL EXTRACTABLE ORGANICS USEPA METHOD 625 - GC/MS (2 of 2)

HRS84297

ND Isophorone ND Naphthalene ND Nitrobenzene ND N-Nitrosodimethylamine N-Nitrosodiphenylamine ND N-Nitrosodi-n-propylamine ND

ND Phenanthrene ND Pyrene

ND 1,2,4-Trichlorobenzene

ug/L) as rec'd (None Detected, lower detectable limit = 10 NOTE: ND (None Detected, lower detectable limit = 50 ug/L) as rec'd ND*

(Detected, but below quantitation limit: estimated value) J

(Compound detected in method blank associated with this sample) B

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS
	•	WATER SOLID
Nitrobenzene-d5	72	(22-135) (10-155)
Fluorobiphenyl	65	(34-140) (12-153)
Terphenyl-d14	115	(10-132) (13-140)



DATE RECEIVED:

5/22/91

LAB #: 1E2207-BK MATRIX: WATER

DATE EXTRACTED:
DATE ANALYZED:

5/22/91 5/30/91

SAMPLE ID: LABORATORY BLANK

CERTIFICATION #: E84059

E84059 HRS84297

ACID EXTRACTABLE ORGANICS USEPA METHOD 625 - GC/MS

ND 4-Chloro-3-methylphenol ND 2-Chlorophenol ND 2,4-Dichlorophenol ND 2,4-Dimethylphenol ND* 2.4-Dinitrophenol ND* 2-Methyl-4,6-dinitrophenol ND 2-Nitrophenol ND* 4-Nitrophenol ND* Pentachlorophenol ND Phenol ND 2,4,6-Trichlorophenol

NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd

J (Detected, but below quantitation limit; estimated value)

B (Compound detected in method blank associated with this sample)

SURROGATE RECOVERY:	×	ACCEPTABLE	LINITS
	•	WATER	SOLID
2-Fluorophenol	59	(17-95)	(24-118)
Phenol-d5	58	(11-89)	(17-124)
2,4,6-Tribromophenol	24	(10-134)	(10-156)



DATE RECEIVED: 5/22/91 DATE EXTRACTED: 6/10/91

LAB #: 1E2207-BK MATRIX: WATER

DATE ANALYZED:

6/12/91

SAMPLE ID: LABORATORY BLANK

CERTIFICATION #: E84059

BASE/NEUTRAL -- EXTRACTABLE ORGANICS

HRS84297

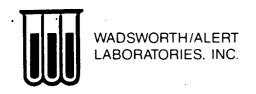
(1 of 2)USEPA METHOD 625 - GC/MS

Acenaphthene	ND	Dibenzo(a,h)anthracene	ND
Acenaphthylene	ND	Di-n-butyl phthalate	ND
Anthracene	ND	1,2-Dichlorobenzene	ND
Benzidine Benzo(a)anthracene Benzo(b)fluoranthene	ND* ND ND	1,3-Dichlorobenzene 1,4-Dichlorobenzene 3,3'-Dichlorobenzidine	ND ND ND*
Benzo(k)fluoranthene	ND	Diethyl phthalate	ND
Benzo(ghi)perylene	ND	Dimethyl phthalate	ND
Benzo(a)pyrene	ND	2,4-Dinitrotoluene	ND
Bis(2-Chloroethoxy)methane Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether	ND ND ND	2,6-Dinitrotoluene Di-n-octyl phthalate Fluoranthene	ND ND ND
Bis(2-Ethylhexyl)phthalate	ND	Fluorene	ND
4-Bromophenyl phenyl ether	ND	Hexachlorobenzene	ND
Butyl benzyl phthalate	ND	Hexachlorobutadiene	ND
2-Chloronaphthalene	ND	Hexachlorocyclopentadiene	ND
4-Chlorophenyl phenyl ether	ND	Hexachloroethane	ND
Chrysene	ND	Indeno(1,2,3-cd)pyrene	ND

(None Detected, lower detectable limit = 10 ug/L) as rec'd NOTE: ND ug/L) as rec'd (None Detected, lower detectable limit = 50 ND*

(Detected, but below quantitation limit; estimated value) J

(Compound detected in method blank associated with this sample) В



DATE RECEIVED: 5/22/91

LAB #: 1E2207-BK MATRIX: WATER

DATE EXTRACTED: 6/10/91 DATE ANALYZED: 6/12/91

SAMPLE ID: LABORATORY BLANK

CERTIFICATION #: E84059

BASE/NEUTRAL EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (2 of 2)

Isophorone	ND
Naphthalene	ND
Nitrobenzene	ND
N-Nitrosodimethylamine	ND
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1,2,4-Trichlorobenzene	ND

```
NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd
```

J (Detected, but below quantitation limit: estimated value)

B (Compound detected in method blank associated with this sample)

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS
	·	WATER SOLID
Nitrobenzene-d5	80	(22-135) (10-155)
Fluorobiphenyl	74	(34-140) (12-153)
Terphenyl-d14	100	(10-132) (13-140)



LAB #: 1E2207-BK
MATRIX: WATER

SAMPLE ID: LABORATORY BLANK

ACID EXTRACTAB: USEPA METHOD 6

DATE RECEIVED: 5/22/91
DATE EXTRACTED: 6/10/91
DATE ANALYZED: 6/12/91

CERTIFICATION #: E84059

HRS84297

4-Chloro-3-methylphenol

2-Chlorophenol

2,4-Dichlorophenol

2,4-Dimethylphenol

2,4-Dinitrophenol

2-Methyl-4,6-dinitrophenol

2-Nitrophenol
4-Nitrophenol
Pentachlorophenol

Phenol 2,4,6-Trichlorophenol

ug/L) as rec'd $\tau = 10$ (None Detected, lower detection ND NOTE: ug/L) as rec'd (None Detected, lower detec : = 50 ND* it; estimated value) (Detected, but below quanti J (Compound detected in metho sociated with this sample) В (Not Analyzed)

 SURROGATE RECOVERY:
 2
 BLE LIMITS

 2-Fluorophenol
 72
 (24-118)

 Phenol-d5
 70
 (17-124)

 2,4,6-Tribromophenol
 86
 2) (10-156)



LAB #: 1E2207-BK MATRIX: WATER

5/22/91 DATE RECEIVED: DATE EXTRACTED: 5/22/91 DATE ANALYZED:

5/28/91

SAMPLE ID: LABORATORY BLANK

CERTIFICATION #: E84059

CHLORINATED PESTICIDES

HRS84297

METHOD 608 LIST - GC

· · · · · · · · · · · · · · · · · · ·	RESULT (ug/L)	DETECTION LIMIT
Alpha-BHC	ND	0.1
Beta-BHC	ND	0.1
Delta-BHC	ND	0.1
Lindane	ND	0.1
Heptachlor	ND	0.1
Aldrin	ND	0.1
Heptachlor Epoxide	ND	0.1
Endosulfan I	ND	0.1
Dieldrin	ND	0.1
4,4'-DDE	ND	0.1
Endrin	ND	0.1
Endosulfan II	ND	0.1
4,4'-DDD	ND	0.1
Endrin Aldehyde	ND	0.1
Endosulfan Sulfate	ND	0.1
4,4'-DDT	ND	0.1
Chlordane	ND	1
Toxaphene	ND	1

(None Detected) as rec'd NOTE: ND

SURROGATE RECOVERY:	x	ACCEPTABLE	LIMITS
		WATER	SOLID
Tetrachloro(m)xylene	101	(33-122)	(32-154)
Dibutylchlorendate	96	(18-129)	(27-139)



LAB #: 1E2207-BK

MATRIX: WATER

DATE RECEIVED:

5/22/91 5/22/91

DATE EXTRACTED:

5/28/91

DATE ANALYZED:

SAMPLE ID: LABORATORY BLANK

CERTIFICATION #: E84059

HRS84297

POLYCHLORINATED BIPHENYLS

METHOD 608 LIST - GC

PCB-1016	. ND
PCB-1221	ND
PCB-1232	ND
PCB-1242	ND
PCB-1248	ND
PCB-1254	ND
PCB-1260	ND
PCB-1262	

ND (None Detected, lower detectable limit = 1 ND* (None Detected, lower detectable limit = NOTE: ND

ug/L) as rec'd

ug/L) as rec'd

(Not Analyzed)

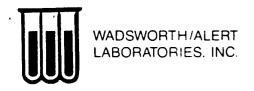
SURROGATE RECOVERY:

ACCEPTABLE LIMITS

Tetrachloro(m)xylene

101

WATER SOLID (33-122) (32-154)



DATE RECEIVED: 5/22/91

LAB #: 1E2207-BK MATRIX : WATER

SAMPLE ID : LABORATORY BLANK

CERTIFICATION #: E84059

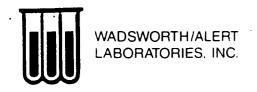
METALS ANALYTICAL REPORT SELECTED LIST

HRS84297

Total metals analysis results - as received

ELEMENT ANALYSIS DATE RESULT	LIMIT	
Silver 5/24-5/28/91 ND	50	ug/L
Arsenic 5/24-5/29/91 ND	10	ug/L
Beryllium 5/24-5/28/91 ND	50	ug/L
Cadmium 5/24/91 ND	10	ug/L
Chromium 5/24/91 ND	50	ug/L
Copper 5/24-5/28/91 ND	50	ug/L
Iron 5/24-5/28/91 ND	100	ug/L
Mercury 5/23- 5/28/91 ND	2.0	ug/L
Manganese 5/24-5/28/91 ND	50	ug/L
Sodium 5/24-5/28/91 ND	50	ug/L
Nickel 5/24-5/28/91 ND	50	ug/L
Lead 5/24-5/28/91 ND	5	ug/L
Antimony 5/24- 5/28/91 ND	300	ug/L
Selenium 5/24-5/29/91 ND	5	ug/L
Thallium 5/24- 5/30/91 ND	10	ug/L
Zinc 5/24-5/28/91 ND	50	ug/L

NOTE: ND (None Detected) as rec'd



DATE RECEIVED: 5/22/91

LAB #: 1E2207-BK
MATRIX : WATER

SAMPLE ID : LABORATORY BLANK

CERTIFICATION #: E84059

HRS84297

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	N
Chloride Cyanide	5/27/91 5/24/91	ND ND	.005	mg/L mg/L
Nitrate-Nitrite Nitrogen	5/30/91	ND	.05	mg/L
Sulfate	5/27/91	ND	5	mg/L

NOTE: ND (None Detected)



LAB #:

1E2207-LCS

MATRIX: WATER

METHOD: 624

DATE RECEIVED:

05/22/91

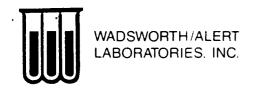
DATE EXTRACTED: NA

DATE ANALYZED:

06/05/91

LABORATORY CHECK SAMPLE

COMPOUND	LCS %REC	QC LIMITS %RECOVERY	
1,1-Dichloroethene	137	61-145	
Trichloroethene	89	71-120	
Chlorobenzene	100	75-130	
Toluene	91	76-125	,
Benzene	89	76-127	
Dichlorobromomethane	86	78-104	



LAB #: 1E2207-LCS

MATRIX: WATER

METHOD: 624

DATE RECEIVED:

05/22/91

DATE EXTRACTED: NA

DATE ANALYZED: 06/06/91

LABORATORY CHECK SAMPLE

COMPOUND	LCS %REC	QC LIMITS %RECOVERY	
1,1-Dichloroethene	137	61-145	
Trichloroethene	94	71-120	
Chlorobenzene	107	75-130	
Toluene	92	76-125	
Benzene	91	76-127	
Dichlorobromomethane	86	78-104	



LAB #: 1E2207-LCS

MATRIX: WATER METHOD: 625

DATE RECEIVED:

05/22/91

DATE EXTRACTED: 05/22/91 DATE ANALYZED:

05/25/91

LABORATORY CHECK SAMPLE RECOVERY

COMPOUND	LCS %REC	QC LIMITS RECOVERY
		39-98
1,2,4-Trichlorobenzene	61	46-118
Acenaphthene	74	
2,4-Dinitrotoluene	50	24-96
Pyrene	82	26-127
Nitrosodipropylamine	77	41-116
1,4-Dichlorobenzene	59	36-97
Pentachlorophenol	12	9-103
Phenol	40	12-89
2-Chlorophenol	56	27-123
•	55	23-97
4-Chloro-o-cresol		
4-Nitrophenol	21	10-80



LAB #: 1E2207-LCS

MATRIX: WATER METHOD: 625

DATE RECEIVED: 05
DATE EXTRACTED: 06

DATE ANALYZED:

05/22/91 06/10/91 06/12/91

LABORATORY CHECK SAMPLE RECOVERY

COMPOUND	LCS %REC	QC LIMITS RECOVERY
	77	39-98
1,2,4-Trichlorobenzene	77 99	46-118
Acenaphthene	90	24-96
2,4-Dinitrotoluene	105	26-127
Pyrene Nitrosodipropylamine	88	41-116
1,4-Dichlorobenzene	82	36-97
Pentachlorophenol	80	9-103
Phenol	72	12-89
2-Chlorophenol	76	27-123
4-Chloro-o-cresol	75	23-97
4-Nitrophenol	77	10-80



LAB #: 1E2207-LCS

MATRIX: WATER METHOD: 8080

DATE RECEIVED:

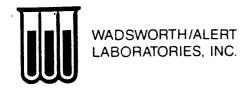
05/22/91 05/22/91

DATE EXTRACTED:
DATE ANALYZED:

05/29/91

LABORATORY CHECK SAMPLE RECOVERY

COMPOUND	LCS %REC	QC LIMITS RECOVERY
Lindane	112	56-123
Heptachlor	108	40-131
Aldrin	119	40-120
Dieldrin	112	52-126
Endrin	118	56-121
4,4'-DDT	99	38-127



LAB #:

1E2207-LCS

MATRIX: WATER

DATE RECEIVED: 05/22/91

DATE PREP'D:

05/23/91 to

DATE ANALYZED:

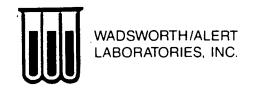
05/24/91 05/24/91 to

05/30/91

LABORATORY CHECK SAMPLE RECOVERY

COMPOUND	LCS %REC	QC LIMITS RECOVERY
Antimony Arsenic, furnace Beryllium Cadmium Chromium Copper Iron Lead, furnace Manganese Mercury Nickel Selenium, furnace Silver Sodium	120 110 92 97 111 98 108 94 102 98 99	87-128 74-126 90-112 83-113 88-120 59-147 83-178 44-126 85-125 89-127 86-134 64-115 71-122 75-125*
Thallium, furnace Zinc	111 106	75-125* 82-116

NOTE: * Advisory limits; no database



LAB #: 1E2207-LCS MATRIX: WATER

DATE RECEIVED:

05/22/91 05/24/91 to 05/30/91

DATE ANALYZED:

LABORATORY CHECK SAMPLE

COMPOUND	LCS %REC	QC LIMITS RECOVERY	
Chloride	110	94-119	
Sulfate	90	77-117	
Cyanide	95	48-116	
Nitrate-Nitrite Nitrogen	100	75-125*	

NOTE: * Advisory limits; no database



LAB#: 1E2207-2 MATRIX: WATER

METHOD: 625

DATE RECEIVED: 05/22/91 DATE EXTRACTED: 06/10/91

DATE ANALYZED: 06/13/91

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

COMPOUND	MS MSD		RPD	QC LIMITS	
	%REC .	%REC		RPD	RECOVERY
1,2,4-Trichlorobenzene	82	80	2	28	39-98
Acenaphthene	98	95	3	31	46-118
2,4-Dinitrotoluene	48	57	17	38	24-96
Pyrene	82	74	10	31	26-127
Nitrosodipropylamine	88	86	2	38	41-116
1,4-Dichlorobenzene	84	83	1	28	36-97
Pentachlorophenol	43	36	17	50	9-103
Phenol	63	65	3	42	12-89
2-Chlorophenol	72	73	1	40	27-123
4-Chloro-o-cresol	62	58	7	42	23-97
4-Nitrophenol	38	32	17	50	10-80

WADSWORTH/ALERT LABORATORIES SAMPLE SHIPPER EVALUATION AND RECEIPT FORM

	SAMI LE COM		0 1 . T.	1
Client:	Laidlaw -	_ Project:	Saedlaw-Tru	<u>cu</u>
	101	By:	Carol	
Samples	received on $\frac{3/22/91}{}$	sy •	Carol Mc True	tie
LAB Loc			(Signature)	J
	•		· · · · · · · · · · · · · · · · · · ·	
What ty	pe of shipping container were sampl	les received i	n? WAL COOLER	
	Client Cooler WAL Shipper	box		
Any "No	O" responses or discrepancies shoul	d be explained	d in comments section. YES	ио
1. W	ere custody papers included with sa	mples?	· · · · · · · · · · · · · · · · · · ·	
2. W	Were custody papers properly filled match labels)?	out (ink, sig	med,	
. 1	natch labels)?		\checkmark	
3. V	Were samples in direct contact with	wet ice? .	× × ×	
	Did all bottles arrive in good cond	ition (unbrok	en):	
	Were all bottle labels complete (Sample No., date, signed, analysis	preservative	s)? \cdots \times	
	ware correct bottles used for the t	ests indicate	d? / /	
7.	Were proper sample preservation tec	hniques indic	ated? 🗡	
8.	Were samples received within adequate	ate holding ti	ime?	
9.	Were all VOA bottles checked for the (If air bubbles were found indicate)	he presence of e in comment :	fair bubbles? section)	
10.	Were samples accepted into the lab	oratory?		
Comm	ents:			
				
•				
Act	ion:			
Sam	ples held due to discrepancies and	project manag	er notilied	
Dat	e discrepancy resolved and samples	accepted		

1E 2207-143

WADSWORTH/ALERT LABORATORIES – FLORIDA

5910-H BRECKENRIDGE PARKWAY/TAMPA, FL 33610 (813) 621-0784

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Chain-of Custody Record PROJECT NAME/LOCATION PROJ. NO. **PARAMETER** Laidlaw - TriciL NO. SAMPLERS: (Signature) OF CON-**REMARKS TAINERS** COMP. GRAB. DATE TIME STATION LOCATION STA. NO. 0 2 mw-1A 5hzh 09.45 2 2 5/22/1/10.15 mw-7 Ż 10 Relinquished by: (Signature) Received by: (Signature) Relinguished by: (Signature) Date / Time Received by: (Signature) 5-22-91 1200 Received by (Signature) Relinquished by: (Signature) Relinquished by: (Signature) Date / Time Date / Time Received by: (Signature) Remarks

*M (+q)s = Sb, Ou, Be, Go, Gr, Gu, Fy, Ph, Hg,

MN, NI, Se, M, NA, TI, ZN

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HAPP # 990 6816 / has = 3/2 Date / Time Relinquished by: (Signature) Received for Laboratory by: Date / Time (Signature) Distribution Original Accompanies Shipment. Copy returned with Report.



WADSWORTH/ALERT LABORATORIES, INC.

Route 3 - Box 235 / Bartow, FL 33830 / (813) 533-2150

Sampling, testing, mobile labs

ANALYTICAL REPORT

D.E.R.

TEC 4 1991

SOUTHWEST DISTRICT TAMPA

MONITORING WELLS

14 FEBRUARY 1990

Presented to:

STEVE TAYLOR

TRICIL RECOVERY SERVICES INC

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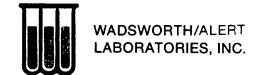
WADSWORTH/ALERT LABORATORIES, INC.

JAY APITZ Project Manager

Randall C. Grubbs Laboratory Director - Florida

March 21, 1990





INTRODUCTION

This report summarizes the analytical results of samples from Tricil Recovery Services Inc. Wadsworth/ALERT Laboratories, Inc. provided independent, analytical services for this project as a sub-contractor to Tricil Recovery Services under the direction of Mr. Steve Taylor, Safety Compliance Manager.

The samples were collected by Wadsworth/ALERT Laboratories, Inc. The samples were accepted into the laboratory in accordance with documented sample acceptance procedures. The samples were analyzed as requested for organics and metal contaminants. These parameters and associated analytical methods are outlined in this report. Sample analytical results are sequentially presented at the rear of the report.



ANALYTICAL METHODS

Wadsworth/ALERT Laboratories utilizes only USEPA approved analytical methods and instrumentation. The analytical methods utilized for the analysis of these samples are listed below.

PARAMETER	METHOD
ORGANICS	•••••
Volatile Organics Base Neutral Acids Pesticides/PCB's	** USEPA Method 624 ** USEPA Method 625 ** USEPA Method 608
METALS	
Antimony Arsenic Beryllium Cadmium Chromium Copper Iron Lead Mercury Manganese Nickel Selenium Silver Sodium Thallium	** USEPA Method 200.7 ** USEPA Method 206.2 ** USEPA Method 200.7 ** USEPA Method 239.2 ** USEPA Method 245.1 ** USEPA Method 200.7 ** USEPA Method 200.7 ** USEPA Method 200.7 ** USEPA Method 200.7 ** USEPA Method 270.2 ** USEPA Method 270.2 ** USEPA Method 200.7 ** USEPA Method 200.7 ** USEPA Method 279.2
Zinc Digestions	** USEPA Method 200.7 ** SW846 Method 3010,
Note: ** indicates usage of this method to obtain r Note: EPA - Methods for Chemical Analysis of Wa 600/4-79-020, March, 1983. July, 1982.	3020 esults for this report. ater and Wastes, USEPA,
Std. Methods - Standard Methods for the Exa Wastewater, APHA, 16th edition, USEPA Methods - from 40CFR Part 136, published	1985.
October 26, 1984. SW846 - Test Methods for Evaluating Soli Methods, 3rd Edition, USEPA, 198 ASTM - American Society for Testing and	6.



LAB #: B1401-1 MATRIX: WATER

SAMPLE ID: MW-1

DATE RECEIVED:

2/14/90

DATE EXTRACTED:

NA

DATE ANALYZED:

2/16/90

CERTIFICATION #: E84059

HRS84297

VOLATILE ORGANICS
USEPA METHOD 624 - GC/MS

Acrolein	ND*	1,1-Dichloroethene	ND
Acrylonitrile	ND*	1,2-Dichloroethene(Total)	ND
Benzene	ND	1,2-Dichloropropane	ND
Bromodichloromethane	ND	cis-1,3-Dichloropropene	ND
Bromoform	ND	trans-1,3-Dichloropropene	ND
Bromomethane	ND	Ethylbenzene	ND
Carbon tetrachloride	ND	Methylene chloride	ND
Chlorobenzene	ND	1,1,2,2-Tetrachloroethane	ND
Chloroethane	ND	Tetrachloroethene	ND
2-Chloroethylvinyl ether	ND	Toluene	ND
Chloroform	ND	1,1,1-Trichloroethane	ND
Chloromethane	ND	1,1,2-Trichloroethane	ND
Dibromochloromethane	ND .	Trichloroethene	ND
1,2-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,3-Dichlorobenzene	ND	Vinyl chloride	ND
1,4-Dichlorobenzene	ND	Xylene(Total)	ND
1,1-Dichloroethane	ND		
1,2-Dichloroethane	ND		

```
NOTE: ND (None Detected, lower detectable limit = 1 ug/l) as rec'd ND* (None Detected, lower detectable limit = 10 ug/l) as rec'd ND** (None Detected, lower detectable limit = ug/l) as rec'd J (Detected, but below quantitation limit; quantitation suspect)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)
```

SURROGATE RECOVERY:	X	ACCEPTABL	E LIMITS
		WATER	SOLID
1,2-Dichloroethane-d4	96	(76-114)	(70-121)
Toluene-d8	98	(88-110)	(81-117)
Bromofluorobenzene	94	(86-115)	(74-121)



LAB #: B1401-1 MATRIX: WATER

2/14/90 DATE RECEIVED: DATE EXTRACTED: 2/15/90 2/21/90 DATE ANALYZED:

SAMPLE ID: MW-1

CERTIFICATION #: E84059

CHLORINATED PESTICIDES

HRS84297

METHOD 608 LIST - GC

	RESULT (ug/L)	DETECTION LIMIT
Alpha-BHC	ND	0.1
Beta-BHC	ND	0.1
Delta-BHC	ND	0.1
Lindane	ND	0.1
Heptachlor	ND	0.1
Aldrin	ND	0.1
Heptachlor Epoxide	ND	0.1
Endosulfan I	ND	0.1
Dieldrin	ND	0.1
4,4'-DDE	ND	0.1
Endrin	ND	0.1
Endosulfan II	ND	0.1
4,4'-DDD	ND	. 0.1
Endrin Aldehyde	ND	0.1
Endosulfan Sulfate	ND	0.1
4,4'-DDT	ND	0.1
Chlordane	ND	1
Toxaphene	ND	1

(None Detected) as rec'd NOTE: ND

(Not Analyzed)



LAB #: B1401-1 MATRIX: WATER DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/15/90
DATE ANALYZED: 2/19/90

SAMPLE ID: MW-1

CERTIFICATION #: E84059

POLYCHLORINATED BIPHENYLS

HRS84297

ug/L)

ug/L)

METHOD 608 LIST - GC

PCB-1016 ND
PCB-1221 ND
PCB-1232 ND
PCB-1242 ND
PCB-1248 ND
PCB-1254 ND
PCB-1260 ND
PCB-1260 ND
PCB-1262 ---

NOTE: ND (None Detected, lower detectable limit = 1

ND* (None Detected, lower detectable limit =

-- (Not Analyzed)



DATE RECEIVED: DATE EXTRACTED: 2/16/90 LAB #: B1401-1 MATRIX: WATER DATE ANALYZED:

SAMPLE ID: MW-1

CERTIFICATION #: E84059

HRS84297

2/14/90

2/27/90

BASE/NEUTRAL -- EXTRACTABLE ORGANICS

USEPA METHOD 625 - GC/MS (1 of 2)

Acenaphthene	ND	Dibenzo(a,h)anthracene	ND
Acenaphthylene	ND	Di-n-butyl phthalate	ND
Anthracene	ND	1,2-Dichlorobenzene	ND
Benzidine	ND*	1,3-Dichlorobenzene 1,4-Dichlorobenzene 3,3'-Dichlorobenzidine	ND
Benzo(a)anthracene	ND		ND
Benzo(b)fluoranthene	ND		ND*
Benzo(k)fluoranthene	ND	Diethyl phthalate	ND
Benzo(ghi)perylene	ND	Dimethyl phthalate	ND
Benzo(a)pyrene	ND	2,4-Dinitrotoluene	ND
Bis(2-Chloroethoxy)methane	ND	2,6-Dinitrotoluene Di-n-octyl phthalate Fluoranthene	ND
Bis(2-Chloroethyl)ether	ND		ND
Bis(2-Chloroisopropyl)ether	ND		ND
Bis(2-Ethylhexyl)phthalate	ND	Fluorene	ND
4-Bromophenyl phenyl ether	ND	Hexachlorobenzene	ND
Butyl benzyl phthalate	ND	Hexachlorobutadiene	ND
2-Chloronaphthalene	ND	Hexachlorocyclopentadiene	ND
4-Chlorophenyl phenyl ether	ND	Hexachloroethane	ND
Chrysene	ND	Indeno(1,2,3-cd)pyrene	ND

```
(None Detected, lower detectable limit = 10 ug/L) as rec'd (None Detected, lower detectable limit = 50 ug/L) as rec'd
NOTE: ND
        ND*
              (Detected, but below quantitation limit; quantitation suspect)
        J
              (Compound detected in method blank associated with this sample)
        В
              (Not Analyzed)
```



DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/27/90

LAB #: B1401-1
MATRIX: WATER

SAMPLE ID: MW-1

CERTIFICATION #: E84059

BASE/NEUTRAL EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (2 of 2)

Isophorone	ND
Naphthalene	ND
Nitrobenzene	ND
N-Nitrosodimethylamine	ND
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1,2,4-Trichlorobenzene	ND

```
NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd (Detected, but below quantitation limit: quantitation suspect)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)
```

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS
		WATER SOLID
Nitrobenzene-d5	57	(35-114) (23-120)
2-Fluorobiphenyl	67	(43-116) (30-115)
Terphenyl-d14	44	(33-141) (18-137)



LAB #: B1401-1 MATRIX: WATER

SAMPLE ID: MW-1

DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90

DATE ANALYZED: 2/27/90

HRS84297

CERTIFICATION #: E84059

ACID EXTRACTABLE ORGANICS
USEPA METHOD 625 - GC/MS

ND 4-Chloro-3-methylphenol 2-Chlorophenol ND 2,4-Dichlorophenol ND 2,4-Dimethyphenol ND 2,4-Dinitrophenol ND* 2-Methyl-4,6-dinitrophenol ND* 2-Nitrophenol ND 4-Nitrophenol ND* Pentachlorophenol ND* Phenol ND 2,4,6-Trichlorophenol ND

NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd J (Detected, but below quantitation limit; quantitation suspect)

J (Detected, but below quantitation limit; quantitation suspect)
B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS
		WATER SOLID
2-Fluorophenol	53	(21-100) (25-121)
Phenol-d5	55	(10-94) (24-113)
2,4,6-Tribromophenol	62	(10-123) (10-122)



DATE RECEIVED: 2/14/90

LAB #: B1401-1 MATRIX : WATER

SAMPLE ID : MW-1

CERTIFICATION #: E84059

METALS ANALYTICAL REPORT SELECTED LIST

HRS84297

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION RESULT LIMIT		
Silver	2/15- 2/21/90	ND	50	ug/L	
Arsenic	2/15- 2/16/90	ND	10	ug/L	
Beryllium	2/15- 2/20/90	ND	50	ug/L	
Cadmium	2/15- 2/20/90	ND	10	ug/L	
Chromium	2/15- 2/20/90	ND	50	ug/L	
Copper	2/15- 2/20/90	ND	200	ug/L	
Iron	2/15- 2/20/90	ND	300	ug/L	
Mercury	2/15- 2/20/90	ND	2	ug/L	
Manganese	2/15- 2/20/90	ND	50	ug/L	
Sodium	2/15- 2/20/90	4,400	50	ug/L	
Nickel	2/15- 2/20/90	ND	50	ug/L	
Lead	2/15- 2/19/90	ND	5	ug/L	
Antimony	2/15- 2/19/90	ND	1000	ug/L	
Selenium	2/15- 2/16/90	ND	5	ug/L	
Thallium	2/15- 2/19/90	ND	10	ug/L	
Zinc	2/15- 2/20/90	ND	50	ug/L	

NOTE: ND (None Detected)



DATE RECEIVED: 2/14/90

LAB #: B1401-1 MATRIX : WATER

SAMPLE ID : MW-1

CERTIFICATION #: E84059

HRS84297

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	result	DETECTION LIMIT	ON
Chloride	2/20/90	7	2	mg/L
Cyanide	2/21- 2/22/90	ND	0.005	mg/L
Specific Conductance	2/15/90	50	. ur	nhos/cm
Nitrate-Nitrite Nitrogen	2/21/90	ND	0.1	mg/L
pH - Water	2/15/90	4.9		S.U.
Sulfate	2/20/90	9	5	mg/L

NOTE: ND (None Detected)



LAB #: B1401-2 MATRIX: WATER

SAMPLE ID: MW-1A

DATE RECEIVED: 2/14/90
DATE EXTRACTED: NA
DATE ANALYZED: 2/17/90

HRS84297

CERTIFICATION #: E84059

VOLATILE ORGANICS

USEPA METHOD 624 - GC/MS

Acrolein	ND*	<pre>1,1-Dichloroethene 1,2-Dichloroethene(Total) 1,2-Dichloropropane</pre>	ND
Acrylonitrile	ND*		ND
Benzene	ND		ND
Bromodichloromethane	ND	cis-1,3-Dichloropropene	ND
Bromoform	ND	trans-1,3-Dichloropropene	ND
Bromomethane	ND	Ethylbenzene	ND
Carbon tetrachloride	ND	Methylene chloride	ND
Chlorobenzene	ND	1,1,2,2-Tetrachloroethane	ND
Chloroethane	ND	Tetrachloroethene	ND
2-Chloroethylvinyl ether	ND	Toluene 1,1,1-Trichloroethane 1,1,2-Trichloroethane	ND
Chloroform	ND		ND
Chloromethane	ND		ND
Dibromochloromethane	ND	Trichloroethene	ND
1,2-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,3-Dichlorobenzene	ND	Vinyl chloride	ND
1,4-Dichlorobenzene 1,1-Dichloroethane 1,2-Dichloroethane	ND ND ND	Xylene(Total)	ND

NOTE:	ND	(None Detected, lower detectable limit = 1 ug/l) as rec'd
	ND*	(None Detected, lower detectable limit = 10 ug/l) as rec'd
	ND**	(None Detected, lower detectable limit = ug/l) as rec'd
	J	(Detected, but below quantitation limit; quantitation suspect)
	В	(Compound detected in method blank associated with this sample)
		(Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS
		WATER SOLID
1,2-Dichloroethane-d4	93	(76-114) (70-121)
Toluene-d8	97	(88-110) (81-117)
Bromofluorobenzene	96	(86-115) (74-121)



LAB #: B1401-2 MATRIX: WATER

SAMPLE ID: MW-1A

DATE RECEIVED: 2/14/90

DATE EXTRACTED: 2/15/90 DATE ANALYZED: 2/21/90

CERTIFICATION #: E84059

HRS84297

CHLORINATED PESTICIDES

METHOD 608 LIST - GC

	RESULT (ug/L)	DETECTION LINIT
Alpha-BHC	ND	0.1
Beta-BHC	ND	0.1
Delta-BHC	ND	0.1
Lindane	ND	0.1
Heptachlor	ND	0.1
Aldrin	ND	0.1
Heptachlor Epoxide	ND	0.1
Endosulfan I	ND	0.1
Dieldrin	ND	0.1
4,4'-DDE	ND	0.1
Endrin	ND	0.1
Endosulfan II	ND	0.1
4,4'-DDD	ND	0.1
Endrin Aldehyde	ND	0.1
Endosulfan Sulfate	ND	0.1
4,4'-DDT	ND	0.1
Chlordane	ND	1
Toxaphene	ND	1

NOTE: ND (None Detected) as rec'd

(Not Analyzed)



LAB #: B1401-2 MATRIX: WATER DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/15/90
DATE ANALYZED: 2/19/90

SAMPLE ID: MW-1A

CERTIFICATION #: E84059

POLYCHLORINATED BIPHENYLS

HRS84297

METHOD 608 LIST - GC

PCB-1016	ND
PCB-1221	ND
PCB-1232	ND
PCB-1242	ND
PCB-1248	ND
PCB-1254	ND
PCB-1260	ND
PCB-1262	

NOTE: ND (None Detected, lower detectable limit = 1 ug/L)
ND* (None Detected, lower detectable limit = ug/L)

-- (Not Analyzed)



LAB #: B1401-2 MATRIX: WATER DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: MW-1A

CERTIFICATION #: E84059

BASE/NEUTRAL -- EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (1 of 2)

Acenaphthene	ND	Dibenzo(a,h)anthracene	ND
Acenaphthylene	ND	Di-n-butyl phthalate	ND
Anthracene	ND	1,2-Dichlorobenzene	ND
Benzidine Benzo(a)anthracene Benzo(b)fluoranthene	ND* ND ND	1,3-Dichlorobenzene 1,4-Dichlorobenzene 3,3'-Dichlorobenzidine	ND ND*
Benzo(k)fluoranthene	ND	Diethyl phthalate	ND
Benzo(ghi)perylene	ND	Dimethyl phthalate	ND
Benzo(a)pyrene	ND	2,4-Dinitrotoluene	ND
Bis(2-Chloroethoxy)methane	ND	2,6-Dinitrotoluene	ND
Bis(2-Chloroethyl)ether	ND	Di-n-octyl phthalate	ND
Bis(2-Chloroisopropyl)ether	ND	Fluoranthene	ND
Bis(2-Ethylhexyl)phthalate	ND	Fluorene	ND
4-Bromophenyl phenyl ether	ND	Hexachlorobenzene	ND
Butyl benzyl phthalate	ND	Hexachlorobutadiene	ND
2-Chloronaphthalene	ND	Hexachlorocyclopentadiene Hexachloroethane Indeno(1,2,3-cd)pyrene	ND
4-Chlorophenyl phenyl ether	ND		ND
Chrysene	ND		ND

```
NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd J (Detected, but below quantitation limit; quantitation suspect)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)
```



LAB #: B1401-2 MATRIX: WATER DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: MW-1A

CERTIFICATION #: E84059

BASE/NEUTRAL EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (2 of 2)

Isophorone	ND
Naphthalene	ND
Nitrobenzene	ND
N-Nitrosodimethylamine	ND
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1,2,4-Trichlorobenzene	ND

```
NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd J (Detected, but below quantitation limit: quantitation suspect)
```

J (Detected, but below quantitation limit: quantitation suspect)
B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS
		WATER SOLID
Nitrobenzene-d5	117	(35-114) (23-120)
2-Fluorobiphenyl	112	(43-116) (30-115)
Terphenyl-d14	87	(33-141) (18-137)



LAB #: B1401-2 MATRIX: WATER

SAMPLE ID: MW-1A

DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90

DATE ANALYZED: 2/16/90

CERTIFICATION #: E84059

HRS84297

ACID EXTRACTABLE ORGANICS USEPA METHOD 625 - GC/MS

4-Chloro-3-methylphenol 2-Chlorophenol 2,4-Dichlorophenol	ND ND ND
2,4-Dimethyphenol 2,4-Dinitrophenol 2-Methyl-4,6-dinitrophenol	ND ND*
2-Nitrophenol 4-Nitrophenol Pentachlorophenol	ND ND:
Phenol 2,4,6-Trichlorophenol	ND ND

NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd J (Detected, but below quantitation limit; quantitation suspect) B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE I	LIMITS
		WATER S	SOLID
2-Fluorophenol	70	(21-100) (2	25-121)
Phenol-d5	72	(10-94) (2	24-113)
2,4,6-Tribromophenol	100	(10-123) (1	10-122)



DATE RECEIVED: 2/14/90

LAB #: B1401-2 MATRIX : WATER

SAMPLE ID : MW-1A

CERTIFICATION #: E84059

METALS ANALYTICAL REPORT

HRS84297

SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTI LIMIT	
Silver	2/15- 2/21/90	ND	50	ug/L
Arsenic	2/15- 2/16/90	ND	10	ug/L
Beryllium	2/15- 2/20/90	ND	50	ug/L
Cadmium	2/15- 2/20/90	ND	10	ug/L
Chromium	2/15- 2/20/90	ND	50	ug/L
Copper	2/15- 2/20/90	ND	200	ug/L
Iron	2/15- 2/20/90	410	300	ug/L
Mercury	2/15- 2/20/90	ND	2	ug/L
Manganese	2/15- 2/20/90	ND	50	ug/L
Sodium	2/15- 2/20/90	9,000	50	ug/L
Nickel	2/15- 2/20/90	ND	50	ug/L
Lead	2/15- 2/19/90	ND	5	ug/L
Antimony	2/15- 2/20/90	ND	1000	ug/L
Selenium	2/15- 2/16/90	ND	5	ug/L
Thallium	2/15- 2/19/90	ND	10	ug/L
Zinc	2/15- 2/20/90	ND	50	ug/L

NOTE: ND (None Detected)



DATE RECEIVED: 2/14/90

LAB #: B1401-2 MATRIX : WATER

SAMPLE ID : MW-1A

CERTIFICATION #: E84059

HRS84297

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTI LIMIT	
Chloride	2/20/90	18	2	mg/L
Cyanide	2/21- 2/22/90	ND	0.005	mg/L
Specific Conductance	2/15/90	240	u	mhos/cm
Nitrate-Nitrite Nitrogen	2/21/90	ND	0.1	mg/L
pH - Water	2/15/90	6.5		s.u.
Sulfate	2/20/90	34	5	mg/L

NOTE: ND (None Detected)



LAB #: B1401-3 MATRIX: WATER

SAMPLE ID: MW-2

DATE RECEIVED: 2/14/90
DATE EXTRACTED: NA

DATE ANALYZED: 2/17/90

CERTIFICATION #: E84059

VOLATILE ORGANICS
USEPA METHOD 624 - GC/MS

HRS84297

Acrolein	ND*	1,1-Dichloroethene	ND
Acrylonitrile	ND*	1,2-Dichloroethene(Total)	ND
Benzene	ND	1,2-Dichloropropane	ND
Bromodichloromethane	ND	cis-1,3-Dichloropropene	ND
Bromoform	ND	trans-1,3-Dichloropropene	ND
Bromomethane	ND	Ethylbenzene	ND
Carbon tetrachloride	ND	Methylene chloride	ND
Chlorobenzene	ND	1,1,2,2-Tetrachloroethane	ND
Chloroethane	ND	Tetrachloroethene	ND
2-Chloroethylvinyl ether	ND	Toluene	ND
Chloroform	ND	1,1,1-Trichloroethane	ND
Chloromethane	ND	1,1,2-Trichloroethane	ND
Dibromochloromethane	ND	Trichloroethene	ND
1,2-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,3-Dichlorobenzene	ND	Vinyl chloride	ND
1,4-Dichlorobenzene	ND	Xylene(Total)	ND
1,1-Dichloroethane	ND		
1,2-Dichloroethane	ND		

NOTE:	ND*	(None Detected, lower detectable limit = 1 ug/l) as rec'd (None Detected, lower detectable limit = 10 ug/l) as rec'd (None Detected, lower detectable limit = 10 ug/l) as rec'd
	ND**	(None Detected, lower detectable limit = ug/l) as rec'd
	J	(Detected, but below quantitation limit; quantitation suspect)
	В	(Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS		
		WATER SOLID		
1,2-Dichloroethane-d4	94	(76-114) (70-121)		
Toluene-d8	96	(88-110) (81-117)		
Bromofluorobenzene	96	(86-115) (74-121)		

Route 3 - Box 235 / Bartow, FL 33830 / (813) 533-2150



LAB #: B1401-3 MATRIX: WATER

SAMPLE ID: MW-2

DATE RECEIVED:

2/14/90

DATE EXTRACTED: 2/15/90

DATE ANALYZED:

2/21/90

CERTIFICATION #: E84059

HRS84297

CHLORINATED PESTICIDES

METHOD 608 LIST - GC

	RESULT (ug/L)	DETECTION LIMIT
Alpha-BHC	ND	0.1
Beta-BHC	ND	0.1
Delta-BHC	ND	0.1
Lindane	ND	0.1
Heptachlor	ND	0.1
Aldrin	ND	0.1
Heptachlor Epoxide	ND	0.1
Endosulfan I	ND	0.1
Dieldrin	ND	0.1
4,4'-DDE	ND	0.1
Endrin	ND	0.1
Endosulfan II	ND	0.1
4,4'-DDD	ND	0.1
Endrin Aldehyde	ND	0.1
Endosulfan Sulfate	ND	0.1
4,4'-DDT	ND	0.1
Chlordane	ND	1
Toxaphene	ND	1
LONGPIONO		•

(None Detected) as rec'd NOTE: ND

(Not Analyzed)



LAB #: B1401-3
MATRIX: WATER

DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/15/90
DATE ANALYZED: 2/19/90

SAMPLE ID: MW-2

CERTIFICATION #: E84059

POLYCHLORINATED BIPHENYLS METHOD 608 LIST - GC HRS84297

PCB-1016 ND
PCB-1221 ND
PCB-1232 ND
PCB-1242 ND

PCB-1242 ND
PCB-1254 ND
PCB-1254 ND

PCB-1260 ND PCB-1262 --

NOTE: ND (None Detected, lower detectable limit = 1 ug/L)
ND* (None Detected, lower detectable limit = ug/L)
-- (Not Analyzed)



LAB #: B1401-3
MATRIX: WATER

DATE RECEIVED: 2/14/90 DATE EXTRACTED: 2/16/90 DATE ANALYZED: 2/16/90

SAMPLE ID: MW-2

CERTIFICATION #: E84059

BASE/NEUTRAL -- EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (1 of 2)

Acenaphthene	ND	Dibenzo(a,h)anthracene	ND
Acenaphthylene	ND	Di-n-butyl phthalate	ND
Anthracene	ND	1,2-Dichlorobenzene	ND
Benzidine Benzo(a)anthracene Benzo(b)fluoranthene	ND* ND ND	1,3-Dichlorobenzene 1,4-Dichlorobenzene 3,3'-Dichlorobenzidine	ND ND*
Benzo(k)fluoranthene	ND	Diethyl phthalate	ND
Benzo(ghi)perylene	ND	Dimethyl phthalate	ND
Benzo(a)pyrene	ND	2,4-Dinitrotoluene	ND
Bis(2-Chloroethoxy)methane	ND	2,6-Dinitrotoluene Di-n-octyl phthalate Fluoranthene	ND
Bis(2-Chloroethyl)ether	ND		ND
Bis(2-Chloroisopropyl)ether	ND		ND
Bis(2-Ethylhexyl)phthalate	ND	Fluorene	ND
4-Bromophenyl phenyl ether	ND	Hexachlorobenzene	ND
Butyl benzyl phthalate	ND	Hexachlorobutadiene	ND
2-Chloronaphthalene	ND	Hexachlorocyclopentadiene	ND
4-Chlorophenyl phenyl ether	ND	Hexachloroethane	ND
Chrysene	ND	Indeno(1,2,3-cd)pyrene	ND

NOTE:	ND	(None Detected, lower detectable limit = 10 ug/L) as rec'd
	ND*	(None Detected, lower detectable limit = 50 ug/L) as rec'd
	J	(Detected, but below quantitation limit; quantitation suspect)
	В	(Compound detected in method blank associated with this sample)

-- (Not Analyzed)



LAB #: B1401-3 MATRIX: WATER DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: MW-2

CERTIFICATION #: E84059

BASE/NEUTRAL EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (2 of 2)

Isophorone	ND
Naphthalene	ND
Nitrobenzene	ND
N-Nitrosodimethylamine	ND
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1.2.4-Trichlorobenzene	ND

```
NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd J (Detected, but below quantitation limit: quantitation suspect)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)
```

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS	
		WATER SOLID	
Nitrobenzene-d5	80	(35-114) (23-120)	
2-Fluorobiphenyl	80	(43-116) (30-115)	
Terphenyl-d14	113	(33-141) (18-137)	



LAB #: B1401-3 MATRIX: WATER

SAMPLE ID: MW-2

DATE RECEIVED:

2/14/90

DATE EXTRACTED: 2/16/90

DATE ANALYZED:

2/16/90

ACID EXTRACTABLE ORGANICS

USEPA METHOD 625 - GC/MS

CERTIFICATION #: E84059

HRS84297

4-Chloro-3-methylphenol 2-Chlorophenol 2,4-Dichlorophenol	ND ND ND
2,4-Dimethyphenol 2,4-Dinitrophenol 2-Methyl-4,6-dinitrophenol	ND ND* ND*
2-Nitrophenol 4-Nitrophenol Pentachlorophenol	ND ND*
Phenol 2,4,6-Trichlorophenol	ND ND

NOTE:	ND	(None Detected, lower detectable limit = 10 ug/L) as rec'd
	ND*	(None Detected, lower detectable limit = 50 ug/L) as rec'd
	J	(Detected, but below quantitation limit; quantitation suspect)
	В	(Compound detected in method blank associated with this sample)

(Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE	LIMITS
		WATER	SOLID
2-Fluorophenol	54	(21-100)	(25-121)
Phenol-d5	62	(10-94)	(24-113)
2,4,6-Tribromophenol	80	(10-123)	(10-122)



DATE RECEIVED: 2/14/90

LAB #: B1401-3 MATRIX : WATER

SAMPLE ID : MW-2

CERTIFICATION #: E84059

METALS ANALYTICAL REPORT

HRS84297

SELECTED LIST

Total metals analysis results - as received

BLEMENT	PREPARATION - ANALYSIS DATE	result	DETECTI LIMIT	
Silver	2/15- 2/21/90	ND	50	ug/L
Arsenic	2/15- 2/16/90	ND	10	ug/L
Beryllium	2/15- 2/20/90	ND	50	ug/L
Cadmium	2/15- 2/20/90	ND	10	ug/L
Chromium	2/15- 2/20/90	ND	50	ug/L
Copper	2/15- 2/20/90	ND	200	ug/L
Copper	2/10 2/20/00	ND	200	ug/ L
Iron	2/15- 2/20/90	ND	300	ug/L
Mercury	2/15- 2/20/90	ND	2	ug/L
Manganese	2/15- 2/20/90	ND	50	ug/L
Sodium	2/15- 2/20/90	4,700	50	ug/L
Nickel	2/15- 2/20/90	ND	50	ug/L
Lead	2/15- 2/19/90	5	5	ug/L
	2,20 2,20,00	•	ŭ	45, 2
Antimony	2/15- 2/20/90	ND	1000	ug/L
Selenium .	2/15- 2/16/90	ND	5	ug/L
Thallium	2/15- 2/19/90	ND	10	ug/L
Zinc	2/15- 2/20/90	ND	50	ug/L

NOTE: ND (None Detected)



DATE RECEIVED: 2/14/90

LAB #: B1401-3 MATRIX : WATER

SAMPLE ID : MW-2

CERTIFICATION #: E84059

HRS84297

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE RESULT		DETECTION LIMIT	
Chloride	2/20/90	9	2	mg/L
Cyanide	2/21- 2/22/90	ND	0.005	mg/L
Specific Conductance	2/15/90	110	umhos/cm	
Nitrate-Nitrite Nitrogen	2/21/90	ND	0.1	mg/L
pH - Water	2/15/90	5.3		s.u.
Sulfate	2/20/90	20	5	mg/L

NOTE: ND (None Detected)



LAB #: B1401-4 MATRIX: WATER DATE RECEIVED: 2/14/90
DATE EXTRACTED: NA
DATE ANALYZED: 2/17/90

SAMPLE ID: MW-3A

CERTIFICATION #: E84059

VOLATILE ORGANICS
USEPA METHOD 624 - GC/MS

HRS84297

```
Acrolein
                            ND*
                                          1.1-Dichloroethene
                                                                     ND
Acrylonitrile
                            ND*
                                          1,2-Dichlorcethene(Total) ND
Веплепе
                            ND
                                          1,2-Dichloropropane
Bromodichloromethane
                            ND
                                          cis-1,3-Dichloropropene
                                                                     ND
Bromoform
                            ND
                                          trans-1,3-Dichloropropene ND
Bromomethane
                            ND
                                          Ethylbenzene
Carbon tetrachloride
                            ND
                                          Methylene chloride
                                                                     ND
Chlorobenzene
                            ND
                                          1.1.2.2-Tetrachlorcethane ND
Chloroethane
                            ND
                                          Tetrachloroethene
2-Chloroethylvinyl ether
                            ND
                                          Toluene
                                                                     ND
Chloroform
                            ND
                                          1,1,1-Trichloroethane
                                                                     ND
Chloromethane
                            ND
                                          1,1,2-Trichloroethane
                                                                     ND
Dibromochloromethane
                            ND
                                          Trichloroethene
                                                                     ND
1,2-Dichlorobenzene
                            ND
                                          Trichlorofluoromethane
                                                                     ND
1,3-Dichlorobenzene
                                          Vinyl chloride
                                                                     ND
1,4-Dichlorobenzene
                            ND
                                          Xylene(Total)
                                                                     ND
1,1-Dichloroethane
                            ND
1,2-Dichloroethane
                            ND
```

```
NOTE: ND (None Detected, lower detectable limit = 1 ug/l) as rec'd ND* (None Detected, lower detectable limit = 10 ug/l) as rec'd ND** (None Detected, lower detectable limit = ug/l) as rec'd J (Detected, but below quantitation limit; quantitation suspect)

B (Compound detected in method blank associated with this sample)
```

-- (Not Analyzed)

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS	}
		WATER SOLID	
1,2-Dichloroethane-d4	96	(76-114) (70-121)
Toluene-d8	97	(88-110) (81-117)
Bromofluorobenzene	95	(86-115) (74-121)

Route 3 - Box 235 / Bartow, FL 33830 / (813) 533-2150



LAB #: B1401-4 MATRIX: WATER

Alpha-BHC Beta-BHC Delta-BHC

Lindane Heptachlor Aldrin

Heptachlor Epoxide

Endosulfan I Dieldrin

Endosulfan II

Endrin Aldehyde Endosulfan Sulfate

4,4'-DDE Endrin

4,4'-DDD

4,4'-DDT Chlordane

Toxaphene

SAMPLE ID: MW-3A

DATE RECEIVED:

2/14/90

DATE EXTRACTED: 2/15/90

DATE ANALYZED:

2/21/90

CERTIFICATION #: E84059

HRS84297

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CHLORINATED PESTICIDES

METHOD 608 LIST - GC

RESULT	(ug/L)	DETECTION	LIMIT
NI)	0.1	
NI)	0.1	
NI		0.1	
NI)	0.1	
NI		0.1	
NI)	0.1	
NI		1	

ND

(None Detected) as rec'd NOTE: ND

(Not Analyzed)



LAB #: B1401-4 MATRIX: WATER

DATE RECEIVED: 2/14/90 DATE EXTRACTED: 2/15/90 DATE ANALYZED: 2/19/90

SAMPLE ID: MW-3A

CERTIFICATION #: E84059

POLYCHLORINATED BIPHENYLS

HRS84297

METHOD 608 LIST - GC

PCB-1016 ND PCB-1221 ND PCB-1232 ND PCB-1242 ND PCB-1248 ND PCB-1254 ND

PCB-1260 ND PCB-1262

NOTE: ND (None Detected, lower detectable limit = 1 ug/L) ND* (None Detected, lower detectable limit = ug/L)

(Not Analyzed)



LAB #: B1401-4 MATRIX: WATER DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: MW-3A

CERTIFICATION #: E84059

BASE/NEUTRAL -- EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (1 of 2)

Acenaphthene	ND	Dibenzo(a,h)anthracene	ND
Acenaphthylene	ND	Di-n-butyl phthalate	ND
Anthracene	ND	1,2-Dichlorobenzene	ND
Benzidine	ND*	1,3-Dichlorobenzene 1,4-Dichlorobenzene 3,3'-Dichlorobenzidine	ND
Benzo(a)anthracene	ND		ND
Benzo(b)fluoranthene	ND		ND*
Benzo(k)fluoranthene	ND	Diethyl phthalate	ND
Benzo(ghi)perylene	ND	Dimethyl phthalate	ND
Benzo(a)pyrene	ND	2,4-Dinitrotoluene	ND
Bis(2-Chloroethoxy)methane	ND	2,6-Dinitrotoluene Di-n-octyl phthalate Fluoranthene	ND
Bis(2-Chloroethyl)ether	ND		ND
Bis(2-Chloroisopropyl)ether	ND		ND
Bis(2-Ethylhexyl)phthalate	ND	Fluorene	ND
4-Bromophenyl phenyl ether	ND	Hexachlorobenzene	ND
Butyl benzyl phthalate	ND	Hexachlorobutadiene	ND
2-Chloronaphthalene 4-Chlorophenyl phenyl ether Chrysene	ND ND	Hexachlorocyclopentadiene Hexachloroethane Indeno(1,2,3-cd)pyrene	ND ND ND

```
NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd J (Detected, but below quantitation limit; quantitation suspect)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)
```



LAB #: B1401-4 MATRIX: WATER DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: MW-3A

CERTIFICATION #: E84059

BASE/NEUTRAL EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (2 of 2)

Isophorone	ND
Naphthalene	ND
Nitrobenzene	ND
N-Nitrosodimethylamine	ND
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1,2,4-Trichlorobenzene	ND

NOTE:	ND	(None Detected, lower detectable limit = 10 ug/L) as rec'd
	ND*	(None Detected, lower detectable limit = 50 ug/L) as rec'd
	· J	(Detected, but below quantitation limit: quantitation suspect)
	В	(Compound detected in method blank associated with this sample)
		(Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE	LIMITS
		WATER	SOLID
Nitrobenzene-d5	117	(35-114)	(23-120)
2-Fluorobiphenyl	100	(43-116)	(30-115)
Terphenyl-d14	111	(33-141)	(18-137)



LAB #: B1401-4 MATRIX: WATER

SAMPLE ID: MW-3A

DATE RECEIVED:

2/14/90

DATE EXTRACTED: 2/16/90

DATE ANALYZED:

2/16/90

CERTIFICATION #: E84059

HRS84297

ACID EXTRACTABLE ORGANICS

USEPA METHOD 625 - GC/MS

4-Chloro-3-methylphenol	ND
2-Chlorophenol	ND
2,4-Dichlorophenol	ND
2,4-Dimethyphenol 2,4-Dinitrophenol 2-Methyl-4,6-dinitrophenol	ND ND* ND*
2-Nitrophenol	ND
4-Nitrophenol	ND*
Pentachlorophenol	ND*
Phenol 2,4,6-Trichlorophenol	ND ND

ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd NOTE: ND J (Detected, but below quantitation limit; quantitation suspect)

(Compound detected in method blank associated with this sample)

(Not Analyzed)

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS
		WATER SOLID
2-Fluorophenol	62	(21-100) (25-121)
Phenol-d5	61	(10-94) (24-113)
2,4,6-Tribromophenol	69	(10-123) (10-122)



LAB #: B1401-4 MATRIX : WATER

SAMPLE ID : MW-3A

CERTIFICATION #: E84059

DATE RECEIVED: 2/14/90

METALS ANALYTICAL REPORT

HRS84297

SELECTED LIST

Total metals analysis results - as received

RLEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTI LIMIT	
Silver	2/15- 2/21/90	ND	50	ug/L
Arsenic	2/15- 2/16/90	ND	10	ug/L
Beryllium	2/15- 2/20/90	ND	50	ug/L
Cadmium	2/15- 2/20/90	ND	10	ug/L
Chromium	2/15- 2/20/90	ND	50	ug/L
Copper	2/15- 2/20/90	ND	200	ug/L
Iron	2/15- 2/20/90	770	300	ug/L
Mercury	2/15- 2/20/90	ND	2	ug/L
Manganese	2/15- 2/20/90	ND	50	ug/L
Sodium	2/15- 2/20/90	2,200	50	ug/L
Nickel	2/15- 2/20/90	ND	50	ug/L
Lead	2/15- 2/19/90	ND	5	ug/L
Antimony	2/15- 2/20/90	ND	1000	ug/L
Selenium	2/15- 2/16/90	. ND	5	ug/L
Thallium	2/15- 2/19/90	ND	10	ug/L
Zinc	2/15- 2/20/90	ND	50	ug/L

WADSWORTH/ALERT LABORATORIES, INC.

PANY: TRICIL RECOVERY SERVICES INC

LAB #: B1401-4 MATRIX : WATER

SAMPLE ID : MW-3A

DATE RECEIVED: 2/14/90

CERTIFICATION #: E84059

HRS84297

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTI LIMIT	
Chloride	2/20/90	3	2	mg/L
Cyanide	2/20- 2/21/90	ND	0.005	mg/L
Specific Conductance	2/15/90	57	ι	mhos/cm
Nitrate-Nitrite Nitrogen	2/21/90	ND	0.1	mg/L
pH - Water	2/15/90	5.0		s.u.
Sulfate	2/20-22/20/90	18	5	mg/L



LAB #: B1401-5 MATRIX: WATER

SAMPLE ID: MW-3

DATE RECEIVED:

2/14/90

DATE EXTRACTED:

CERTIFICATION #:

NA

DATE ANALYZED:

2/17/90

VOLATILE ORGANICS
USEPA METHOD 624 - GC/MS

E84059 HRS84297

Acrolein ND* 1,1-Dichloroethene ND Acrylonitrile ND* 1,2-Dichloroethene(Total) ND Benzene 1,2-Dichloropropane ND ND Bromodichloromethane ND cis-1,3-Dichloropropene ND Bromoform trans-1,3-Dichloropropene ND ND Bromomethane Ethylbenzene ND ND Carbon tetrachloride Methylene chloride ND ND Chlorobenzene 1,1,2,2-Tetrachloroethane ND ND Chloroethane ND Tetrachloroethene ND ND 2-Chloroethylvinyl ether ND Toluene Chloroform ND 1,1,1-Trichloroethane ND Chloromethane 1,1,2-Trichloroethane ND ND Dibromochloromethane ND Trichloroethene ND 1,2-Dichlorobenzene Trichlorofluoromethane ND ND Vinyl chloride 1,3-Dichlorobenzene ND ND 1,4-Dichlorobenzene ND Xylene(Total) ND 1,1-Dichloroethane ND 1,2-Dichloroethane ND

```
NOTE: ND (None Detected, lower detectable limit = 1 ug/l) as rec'd ND* (None Detected, lower detectable limit = 10 ug/l) as rec'd ND** (None Detected, lower detectable limit = ug/l) as rec'd J (Detected, but below quantitation limit; quantitation suspect)
B (Compound detected in method blank associated with this sample)
-- (Not Analyzed)
```

SURBOGATE RECOVERY:	*	ACCEPTABL	E LIMITS
		WATER	SOLID
1,2-Dichloroethane-d4	96	(76-114)	(70-121)
Toluene-d8	97	(88-110)	(81-117)
Bromofluorobenzene	95	(86-115)	(74-121)



LAB #: B1401-5 MATRIX: WATER

2/14/90

DATE EXTRACTED:

2/15/90

DATE ANALYZED:

DATE RECEIVED:

2/21/90

SAMPLE ID: MW-3

Alpha-BHC

Beta-BHC

Lindane

Aldrin

Dieldrin

4,4'-DDE

4,4'-DDD

4,4'-DDT

Chlordane

Toxaphene

Endrin

Delta-BHC

Heptachlor

Endosulfan I

Endosulfan II

CERTIFICATION #: E84059

HRS84297

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CHLORINATED PESTICIDES

METHOD 608 LIST - GC

RESULT (ug/L) DETECTION LIMIT ND 0.1 ND 0.1 ND 0.1 ND 0.1 ND 0.1 ND 0.1 Heptachlor Epoxide ND 0.1 Endrin Aldehyde ND 0.1 Endosulfan Sulfate ND 0.1 ND 0.1 ND 1

ND

NOTE: ND (None Detected) as rec'd

(Not Analyzed)



LAB #: B1401-5 MATRIX: WATER

DATE EXTRACTED: 2/15/90 DATE ANALYZED: 2/19/90

DATE RECEIVED:

SAMPLE ID: MW-3

CERTIFICATION #: E84059

2/14/90

POLYCHLORINATED BIPHENYLS

METHOD 608 LIST - GC

HRS84297

ND PCB-1016 ND PCB-1221 PCB-1232 ND ND PCB-1242 ND PCB-1248 PCB-1254 ND

PCB-1260 ND PCB-1262

(None Detected, lower detectable limit = 1 NOTE: ND ug/L) (None Detected, lower detectable limit = ND* ug/L)

(Not Analyzed)



LAB #: B1401-5 MATRIX: WATER

SAMPLE ID: MW-3

DATE RECEIVED: 2/14/90 DATE EXTRACTED: 2/16/90 2/16/90

DATE ANALYZED:

CERTIFICATION #: E84059 BASE/NEUTRAL -- EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (1 of 2)

Acenaphthene Acenaphthylene	ND ND	Dibenzo(a,h)anthracene Di-n-butyl phthalate	ND ND
Anthracene	ND	1,2-Dichlorobenzene	ND
Benzidine	ND*	1,3-Dichlorobenzene	ND
Benzo(a)anthracene	ND	1,4-Dichlorobenzene	ND
Benzo(b)fluoranthene	ND	3,3'-Dichlorobenzidine	ND*
Benzo(k)fluoranthene	ND	Diethyl phthalate	ND
Benzo(ghi)perylene	ND	Dimethyl phthalate	ND
Benzo(a)pyrene	ND	2,4-Dinitrotoluene	ND
Bis(2-Chloroethoxy)methane	ND	2,6-Dinitrotoluene	ND
Bis(2-Chloroethyl)ether	ND	Di-n-octyl phthalate	ND
Bis(2-Chloroisopropyl)ether	ND	Fluoranthene	ND
Bis(2-Ethylhexyl)phthalate	ND	Fluorene	ND
4-Bromophenyl phenyl ether	ND	Hexachlorobenzene	ND
Butyl benzyl phthalate	ND	Hexachlorobutadiene	ND
2-Chloronaphthalene	ND	Hexachlorocyclopentadiene	ND
4-Chlorophenyl phenyl ether	ND	Hexachloroethane	ND
Chrysene	ND	Indeno(1,2,3-cd)pyrene	ND

```
ND (None Detected, lower detectable limit = 10 ND* (None Detected, lower detectable limit = 50
                                                                    ug/L) as rec'd
NOTE: ND
                                                                        ug/L) as rec'd
       J
             (Detected, but below quantitation limit; quantitation suspect)
       В
             (Compound detected in method blank associated with this sample)
             (Not Analyzed)
```



LAB #: B1401-5
MATRIX: WATER

DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: MW-3

CERTIFICATION #: E84059

BASE/NEUTRAL EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (2 of 2)

Isophorone	ND
Naphthalene	ND
Nitrobenzene	ND
N-Nitrosodimethylamine	ND
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1,2,4-Trichlorobenzene	ND

NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd J (Detected, but below quantitation limit: quantitation suspect)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS
		WATER SOLID
Nitrobenzene-d5	75	(35-114) (23-120)
2-Fluorobiphenyl	71	(43-116) (30-115)
Terphenyl-d14	160	(33-141) (18-137)



LAB #: B1401-5 MATRIX: WATER

SAMPLE ID: MW-3

DATE RECEIVED: 2/14/90

DATE EXTRACTED: 2/16/90

DATE ANALYZED: 2/16/90

CERTIFICATION #: E84059

HRS84297

ACID EXTRACTABLE ORGANICS
USEPA METHOD 625 - GC/MS

4-Chloro-3-methylphenol 2-Chlorophenol 2,4-Dichlorophenol	ND ND ND
2,4-Dimethyphenol 2,4-Dinitrophenol 2-Methyl-4,6-dinitrophenol	ND ND*
2-Nitrophenol 4-Nitrophenol Pentachlorophenol	ND ND≉
Phenol 2,4,6-Trichlorophenol	ND ND

NOTE:	ND	(None Detected, lower detectable	e limit = 10	ug/L) as rec'd
	ND*	(None Detected, lower detectable	e limit = 50	ug/L) as rec'd
	J	(Detected, but below quantitation	on limit: quantitation	suspect)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	x	ACCEPTABLE	LIMITS
		WATER	SOLID
2-Fluorophenol	48	(21-100)	(25-121)
Phenol-d5	50	(10-94)	(24-113)
2.4.6-Tribromophenol	49	(10-123)	(10-122)



LAB #: B1401-5 MATRIX : WATER

SAMPLE ID : MW-3

CERTIFICATION #: E84059

DATE RECEIVED: 2/14/90

METALS ANALYTICAL REPORT SELECTED LIST

HRS84297

Total metals analysis results - as received

	PREPARATION -		DETECTI	
ELEMENT	ANALYSIS DATE	result	LIMIT	ı
Silver	2/15- 2/21/90	ND	50	ug/L
Arsenic	2/15- 2/16/90	ND	10	ug/L
Beryllium	2/15- 2/20/90	ND	50	ug/L
Cadmium	2/15- 2/20/90	ND	10	ug/L
Chromium	2/15- 2/20/90	ND	50	ug/L
Copper	2/15- 2/20/90	ND	200	ug/L
Iron	2/15- 2/20/90	580	300	ug/L
Mercury	2/15- 2/20/90	ND	2	ug/L
Manganese	2/15- 2/20/90	ND	50	ug/L
Sodium	2/15- 2/20/90	1,200	50	ug/L
Nickel	2/15- 2/20/90	ND	50	ug/L
Lead	2/15- 2/19/90	ND	5	ug/L
Antimony	2/15- 2/20/90	ND	1000	ug/L
Selenium	2/15- 2/16/90	ND	5	ug/L
Thallium	2/15- 2/19/90	ND	10	ug/L
Zinc	2/15- 2/20/90	ND	50	ug/L

WADSWORTH/ALERT LABORATORIES, INC.

COMPANY: TRICIL RECOVERY SERVICES INC

DATE RECEIVED: 2/14/90

LAB #: B1401-5 MATRIX : WATER

SAMPLE ID : MW-3

CERTIFICATION #: E84059

HRS84297

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTI LIMIT	
Chloride	2/20- 2/22/90	11	2	mg/L
Cyanide	2/20- 2/21/90	ND	0.005	mg/L
Specific Conductance	2/15/90	160	u	mhos/cm
Nitrate-Nitrite Nitrogen	2/21/90	ND	0.1	mg/L
pH - Water	2/15/90	6.3		s.u.
Sulfate	2/20/90	14	5	mg/L



LAB #: B1401-6 MATRIX: WATER

SAMPLE ID: MW-4

DATE RECEIVED:

2/14/90

DATE EXTRACTED:
DATE ANALYZED:

NA 2/17/90

CERTIFICATION #: E84059

VOLATILE ORGANICS
USEPA METHOD 624 - GC/MS

HRS84297

```
Acrolein
                             ND*
                                           1,1-Dichloroethene
                                                                      ND
                                           1,2-Dichloroethene(Total) ND
Acrylonitrile
                             ND*
Benzene
                                           1,2-Dichloropropane
                             ND
                                                                      ND
Bromodichloromethane
                             ND
                                          cis-1,3-Dichloropropene
                                                                      ND
                                           trans-1,3-Dichloropropene ND
Bromoform
                             ND
Bromomethane
                                          Ethylbenzene
                             ND
Carbon tetrachloride
                             ND
                                          Methylene chloride
                                                                      ND
Chlorobenzene
                                           1,1,2,2-Tetrachloroethane ND
                             ND
Chloroethane
                                          Tetrachloroethene
                             ND
2-Chloroethylvinyl ether
                             ND
                                          Toluene
                                                                      ND
Chloroform
                             ND
                                           1,1,1-Trichloroethane
                                                                      ND
Chloromethane
                             ND
                                           1,1,2-Trichloroethane
                                                                      ND
Dibromochloromethane
                             ND
                                          Trichloroethene
                                                                      ND
1,2-Dichlorobenzene
                             ND
                                          Trichlorofluoromethane
                                                                      ND
1,3-Dichlorobenzene
                                          Vinyl chloride
                             ND
                                                                      ND
1,4-Dichlorobenzene
                                          Xylene(Total)
                                                                      ND
                             ND
1,1-Dichloroethane
                             ND
1,2-Dichloroethane
                             ND
```

```
NOTE: ND (None Detected, lower detectable limit = 1 ug/l) as rec'd ND* (None Detected, lower detectable limit = 10 ug/l) as rec'd ND** (None Detected, lower detectable limit = ug/l) as rec'd ug/l) as rec'd ug/l) as rec'd
```

J (Detected, but below quantitation limit; quantitation suspect)
B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE	LIMITS
		WATER	SOLID
1,2-Dichloroethane-d4	97	(76-114)	(70-121)
Toluene-d8	100	(88-110)	(81-117)
Bromofluorobenzene	92	(86-115)	(74-121)



LAB #: B1401-6 MATRIX: WATER

SAMPLE ID: MW-4

DATE RECEIVED:

2/14/90

DATE EXTRACTED: 2/15/90

DATE ANALYZED:

2/21/90

CERTIFICATION #: E84059

CHLORINATED PESTICIDES

HRS84297

METHOD 608 LIST - GC

	RESULT (ug/L)	DETECTION LIMIT
Alpha-BHC	ND	0.1
Beta-BHC	ND	0.1
Delta-BHC	ND	0.1
Lindane	ND	0.1
Heptachlor	ND	0.1
Aldrin	ND	0.1
Heptachlor Epoxide	ND	0.1
Endosulfan I	ND	0.1
Dieldrin	ND	0.1
4,4'-DDE	ND	0.1
Endrin	ND	0.1
Endosulfan II	ND	0.1
4,4'-DDD	ND	0.1
Endrin Aldehyde	ND	0.1
Endosulfan Sulfate	ND	0.1
4,4'-DDT	ND	0.1
Chlordane	ND	1
Toxaphene	ND	1

NOTE: ND (None Detected) as rec'd

(Not Analyzed)



LAB #: B1401-6 MATRIX: WATER DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/15/90
DATE ANALYZED: 2/19/90

SAMPLE ID: MW-4

PCB-1262

CERTIFICATION #: E84059

POLYCHLORINATED BIPHENYLS METHOD 608 LIST - GC HRS84297

PCB-1016 ND
PCB-1221 ND
PCB-1232 ND
PCB-1242 ND
PCB-1248 ND
PCB-1254 ND
PCB-1260 ND

NOTE: ND (None Detected, lower detectable limit = 1 ug/L)
ND* (None Detected, lower detectable limit = ug/L)
-- (Not Analyzed)



LAB #: B1401-6
MATRIX: WATER

DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

HRS84297

SAMPLE ID: MW-4

CERTIFICATION #: E84059

BASE/NEUTRAL -- EXTRACTABLE ORGANICS

USEPA METHOD 625 - GC/MS (1 of 2)

Acenaphthene	ND	Dibenzo(a,h)anthracene	ND
Acenaphthylene	ND	Di-n-butyl phthalate	ND
Anthracene	ND	1,2-Dichlorobenzene	ND
Benzidine	ND*	1,3-Dichlorobenzene	ND
Benzo(a)anthracene	ND	1,4-Dichlorobenzene	ND
Benzo(b)fluoranthene	ND	3,3'-Dichlorobenzidine	ND*
Benzo(k)fluoranthene	ND	Diethyl phthalate	ND
Benzo(ghi)perylene	ND	Dimethyl phthalate	ND
Benzo(a)pyrene	ND	2,4-Dinitrotoluene	ND
Bis(2-Chloroethoxy)methane	ND	2,6-Dinitrotoluene	ND
Bis(2-Chloroethyl)ether	ND	Di-n-octyl phthalate	ND
Bis(2-Chloroisopropyl)ether	ND	Fluoranthene	ND
Bis(2-Ethylhexyl)phthalate	ND	Fluorene	ND
4-Bromophenyl phenyl ether	ND	Hexachlorobenzene	ND
Butyl benzyl phthalate	ND	Hexachlorobutadiene	ND
2-Chloronaphthalene	ND	Hexachlorocyclopentadiene	ND
4-Chlorophenyl phenyl ether	ND	Hexachloroethane	ND
Chrysene	ND	Indeno(1,2,3-cd)pyrene	ND

```
NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd J (Detected, but below quantitation limit; quantitation suspect)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)
```



LAB #: B1401-6
MATRIX: WATER

DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: MW-4

CERTIFICATION #: E84059

BASE/NEUTRAL EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (2 of 2)

Isophorone	ND
Naphthalene	ND
Nitrobenzene	ND
N-Nitrosodimethylamine	ND
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1.2.4-Trichlorobenzene	ND

NOTE:		(None Detected, lower detectable limit = 10 ug/L) as rec'd (None Detected, lower detectable limit = 50 ug/L) as rec'd
		(Detected, but below quantitation limit: quantitation suspect)
	В	(Compound detected in method blank associated with this sample)
		(Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABL	e limits
		WATER	SOLID
Nitrobenzene-d5	115	(35-114)	(23-120)
2-Fluorobiphenyl	108	(43-116)	(30-115)
Terphenyl-d14	95	(33-141)	(18-137)



LAB #: B1401-6
MATRIX: WATER

SAMPLE ID: MW-4

DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90

DATE ANALYZED: 2/16/90

CERTIFICATION #: E84059

HRS84297

ACID EXTRACTABLE ORGANICS
USEPA METHOD 625 - GC/MS

4-Chloro-3-methylphenol	ND
2-Chlorophenol	ND
2,4-Dichlorophenol	ND
2,4-Dimethyphenol	ND
2,4-Dinitrophenol	ND:
2-Methyl-4,6-dinitrophenol	ND:
2-Nitrophenol	ND
4-Nitrophenol	ND:
Pentachlorophenol	ND
Phenol	ND
2,4,6-Trichlorophenol	ND

NOTE:	ND	(None Detected, lower detectable limit = 10 ug/L) as rec'd
	ND*	(None Detected, lower detectable limit = 50 ug/L) as rec'd
	J	(Detected, but below quantitation limit; quantitation suspect)
	В	(Compound detected in method blank associated with this sample)
		(Not Analyzed)

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS
		WATER SOLID
2-Fluorophenol	66	(21-100) (25-121)
Phenol-d5	68	(10-94) (24-113)
2,4,6-Tribromophenol	68	(10-123) (10-122)



DATE RECEIVED: 2/14/90

LAB #: B1401-6
MATRIX : WATER

SAMPLE ID : MW-4

CERTIFICATION #: E84059

METALS ANALYTICAL REPORT

HRS84297

SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTI LIMIT	
Silver	2/15- 2/21/90	ND	50	ug/L
Arsenic	2/15- 2/16/90	ND	10	ug/L
Beryllium	2/15- 2/20/90	ND	50	ug/L
Cadmium	2/15- 2/20/90	ND	10	ug/L
Chromium	2/15- 2/20/90	ND	50	ug/L
Copper	2/15- 2/20/90	ND	200	ug/L
Iron	2/15- 2/20/90	1,200	300	ug/L
Mercury	2/15- 2/20/90	ND	2	ug/L
Manganese	2/15- 2/20/90	ND	50	ug/L
Sodium	2/15- 2/20/90	4,000	50	ug/L
Nickel	2/15- 2/20/90	ND	50	ug/L
Lead	2/15- 2/19/90	10	5	ug/L
Antimony	2/15- 2/20/90	ND	1000	ug/L
Selenium	2/15- 2/16/90	ND	5	ug/L
Thallium	2/15- 2/19/90	ND	10	ug/L
Zinc	2/15- 2/20/90	53	50	ug/L



LAB #: B1401-6 MATRIX : WATER

SAMPLE ID: MW-4

DATE RECEIVED: 2/14/90

CERTIFICATION #: E84059

HRS84297

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	result	DETECTI LIMIT	ON
Chloride	2/20/90	7	2	mg/L
Cyanide	2/20- 2/21/90	ND	0.005	mg/L
Specific Conductance	2/15/90	200	u	mhos/cm
Nitrate-Nitrite Nitrogen	2/21/90	ND	0.1	mg/L
pH - Water	2/15/90	6.4		s.u.
Sulfate	2/20/90	33	5	mg/L



LAB #: B1401-7 MATRIX: WATER

SAMPLE ID: MW-5

DATE RECEIVED: 2/14/90 DATE EXTRACTED: NA

DATE ANALYZED: 2/17/90

CERTIFICATION #: E84059

VOLATILE ORGANICS USEPA METHOD 624 - GC/MS

HRS84297

Acrolein	ND*	1,1-Dichloroethene	ND
Acrylonitrile	ND*	1,2-Dichloroethene(Total)	ND
Benzene	ND	1,2-Dichloropropane	ND
Bromodichloromethane Bromoform Bromomethane	ND ND ND	cis-1,3-Dichloropropene trans-1,3-Dichloropropene Ethylbenzene	ND ND
Carbon tetrachloride	ND	Methylene chloride	ND
Chlorobenzene	ND	1,1,2,2-Tetrachloroethane	ND
Chloroethane	ND	Tetrachloroethene	ND
2-Chloroethylvinyl ether	ND	Toluene 1,1,1-Trichloroethane 1,1,2-Trichloroethane	ND
Chloroform	ND		ND
Chloromethane	ND		ND
Dibromochloromethane	ND	Trichloroethene	ND
1,2-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,3-Dichlorobenzene	ND	Vinyl chloride	ND
1,4-Dichlorobenzene 1,1-Dichloroethane 1,2-Dichloroethane	ND ND ND	Xylene(Total)	ND

```
NOTE:
      ND
           (None Detected, lower detectable limit = 1
      ND* (None Detected, lower detectable limit = 10
                                                                   ug/l) as rec'd
      ND** (None Detected, lower detectable limit =
                                                                   ug/l) as rec'd
           (Detected, but below quantitation limit; quantitation suspect)
                                                                   ug/l) as rec'd
      В
           (Compound detected in method blank associated with this sample)
```

(Not Analyzed)

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene	95 98 94	WATER SOLID (76-114) (70-121) (88-110) (81-117) (86-115) (74-121)



LAB #: B1401-7
MATRIX: WATER

DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/15/90
DATE ANALYZED: 2/21/90

SAMPLE ID: MW-5

CERTIFICATION #: E84059

CHLORINATED PESTICIDES

HRS84297

METHOD 608 LIST - GC

	RESULT (ug/L)	DETECTION LIMIT
Alpha-BHC	ND	0.1
Beta-BHC	ND	0.1
Delta-BHC	ND	0.1
Lindane	ND	0.1
Heptachlor	ND	0.1
Aldrin	ND	0.1
Heptachlor Epoxide	ND	0.1
Endosulfan I	ND	0.1
Dieldrin	ND	0.1
4,4'-DDE	ND	0.1
Endrin	ND	0.1
Endosulfan II	ND	0.1
4,4'-DDD	ND	0.1
Endrin Aldehyde	ND	0.1
Endosulfan Sulfate	ND	0.1
4,4'-DDT	ND	0.1
Chlordane	ND	1
Toxaphene	ND	1

NOTE: ND (None Detected) as rec'd

-- (Not Analyzed)



LAB #: B1401-7 MATRIX: WATER DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/15/90

DATE ANALYZED: 2/19/90

SAMPLE ID: MW-5

CERTIFICATION #: E84059

POLYCHLORINATED BIPHENYLS

HRS84297

METHOD 608 LIST - GC

PCB-1016	ND
PCB-1221	ND
PCB-1232	ND
PCB-1242	ND
PCB-1248	NE
PCB-1254	ND
PCB-1260	NE
PCB-1262	

NOTE: ND (None Detected, lower detectable limit = 1 ug/L)
ND* (None Detected, lower detectable limit = ug/L)

-- (Not Analyzed)



LAB #: B1401-7 MATRIX: WATER DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: MW-5

CERTIFICATION #: E84059

BASE/NEUTRAL -- EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (1 of 2)

Acenaphthene	ND	Dibenzo(a,h)anthracene	ND
Acenaphthylene	ND	Di-n-butyl phthalate	ND
Anthracene	ND	1,2-Dichlorobenzene	ND
Antin accid	ND	1,2 Dichiologenzene	MD
Benzidine	ND*	1,3-Dichlorobenzene	ND
Benzo(a)anthracene	ND	1,4-Dichlorobenzene	ND
Benzo(b)fluoranthene	ND	3,3'-Dichlorobenzidine	ND*
2020(2)12.2012		.,.	
Benzo(k)fluoranthene	ND	Diethyl phthalate	ND
Benzo(ghi)perylene	ND	Dimethyl phthalate	ND
Benzo(a)pyrene	ND	2,4-Dinitrotoluene	ND
Denizo (a) pyrene		zy i zimiorosotuche	
Bis(2-Chloroethoxy)methane	ND	2,6-Dinitrotoluene	ND
Bis(2-Chloroethyl)ether	ND	Di-n-octyl phthalate	ND
Bis(2-Chloroisopropyl)ether	ND	Fluoranthene	ND
District of the property of the control of the cont			
Bis(2-Ethylhexyl)phthalate	ND	Fluorene	ND
4-Bromophenyl phenyl ether	ND	Hexachlorobenzene	ND
Butyl benzyl phthalate	ND	Hexachlorobutadiene	ND
David Bondy 1 phonarate	•••		
2-Chloronaphthalene	ND	Hexachlorocyclopentadiene	ND
4-Chlorophenyl phenyl ether	ND	Hexachloroethane	ND
Chrysene	ND	Indeno(1,2,3-cd)pyrene	ND
om Agene	ND	Indeno(1)2)0 cd/pyrene	MD

```
NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd J (Detected, but below quantitation limit; quantitation suspect)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)
```



DATE RECEIVED: 2/14/90 LAB #: B1401-7 DATE EXTRACTED: 2/16/90 MATRIX: WATER DATE ANALYZED: 2/16/90

SAMPLE ID: MW-5

CERTIFICATION #: E84059

BASE/NEUTRAL EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (2 of 2)

Isophorone	ND
Naphthalene	ND
Nitrobenzene	ND
N-Nitrosodimethylamine	ND
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1,2,4-Trichlorobenzene	ND

NOTE:	ND	(None Detected, lower detectable limit = 10 ug/L) as rec'd
	ND*	(None Detected, lower detectable limit = 50 ug/L) as rec'd
	J	(Detected, but below quantitation limit: quantitation suspect)
	В	(Compound detected in method blank associated with this sample)
		(Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE LIN	(ITS
		WATER SOI	LID
Nitrobenzene-d5	77	(35-114) (23-	-120)
2-Fluorobiphenyl	74	(43-116) (30-	-115)
Terphenyl-d14	152	(33-141) (18-	137)



LAB #: B1401-7 MATRIX: WATER

SAMPLE ID: MW-5

DATE RECEIVED: 2/14/90

DATE EXTRACTED: 2/16/90

DATE ANALYZED: 2/16/90

CERTIFICATION #: E84059

HRS84297

ACID EXTRACTABLE ORGANICS USEPA METHOD 625 - GC/MS

4-Chloro-3-methylphenol 2-Chlorophenol 2,4-Dichlorophenol	ND ND ND
2,4-Dimethyphenol 2,4-Dinitrophenol 2-Methyl-4,6-dinitrophenol	ND ND
2-Nitrophenol 4-Nitrophenol Pentachlorophenol	ND: ND:
Phenol 2,4,6-Trichlorophenol	ND ND

```
NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd
```

J (Detected, but below quantitation limit; quantitation suspect)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS WATER SOLID
2-Fluorophenol	50	(21-100) (25-121)
Phenol-d5	45	(10-94) (24-113)
2,4,6-Tribromophenol	54	(10-123) (10-122)



DATE RECEIVED: 2/14/90

LAB #: B1401-7 MATRIX : WATER

SAMPLE ID : MW-5

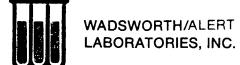
CERTIFICATION #: E84059

METALS ANALYTICAL REPORT SELECTED LIST

HRS84297

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTI LIMIT	
Silver	2/15- 2/21/90	ND	50	ug/L
Arsenic	2/15- 2/16/90	ND	10	ug/L
Beryllium	2/15- 2/20/90	ND	50	ug/L
Cadmium	2/15- 2/20/90	ND	10	ug/L
Chromium	2/15- 2/20/90	ND	50	ug/L
Copper	2/15- 2/20/90	ND	200	ug/L
Iron	2/15- 2/20/90	1,000	300	ug/L
Mercury	2/15- 2/20/90	ND	2	ug/L
Manganese	2/15- 2/20/90	ND	50	ug/L
Sodium	2/15- 2/20/90	8,000	50	ug/L
Nickel	2/15- 2/20/90	ND	50	ug/L
Lead	2/15- 2/19/90	ND	5	ug/L
Antimony	2/15- 2/20/90	ND	1000	ug/L
Selenium	2/15- 2/16/90	ND	5	ug/L
Thallium	2/15- 2/19/90	ND	10	ug/L
Zinc	2/15- 2/20/90	ND	50	ug/L



LAB #: B1401-7 MATRIX : WATER

SAMPLE ID : MW-5

DATE RECEIVED: 2/14/90

CERTIFICATION #: E84059

HRS84297

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTI LIMIT	
Chloride	2/20/90	11	2	mg/L
Cyanide	2/20- 2/21/90	ND	0.005	mg/L
Specific Conductance	2/15/90	110	u	mhos/cm
Nitrate-Nitrite Nitrogen	2/21/90	ND	0.1	mg/L
pH - Water	2/15/90	4.6		S.U.
Sulfate	2/20/90	11	5	mg/L



LAB #: B1401-8 MATRIX: WATER

SAMPLE ID: MW-7

DATE RECEIVED:

2/14/90

DATE EXTRACTED:

NA

DATE ANALYZED:

2/17/90

CERTIFICATION #: E84059

HRS84297

VOLATILE ORGANICS
USEPA METHOD 624 - GC/MS

Acrolein	ND*	1,1-Dichloroethene	2
Acrylonitrile	ND*	1,2-Dichloroethene(Total)	ND
•			
Benzene	ND	1,2-Dichloropropane	ND
Bromodichloromethane	ND	cis-1,3-Dichloropropene	ND
Bromoform	ND	trans-1,3-Dichloropropene	ND
Bromomethane	ND	Ethylbenzene	ND
DI OMOME CHAIRE	112		
Carbon tetrachloride	ND	Methylene chloride	ND
Chlorobenzene	ND	1,1,2,2-Tetrachloroethane	ND
Chloroethane	ND	Tetrachloroethene	ND
onitor oc ondine			
2-Chloroethylvinyl ether	ND	Toluene	ND
Chloroform	ND	1,1,1-Trichloroethane	ND
Chloromethane	ND	1,1,2-Trichloroethane	ND
on for one chance	ND	1,1,2 1110m1010comanc	112
Dibromochloromethane	ND	Trichloroethene	ND
1,2-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,3-Dichlorobenzene	ND	Vinyl chloride	ND
1,0 Dieniorobenzene	ND	vinyi onioride	
1,4-Dichlorobenzene	ND	Xylene(Total)	ND
1,1-Dichloroethane	2		
1.2-Dichloroethane	ND		

NOTE:	ND	(None Detected, lower detectable limit = 1 ug/l) as rec'	d
	ND*	(None Detected, lower detectable limit = 10 ug/l) as rec'	d
	ND**	(None Detected, lower detectable limit = ug/l) as rec'	d
	J	(Detected, but below quantitation limit; quantitation suspect)	
	В	(Compound detected in method blank associated with this sample)	
		(Not Analyzed)	

SURROGATE RECOVERY:	x	ACCEPTABL	E LIMITS
		WATER	SOLID
1,2-Dichloroethane-d4	93	(76-114)	(70-121)
Toluene-d8	94	(88-110)	(81-117)
Bromofluorobenzene	92	(86-115)	(74-121)



LAB #: B1401-8 MATRIX: WATER

SAMPLE ID: MW-7

DATE RECEIVED: 2/14/90 DATE EXTRACTED: 2/15/90

DATE ANALYZED: 2/21/90

CERTIFICATION #: E84059 HRS84297

CHLORINATED PESTICIDES

METHOD 608 LIST - GC

	RESULT (ug/L)	DETECTION LIMIT
Alpha-BHC	ND	0.1
Beta-BHC	ND	0.1
Delta-BHC	ND	0.1
Lindane	ND	0.1
Heptachlor	ND	0.1
Aldrin	ND	0.1
Heptachlor Epoxide	ND	0.1
Endosulfan I	ND	0.1
Dieldrin	ND	0.1
4,4'-DDE	ND	0.1
Endrin	ND	0.1
Endosulfan II	ND	0.1
4,4'-DDD	ND	0.1
Endrin Aldehyde	ND	0.1
Endosulfan Sulfate	ND	0.1
4,4'-DDT	ND	0.1
Chlordane	ND	1
Toxaphene	ND	1

NOTE: ND (None Detected) as rec'd

(Not Analyzed)



LAB #: B1401-8

DATE RECEIVED: DATE EXTRACTED: 2/15/90

2/14/90

MATRIX: WATER

DATE ANALYZED:

2/19/90

SAMPLE ID: MW-7

CERTIFICATION #: E84059

POLYCHLORINATED BIPHENYLS

HRS84297

METHOD 608 LIST - GC

ND PCB-1016 PCB-1221 ND PCB-1232 ND ND PCB-1242 PCB-1248 ND PCB-1254 ND PCB-1260 ND PCB-1262

(None Detected, lower detectable limit = 1 NOTE: ND ND* (None Detected, lower detectable limit =

ug/L)

(Not Analyzed)

ug/L)



DATE RECEIVED: 2/14/90 **LAB #:** B1401-8 DATE EXTRACTED: 2/16/90 MATRIX: WATER DATE ANALYZED: 2/16/90

SAMPLE ID: MW-7

CERTIFICATION #: E84059

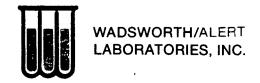
BASE/NEUTRAL -- EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (1 of 2)

Acenaphthene	ND	Dibenzo(a,h)anthracene	ND
Acenaphthylene	ND	Di-n-butyl phthalate	ND
Anthracene	ND	1,2-Dichlorobenzene	ND
Benzidine Benzo(a)anthracene Benzo(b)fluoranthene	ND* ND ND	1,3-Dichlorobenzene 1,4-Dichlorobenzene 3,3'-Dichlorobenzidine	ND ND ND*
Benzo(k)fluoranthene	ND	Diethyl phthalate	ND
Benzo(ghi)perylene	ND	Dimethyl phthalate	ND
Benzo(a)pyrene	ND	2,4-Dinitrotoluene	ND
Bis(2-Chloroethoxy)methane Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether	ND ND ND	2,6-Dinitrotoluene Di-n-octyl phthalate Fluoranthene	ND ND ND
Bis(2-Ethylhexyl)phthalate	ND	Fluorene	ND
4-Bromophenyl phenyl ether	ND	Hexachlorobenzene	ND
Butyl benzyl phthalate	ND	Hexachlorobutadiene	ND
2-Chloronaphthalene	ND	Hexachlorocyclopentadiene	ND
4-Chlorophenyl phenyl ether	ND	Hexachloroethane	ND
Chrysene	ND	Indeno(1,2,3-cd)pyrene	ND

```
(None Detected, lower detectable limit = 10 ug/L) as rec'd (None Detected, lower detectable limit = 50 ug/L) as rec'd
NOTE: ND
        ND*
        J
              (Detected, but below quantitation limit; quantitation suspect)
              (Compound detected in method blank associated with this sample)
        В
              (Not Analyzed)
```



2/14/90 DATE RECEIVED: DATE EXTRACTED: 2/16/90 **LAB #:** B1401-8 DATE ANALYZED: 2/16/90 MATRIX: WATER

SAMPLE ID: MW-7

CERTIFICATION #: E84059

BASE/NEUTRAL EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (2 of 2)

Isophorone	ND
Naphthalene	ND
Nitrobenzene	ND
N-Nitrosodimethylamine	ND
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1.2.4-Trichlorobenzene	ND

NOTE:	ND ND*	(None Detected, lower detectable limit = 10 ug/L) as rec'd (None Detected, lower detectable limit = 50 ug/L) as rec'd
	J	(Detected, but below quantitation limit: quantitation suspect)
	В	(Compound detected in method blank associated with this sample)
		(Not Analyzed)

SURROGATE RECOVERY:	*	ACCEPTABLE LIMITS
		WATER SOLID
Nitrobenzene-d5	81	(35-114) (23-120)
2-Fluorobiphenyl	68	(43-116) (30-115)
Terphenyl-d14	92	(33-141) (18-137)



LAB #: B1401-8
MATRIX: WATER

SAMPLE ID: MW-7

DATE RECEIVED: 2/14/90

DATE EXTRACTED: 2/16/90 **DATE ANALYZED:** 2/16/90

CERTIFICATION #: E84059

ACID EXTRACTABLE ORGANICS
USEPA METHOD 625 - GC/MS

HRS84297

4-Chloro-3-methylphenol 2-Chlorophenol 2,4-Dichlorophenol	ND ND ND
2,4-Dimethyphenol 2,4-Dinitrophenol 2-Methyl-4,6-dinitrophenol	ND ND:
2-Nitrophenol 4-Nitrophenol Pentachlorophenol	ND: ND:
Phenol 2,4,6-Trichlorophenol	ND ND

NOTE:	ND	(None Detected, lower detectable limit = 10 ug/L) as rec'd
	ND*	(None Detected, lower detectable limit = 50 ug/L) as rec'd
	J	(Detected, but below quantitation limit; quantitation suspect)
	В	(Compound detected in method blank associated with this sample)
		(Not Analyzed)

SURROGATE RECOVERY:	x	ACCEPTABLE LIMITS
		WATER SOLID
2-Fluorophenol	40	(21-100) (25-121)
Phenol-d5	36	(10-94) (24-113)
2.4.6-Tribromophenol	34	(10-123) (10-122)



DATE RECEIVED: 2/14/90

LAB #: B1401-8
MATRIX : WATER

SAMPLE ID : MW-7

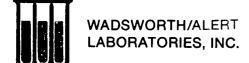
CERTIFICATION #: E84059

METALS ANALYTICAL REPORT SELECTED LIST

HRS84297

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT		DETECTION LIMIT	
Silver	2/15- 2/21/90	ND	50	ug/L	
Arsenic	2/15- 2/16/90	ND	10	ug/L	
Beryllium	2/15- 2/20/90	ND	50	ug/L	
Cadmium	2/15- 2/20/90	ND	10	ug/L	
Chromium	2/15- 2/20/90	ND	50	ug/L	
Copper	2/15- 2/20/90	ND	200	ug/L	
Iron	2/15- 2/20/90	2,000	300	ug/L	
Mercury	2/15- 2/20/90	ND	2	ug/L	
Manganese	2/15- 2/20/90	ND	50	ug/L	
Sodium	2/15- 2/20/90	3,900	50	ug/L	
Nickel	2/15- 2/20/90	ND	50	ug/L	
Lead	2/15- 2/19/90	10	5	ug/L	
Antimony	2/15- 2/20/90	ND	1000	ug/L	
Selenium	2/15- 2/16/90	ND	5	ug/L	
Thallium	2/15- 2/19/90	ND	10	ug/L	
Zinc	2/15- 2/20/90	ND	50	ug/L	



LAB #: B1401-8 MATRIX : WATER

SAMPLE ID : MW-7

DATE RECEIVED: 2/14/90

CERTIFICATION #: E84059

HRS84297

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT		
Chloride	2/20/90	7	2	mg/L	
Cyanide	2/20- 2/21/90	ND	0.005	mg/L	
Specific Conductance	2/15/90	62	u	umhos/cm	
Nitrate-Nitrite Nitrogen	2/21/90	ND	0.1	mg/L	
pH - Water	2/15/90	5.2		s.u.	
Sulfate	2/20/90	56	5	mg/L	



LAB #: B1401-9 MATRIX: WATER DATE RECEIVED: 2/14/90
DATE EXTRACTED: NA
DATE ANALYZED: 2/16/90

SAMPLE ID: FIELD BLANK

CERTIFICATION #: E84059

VOLATILE ORGANICS
USEPA METHOD 624 - GC/MS

HRS84297

1,1-Dichloroethene ND Acrolein ND* Acrylonitrile ND* 1,2-Dichloroethene(Total) ND Benzene ND 1,2-Dichloropropane ND Bromodichloromethane ND ND cis-1,3-Dichloropropene Bromoform trans-1,3-Dichloropropene ND ND Bromomethane Ethylbenzene ND ND Carbon tetrachloride ND Methylene chloride ND Chlorobenzene ND 1,1,2,2-Tetrachloroethane ND Chloroethane Tetrachloroethene ND ND 2-Chloroethylvinyl ether ND Toluene ND Chloroform ND 1,1,1-Trichloroethane ND Chloromethane 1,1,2-Trichloroethane ND ND Dibromochloromethane ND Trichloroethene ND 1,2-Dichlorobenzene Trichlorofluoromethane ND ND 1,3-Dichlorobenzene ND Vinyl chloride ND 1,4-Dichlorobenzene ND Xylene(Total) ND 1,1-Dichloroethane 1,2-Dichloroethane ND

NOTE: ND (None Detected, lower detectable limit = 1 ug/l) as rec'd ND* (None Detected, lower detectable limit = 10 ug/l) as rec'd ND** (None Detected, lower detectable limit = ug/l) as rec'd J (Detected, but below quantitation limit; quantitation suspect)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS		
		WATER S	OLID	
1,2-Dichloroethane-d4	94	(76-114) $(76-114)$	0-121)	
Toluene-d8	97	(88-110) (8	1-117)	
Bromofluorobenzene	95	(86-115) (7-	4-121)	



LAB #: B1401-9 MATRIX: WATER DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/15/90
DATE ANALYZED: 2/21/90

SAMPLE ID: FIELD BLANK

CERTIFICATION #: E84059

CHLORINATED PESTICIDES METHOD 608 LIST - GC

HRS84297

0.1

1

1

RESULT (ug/L) DETECTION LIMIT Alpha-BHC ND 0.1 Beta-BHC ND 0.1 Delta-BHC ND 0.1 Lindane ND 0.1 Heptachlor ND 0.1 Aldrin ND 0.1 ND 0.1 Heptachlor Epoxide Endosulfan I ND 0.1 Dieldrin ND 0.1 4,4'-DDE ND 0.1 Endrin ND 0.1 Endosulfan II ND 0.1 4,4'-DDD ND 0.1 Endrin Aldehyde ND 0.1 Endosulfan Sulfate ND 0.1

NOTE: ND (None Detected) as rec'd

-- (Not Analyzed)

4,4'-DDT

Chlordane

Toxaphene

ND

ND

ND



LAB #: B1401-9 MATRIX: WATER

DATE RECEIVED: 2/14/90 DATE EXTRACTED: 2/15/90

2/19/90 DATE ANALYZED:

SAMPLE ID: FIELD BLANK

CERTIFICATION #: E84059

POLYCHLORINATED BIPHENYLS

HRS84297

METHOD 608 LIST - GC

PCB-1016	ND
PCB-1221	ND
PCB-1232	ND
PCB-1242	ND
PCB-1248	ND
PCB-1254	ND
PCB-1260 PCB-1262	ND

NOTE: ND (None Detected, lower detectable limit = 1 ug/L) ND* (None Detected, lower detectable limit = ug/L)

(Not Analyzed)



LAB #: B1401-9
MATRIX: WATER

DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: FIELD BLANK

CERTIFICATION #: E84059

BASE/NEUTRAL -- EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (1 of 2)

Acenaphthene	ND	Dibenzo(a,h)anthracene	ND
Acenaphthylene	ND	Di-n-butyl phthalate	ND
Anthracene	ND	1,2-Dichlorobenzene	ND
Benzidine	ND*	1,3-Dichlorobenzene 1,4-Dichlorobenzene 3,3'-Dichlorobenzidine	ND
Benzo(a)anthracene	ND		ND
Benzo(b)fluoranthene	ND		ND*
Benzo(k)fluoranthene	ND	Diethyl phthalate	ND
Benzo(ghi)perylene	ND	Dimethyl phthalate	ND
Benzo(a)pyrene	ND	2,4-Dinitrotoluene	ND
Bis(2-Chloroethoxy)methane	ND	2,6-Dinitrotoluene Di-n-octyl phthalate Fluoranthene	ND
Bis(2-Chloroethyl)ether	ND		ND
Bis(2-Chloroisopropyl)ether	ND		ND
Bis(2-Ethylhexyl)phthalate	ND	Fluorene	ND
4-Bromophenyl phenyl ether	ND	Hexachlorobenzene	ND
Butyl benzyl phthalate	ND	Hexachlorobutadiene	ND
2-Chloronaphthalene	ND	Hexachlorocyclopentadiene	ND
4-Chlorophenyl phenyl ether	ND	Hexachloroethane	ND
Chrysene	ND	Indeno(1,2,3-cd)pyrene	ND

```
NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd J (Detected, but below quantitation limit; quantitation suspect)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)
```



LAB #: B1401-9 MATRIX: WATER DATE RECEIVED: 2/14/90

DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: FIELD BLANK

CERTIFICATION #: E84059

BASE/NEUTRAL EXTRACTABLE ORGANICS

HRS84297

USEPA METHOD 625 - GC/MS (2 of 2)

Isophorone	ND
Naphthalene	ND
Nitrobenzene	ND
N-Nitrosodimethylamine	ND
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1,2,4-Trichlorobenzene	ND

```
NOTE: ND (None Detected, lower detectable limit = 10 ug/L) as rec'd ND* (None Detected, lower detectable limit = 50 ug/L) as rec'd J (Detected, but below quantitation limit: quantitation suspect) B (Compound detected in method blank associated with this sample)
```

-- (Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS
		WATER SOLID
Nitrobenzene-d5	82	(35-114) (23-120)
2-Fluorobiphenyl	69	(43-116) (30-115)
Terphenyl-d14	220	(33-141) (18-137)



LAB #: B1401-9 MATRIX: WATER

SAMPLE ID: FIELD BLANK

DATE RECEIVED: 2/14/90

DATE EXTRACTED: 2/16/90 DATE ANALYZED:

2/16/90

CERTIFICATION #: E84059

HRS84297

ACID EXTRACTABLE ORGANICS

USEPA METHOD 625 - GC/MS

4-Chloro-3-methylphenol 2-Chlorophenol 2,4-Dichlorophenol	ND ND ND
2,4-Dimethyphenol 2,4-Dinitrophenol	ND ND*
2-Methyl-4,6-dinitrophenol	ND*
2-Nitrophenol	ND
4-Nitrophenol	ND*
Pentachlorophenol	ND*
Phenol	ND
2.4.6-Trichlorophenol	ND

```
(None Detected, lower detectable limit = 10
NOTE: ND
                                                            ug/L) as rec'd
           (None Detected, lower detectable limit = 50
      ND*
                                                            ug/L) as rec'd
```

(Detected, but below quantitation limit; quantitation suspect) J

В (Compound detected in method blank associated with this sample)

(Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE LIMITS
		WATER SOLID
2-Fluorophenol	46	(21-100) (25-121)
Phenol-d5	40	(10-94) (24-113)
2,4,6-Tribromophenol	18	(10-123) (10-122)



DATE RECEIVED: 2/14/90

LAB #: B1401-9 MATRIX : WATER

SAMPLE ID : FIELD BLANK

CERTIFICATION #: E84059

METALS ANALYTICAL REPORT

HRS84297

SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTI LIMIT	
Silver	2/15- 2/21/90	ND	50	ug/L
Arsenic	2/15- 2/16/90	ND	10	ug/L
Beryllium	2/15- 2/20/90	ND	50	ug/L
Cadmium	2/15- 2/20/90	ND	10	ug/L
Chromium	2/15- 2/20/90	ND	50	ug/L
Copper	2/15- 2/20/90	ND	200	ug/L
Iron	2/15- 2/20/90	ND	300	ug/L
Mercury	2/15- 2/20/90	ND	2	ug/L
Manganese	2/15- 2/20/90	ND	50	ug/L
Sodium	2/15- 2/20/90	270	50	ug/L
Nickel	2/15- 2/20/90	ND	50	ug/L
Lead	2/15- 2/19/90	ND	5	ug/L
Antimony	2/15- 2/20/90	ND	1000	ug/L
Selenium	2/15- 2/16/90	ND	5	ug/L
Thallium	2/15- 2/19/90	ND	10	ug/L
Zinc	2/15- 2/20/90	ND	50	ug/L

NOTE: ND (None Detected)



LAB #: B1401-9 MATRIX : WATER

SAMPLE ID : FIELD BLANK

DATE RECEIVED: 2/14/90

CERTIFICATION #: E84059

HRS84297

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTI LIMIT	
Chloride	2/20/90	ND	2	mg/L
Cyanide	2/20- 2/21/90	ND	0.005	mg/L
Specific Conductance	2/15/90	0	บ	mhos/cm
Nitrate-Nitrite Nitrogen	2/21/90	ND	0.1	mg/L
pH - Water	2/15/90	6.3		s.u.
Sulfate	2/20/90	ND	5	mg/L

NOTE: ND (None Detected)



COMPANY: Wadsworth/Alert Laboratories

LAB #:

0-90217

MATRIX: WATER

DATE RECEIVED:

0/0/0

DATE EXTRACTED: DATE ANALYZED:

NA 2/17/90

SAMPLE ID:

Bromofluorobenzene

VOLATILE ORGANICS BLANK COMPOUND LIST - GC/MS

Aceto	ne			1,1-Dichloroethane	ND
Acrol	ein		ND*	1,2-Dichloroethane	ND
Acryle	onitri	ile	ND*	1,1-Dichloroethene	ND
				r, r-brentoroethene	ND
2-Buta	anone			1,2-Dichloroethene (total)	ND
Benzei	ne		ND	1,2-Dichloropropane	
Bromoo	dichle	romethane	ND	cis-1,3-Dichloropropene	ND
			112	cis-1,3-Dichloropropene	ND
Bromo	form		ND	trans-1 3-Dishleman	ND
Bromon		ie	ND	trans-1,3-Dichloropropene Ethylbenzene	ND
Carbon				2-Hexanone	ND
				2-nexatione	
Carbon	tetr	achloride	ND	1-Mo+hv1-2-mon+o	
Chlore			ND	4-Methyl-2-pentanone	
Chlore			ND	Methylene chloride	2
	0 011.011		ND	Styrene	
Chlore	form	•		1 1 0 0 m 4 11	
		yl vinyl ether	ND	1,1,2,2-Tetrachloroethane	ND
Chloro	metha	no	ND ND	Tetrachloroethene	ND
omioro	mic cha	iie .	עא	Toluene	ND
Chloro	methy	l methyl ether		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Dibrom	ochlo	romethane	ND	1,1,1-Trichloroethane	ND
1.2-Di	chlor	obenzene		1,1,2-Trichloroethane	ND
1,2 21	CHIOI	obelizelle	ND	Trichloroethene	ND
1 3-Di	chlon	obenzene	MD	.	
1 4-Di	chlor	obenzene obenzene	ND	Trichlorofluoromethane	ND
Dichlo	CHIOL	luoromethane	ND	Vinyl acetate	
DICHIO	rodii	luoromethane		Vinyl chloride	ND
				Total xylenes	ND
NOTE:	NID	(1) 5	_		
MOIE:	ND	(None Detected,	lower	detectable limit = 1 ug/	L) as rec'd
	ND*	(None Detected,	lower	detectable limit = 10 ng/	I) as mon'd
	J	(Detected , but	below	quantitation limit; quantitation s	uspect)
		(Not Analyzed)			
GIIDDOO	AME TO	Motimus.			
SURMUG/	AIE KI	COVERY:	x	ACCEPTABLE LIMITS	
1 9-04	sh1 =	4.1		WATER SOLID	
Tolune:	- TOLO	ethane-d4	96	(76-114) (70-121)	
Toluene			96	(88-110) (81-117)	
Bromof]	luorot	enzene	94	(86-115) $(74-121)$	

(86-115) (74-121)

94



COMPANY: Wadsworth/Alert Laboratories

LAB #: 9090-90215

MATRIX: WATER

DATE RECEIVED: 2/15/90

DATE EXTRACTED: 2/15/90

DATE ANALYZED: 2/21/90

SAMPLE ID: INTRA-LAB BLANK , 2/15/90

CHLORINATED PESTICIDES ANALYTICAL BLANK REPORT SELECTED LIST

	RESULT (ug/L)	DETECTION LIMIT
Alpha-BHC	ND	0.1
Beta-BHC	ND	0.1
Delta-BHC	ND	0.1
Lindane	ND	0.1
Heptachlor	ND	0.1
Aldrin	ND	0.1
Heptachlor Epoxide	ND	0.1
Endosulfan I	ND	0.1
Dieldrin	ND	0.1
Dieldrin	ND	0.1
4,4'-DDE	ND	0.1
Endrin	ND	0.1
Endosulfan II	ND	0.1
4 41 ppp);D	0.1
4,4'-DDD	ND	0.1
Endrin Aldehyde		
Endosulfan Sulfate		
4,4'-DDT		
Methoxychlor		
Endrin Ketone		
Chlordane	ND	1
Alpha Chlordane		
Gamma Chlordane		
Toxaphene	ND	1
Kepone		•
Alachlor		
144011401		
Metolachlor		
Methyl Parathion		
Parathion		

NOTE: ND (None Detected) as rec'd

(Not Analyzed)



COMPANY: Wadsworth/Alert Laboratories. Inc. RECEIVING DATE: 2/15/90

LABORATORY ID: 9090-90215

SAMPLE MATRIX : WATER

SAMPLE ID : INTRA-LAB BLANK . 2/15/90

METALS ANALYTICAL BLANK REPORT SELECTED LIST

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETEC LIM	
Silver	2/15- 2/21/90	ND	50	ug/L
Arsenic	2/15- 2/16/90	ND	10	ug/L
Beryllium	2/15- 2/20/90	ND	50	ug/L
Cadmium	2/15- 2/20/90	ND	10	ug/L
Chromium	2/15- 2/20/90	ND	50	ug/L
Copper	2/15- 2/20/90	ND	200	ug/L
Iron	2/15- 2/20/90	ND	300	ug/L
Mercury	2/15- 2/20/90	ND	2	ug/L
Manganese	2/15- 2/20/90	ND	50	ug/L
Sodium	2/15- 2/20/90	220	50	ug/L
	2/15- 2/20/90	ND	50	ug/L
Antimony	2/15- 2/20/90	ND	1000	ug/L
Selenium	2/15- 2/16/90	ND	5	ug/L
Thallium	2/15- 2/19/90	ND	10	ug/L
Zinc	2/15- 2/16/90	ND	50	ug/L



COMPANY: Wadsworth/Alert Laboratories

LAB #: 9090-90215

MATRIX: WATER

DATE RECEIVED: 2/15/90

DATE EXTRACTED: 2/15/90

DATE ANALYZED:

2/19/90

SAMPLE ID: INTRA-LAB BLANK , 2/15/90

POLYCHLORINATED BIPHENYLS ANALYTICAL BLANK REPORT

PCB-1016	ND
PCB-1221	ND
PCB-1232	ND
PCB-1242	ND
PCB-1248	ND
PCB-1254	ND
PCB-1260	ND
PCB-1262	

(None Detected, lower detectable limit = 1 NOTE: ND ND* (None Detected, lower detectable limit =

ug/L) as rec'd

(Not Analyzed)

ug/L) as rec'd