SELECTED REFERENCE
10 VOL 2

ORGANIC ANALYSIS DATA SUMMARY PACKAGE
ARDL REPORT NO. 9883
CORPS OF ENGINEERS - PORTLAND DISTRICT
ANNETTE ISLAND SITE

VOLUME 2

ARDL Inc.

applied research & development laboratory

CHEMISTRY • BIOLOGY • PHYSIOLOGY
ENGINEERING • ENVIRONMENTAL ANALYSIS

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"Test Everything - Keep The Good" 1 Thes. 5:21

ORGANIC ANALYSIS DATA SUMMARY PACKAGE
ARDL REPORT NO. 9883
CORPS OF ENGINEERS - PORTLAND DISTRICT
ANNETTE ISLAND SITE

VOLUME 2

20000

ORGANIC ANALYSIS DATA PACKAGE

Corps of Engineers-Portland District Date: 9/22/94
Contract No. DACW 57-94-D-0015

Lab Name: ARDL, Inc.

ARDL Report No.: 9883 Samples Received at ARDL: 9/16/94

Project Name: Annette Island

CASE NARRATIVE

Sample ID No.	Lab ID No.	Date Collected	Volatiles Analysis Date
ANN94TR00101	9883-1	09/14/94	09/20/94
ANN94TR00101MS	9883-1MS	09/14/94	09/20/94
ANN94TR00101MSD	9883-1MSD	09/14/94	09/20/94
ANN94TR00201	9883-2	09/14/94	09/21/94
ANN94TR00301	9883-3	09/14/94	09/21/94
	BK3 9/20/94		09/20/94
	BK3 9/21/94		09/21/94

ORGANIC ANALYSIS DATA PACKAGE

Corps of Engineers-Portland District Date: 9/22/94
Contract No. DACW 57-94-D-0015

Lab Name: ARDL, Inc.

ARDL Report No.: 9883 Samples Received at ARDL: 9/16/94

Project Name: Annette Island

CASE NARRATIVE

Sample ID No.	Lab ID No.	Date Collected	Semivolatiles Extr. Date	Semivolatiles Analysis Date
ANN94TR00101	9883-1	09/14/94	09/19/94	09/20/94
ANN94TR00101MS	9883-1MS	09/14/94	09/19/94	09/20/94
ANN94TR00101MSD	9883-1MSD	09/14/94	09/19/94	09/20/94
ANN94TR00201	9883-2	09/14/94	09/19/94	09/20/94
ANN94TR00301	9883-3	09/14/94	09/19/94	09/20/94
	BLANK B4011		09/19/94	09/20/94

ORGANIC ANALYSIS DATA PACKAGE

Corps of Engineers-Portland District Date: 9/22/94
Contract No. DACW 57-94-D-0015

Lab Name: ARDL, Inc.

ARDL Report No.: 9883 Samples Received at ARDL: 9/16/94

Project Name: Annette Island

CASE NARRATIVE

Sample ID No.	Lab ID No.	Date Collected	TCLP PESTICIDE Extr. Date	TCLP PESTICIDE Analysis Date
ANN94TR00101	9883-1	09/14/94	09/16/94	09/19/94
ANN94TR00201	9883-2	09/14/94	09/16/94	09/19/94
ANN94TR00201MS	9883-2MS	09/14/94	09/16/94	09/19/94
ANN94TR00201MSD	9883-2MSD	09/14/94	09/16/94	09/19/94
ANN94TR00301	9883-3	09/14/94	09/16/94	09/19/94
	9883-B4010		09/16/94	09/19/94
	9883-SPB4010		09/16/94	09/19/94

ORGANIC ANALYSIS DATA PACKAGE

Corps of Engineers-Portland District Date: 9/22/94
Contract No. DACW 57-94-D-0015

Lab Name: ARDL, Inc.

ARDL Report No.: 9883 Samples Received at ARDL: 9/16/94

Project Name: Annette Island

CASE NARRATIVE

VOLATILE FRACTION - METHOD 8240

Three (3) tar samples were received by ARDL, Inc. on September 16, 1994, for TCLP VOA analysis by GC/MS. All analyses were performed according to low level protocol.

No unusual problems were encountered during the sample analyses.

SEMIVOLATILE FRACTION - METHOD 8270

Three (3) tar samples were received by ARDL, Inc. on September 16, 1994, for TCLP extraction and BNA analysis by GC/MS. All analyses were performed according to low level protocol.

COE Sample ANN94TR00201 had an acid surrogate that was below SW-846 method 8270A recovery limit.

No other unusual problems were encountered during the sample analyses.

TCLP PESTICIDE FRACTION - METHOD 8080

Three (3) waste samples were received by ARDL, Inc. on September 16, 1994, for TCLP Pesticide analysis. The samples were extracted and concentrated per SW-846.

No problems were encountered in the analyses of these samples.

ORGANIC DATA REPORTING QUALIFIERS

The following organic data reporting qualifiers are used as required.

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

ORGANIC ANALYSIS DATA PACKAGE

Corps of Engineers-Portland District Date: 9/22/94
Contract No. DACW 57-94-D-0015

Lab Name: ARDL, Inc.

ARDL Report No.: 9883 Samples Received at ARDL: 9/16/94

Project Name: Annette Island

CASE NARRATIVE(Continued)

ORGANIC DATA REPORTING QUALIFIERS (Continued)

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

P - This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do not apply this flag, instead use a laboratory-defined flag.

B - This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must by used for a TIC as well as for a positively identified target compound.

ORGANIC ANALYSIS DATA PACKAGE

Corps of Engineers-Portland District Date: 9/22/94
Contract No. DACW 57-94-D-0015

Lab Name: ARDL, Inc.

ARDL Report No.: 9883 Samples Received at ARDL: 9/16/94

Project Name: Annette Island

CASE NARRATIVE(Continued)

ORGANIC DATA REPORTING QUALIFIERS (Continued)

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. If one or more compounds have a response greater than full scale, except as noted in Exhibit D, the sample or extract must be diluted and re-analyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form 1 for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate copies of Form 1. The Form 1 for the diluted sample shall have the "DL" suffix appended to the sample number.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form 1 for the diluted sample, and all concentration values reported on that Form 1 are flagged with the "D" flag.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized for the Laboratory Manager or his designee, as verified by the following signature.

Daniel J. Gillespie
Technical Services Manager

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ANN94TR00101

ab Name: ARDL, INC. Contract: ANNETTE ISLAND

ab Code: --- Case No.: 9883 SAS No.: --- SDG No.: ---

atrix: (soil/water) TCLP Lab Sample ID: 9883-1

ample wt/vol: 5.0 (g/ml) mL Lab File ID: >J7791

evel: (low/med) LOW Date Received: 9/16/94

Moisture: not dec. --- Date Analyzed: 9/20/94

olumn: (pack/cap) PACK Dilution Factor: 1.0

CLP Preparation Date: 9/15/94

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	10	U
75-35-4	1,1-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	100	U
56-23-5	Carbon Tetrachloride	5	U
79-01-6	Trichloroethene	5	U
71-43-2	Benzene	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U

20007

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ANN94TR00101

b Name: ARDL, INC. Contract: ANNETTE ISLAND

b Code: --- Case No.: 9883 SAS No.: --- SDG No.: ---

trix: (soil/water) TCLP Lab Sample ID: 9883-1

mple wt/vol: 1000.0 (g/ml) mL Lab File ID: >M6750

vel: (low/med) LOW Date Received: 9/16/94

Moisture: --- decanted: (Y/N) N Date Extracted: 9/19/94

ncentrated Extract Volume: 1000.0 (uL) Date Analyzed: 9/20/94

jection Volume: 1.0 (uL) Dilution Factor: 1.0

C Cleanup: (Y/N) N pH: 5.0

LP Preparation Date: 9/16/94

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
110-86-1	Pyridine	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-48-7	2-Methylphenol (o-Cresol)	10	U
108-39-4	3 & 4-Methylphenol(m&p-Cresol)	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
121-14-2	2,4-Dinitrotoluene	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U

1D
TCLP PESTICIDE ORGANIC ANALYSIS

Customer Sample No.

ANN94TR00101

Lab Name: ARDL, Inc.
Lab Code: _____ Case No.: 9883

Contract: ANNETTE ISLAND
SAS No.: _____ SDG No.:

Matrix(soil/water) : TCLP
Sample(wt/vol) : 1000 (g/mL) mL
Level(low/med) : LOW
% Moisture(not dec): ---
Extraction(Sepf/Conc/Sonc) SEPF
GPC Cleanup (Y/N): N pH: ---
Final Extraction Volume: 10 mL

Lab Sample ID : 9883-1
Lab File ID :
Date Received : 09/16/94
Date Extracted : 09/16/94
Date Analyzed : 09/19/94
Dilution Factor: 1.0

Cas No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
58-89-9	gamma-BHC(Lindane)	1.0	U
76-44-8	Heptachlor	1.0	U
1024-57-3	Heptachlor Epoxide	1.0	U
72-20-8	Endrin	1.0	U
72-43-5	Methoxychlor	1.8	U
57-74-9	Chlordane	1.0	U
8001-35-2	Toxaphene	2.4	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ANN94TR00201

ıb Name: ARDL, INC. Contract: ANNETTE ISLAND

ıb Code: --- Case No.: 9883 SAS No.: --- SDG No.: ---

ıtrix: (soil/water) TCLP Lab Sample ID: 9883-2

ımple wt/vol: 5.0 (g/ml) mL Lab File ID: >J7806

evel: (low/med) LOW Date Received: 9/16/94

Moisture: not dec. --- Date Analyzed: 9/21/94

olumn: (pack/cap) PACK Dilution Factor: 1.0

CLP Preparation Date: 9/15/94

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	10	U
75-35-4	1,1-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	100	U
56-23-5	Carbon Tetrachloride	5	U
79-01-6	Trichloroethene	5	U
71-43-2	Benzene	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ANN94TR00201

ıb Name: ARDL, INC. Contract: ANNETTE ISLAND

ıb Code: --- Case No.: 9883 SAS No.: --- SDG No.: ---

ıtrix: (soil/water) TCLP Lab Sample ID: 9883-2

ımple wt/vol: 1000.0 (g/ml) mL Lab File ID: >M6753

ɛvel: (low/med) LOW Date Received: 9/16/94

Moisture: --- decanted: (Y/N) N Date Extracted: 9/19/94

ɔncentrated Extract Volume: 1000.0 (uL) Date Analyzed: 9/20/94

ıjection Volume: 1.0 (uL) Dilution Factor: 1.0

ɔC Cleanup: (Y/N) N pH: 4.8

:LP Preparation Date: 9/16/94

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
110-86-1	Pyridine	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-48-7	2-Methylphenol (o-Cresol)	10	U
108-39-4	3 & 4-Methylphenol(m&p-Cresol)	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
121-14-2	2,4-Dinitrotoluene	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U

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1D
TCLP PESTICIDE ORGANIC ANALYSIS

Customer Sample No.

ANN94TR00201

Lab Name: ARDL, Inc. Contract: ANNETTE ISLAND
Lab Code: _____ Case No.: 9883 SAS No.: _____ SDG No.:

Matrix(soil/water) : TCLP Lab Sample ID : 9883-2
Sample(wt/vol) : 1000 (g/mL) mL Lab File ID :
Level(low/med) : LOW Date Received : 09/16/94
% Moisture(not dec): --- Date Extracted : 09/16/94
Extraction(Sepf/Conc/Sonc) SEPF Date Analyzed : 09/19/94
GPC Cleanup (Y/N): N pH: --- Dilution Factor: 1.0
Final Extraction Volume: 10 mL

Cas No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
58-89-9	gamma-BHC(Lindane)	1.0	U
76-44-8	Heptachlor	1.0	U
1024-57-3	Heptachlor Epoxide	1.0	U
72-20-8	Endrin	1.0	U
72-43-5	Methoxychlor	1.8	U
57-74-9	Chlordane	1.0	U
8001-35-2	Toxaphene	2.4	U

FORM I PEST 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ANN94TR00301

b Name: ARDL, INC. Contract: ANNETTE ISLAND

b Code: --- Case No.: 9883 SAS No.: --- SDG No.: ---

trix: (soil/water) TCLP Lab Sample ID: 9883-3

mple wt/vol: 5.0 (g/ml) mL Lab File ID: >J7807

vel: (low/med) LOW Date Received: 9/16/94

Moisture: not dec. --- Date Analyzed: 9/21/94

lumn: (pack/cap) PACK Dilution Factor: 1.0

LP Preparation Date: 9/15/94

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	10	U
75-35-4	1,1-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	100	U
56-23-5	Carbon Tetrachloride	5	U
79-01-6	Trichloroethene	5	U
71-43-2	Benzene	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U

20013

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ANN94TR00301

b Name: ARDL, INC. Contract: ANNETTE ISLAND

b Code: --- Case No.: 9883 SAS No.: --- SDG No.: ---

trix: (soil/water) TCLP Lab Sample ID: 9883-3

mple wt/vol: 1000.0 (g/ml) mL Lab File ID: >M6754

vel: (low/med) LOW Date Received: 9/16/94

Moisture: --- decanted: (Y/N) N Date Extracted: 9/19/94

ncentrated Extract Volume: 1000.0 (uL) Date Analyzed: 9/20/94

jection Volume: 1.0 (uL) Dilution Factor: 1.0

C Cleanup: (Y/N) N pH: 4.9

LP Preparation Date: 9/16/94

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
110-86-1	Pyridine	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-48-7	2-Methylphenol (o-Cresol)	10	U
108-39-4	3 & 4-Methylphenol(m&p-Cresol)	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
121-14-2	2,4-Dinitrotoluene	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U

1D
TCLP PESTICIDE ORGANIC ANALYSIS

Customer Sample No.

ANN94TR00301

Lab Name: ARDL, Inc. Contract: ANNETTE ISLAND
Lab Code: _____ Case No.: 9883 SAS No.: _____ SDG No.:

Matrix(soil/water) : TCLP Lab Sample ID : 9883-3
Sample(wt/vol) : 1000 (g/mL) mL Lab File ID :
Level(low/med) : LOW Date Received : 09/16/94
% Moisture(not dec): --- Date Extracted : 09/16/94
Extraction(Sepf/Conc/Sonc) SEPF Date Analyzed : 09/19/94
GPC Cleanup (Y/N): N pH: --- Dilution Factor: 1.0
Final Extraction Volume: 10 mL

Cas No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
58-89-9	gamma-BHC(Lindane)	1.0	U
76-44-8	Heptachlor	1.0	U
1024-57-3	Heptachlor Epoxide	1.0	U
72-20-8	Endrin	1.0	U
72-43-5	Methoxychlor	1.8	U
57-74-9	Chlordane	1.0	U
8001-35-2	Toxaphene	2.4	U

FORM I PEST 1/87 Rev.

2A
WATER VOLATILE SURROGATE RECOVERY

ıb Name: ARDL, INC. Contract: ANNETTE ISLAND

ıb Code: --- Case No.: 9883 SAS No.: --- SDG No.: ---

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	ANN94TR00101	104	102	106		0
02	ANN94TR00101MS	115 *	120 *	111		2
03	ANN94TR00101MSD	100	101	100		0
04	ANN94TR00301	93	93	89		0
05	ANN94TR00201	109	108	99		0
06	BK3 9/20/94	105	107	108		0
07	BK3 9/21/94	107	108	100		0
08						
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		QC LIMITS
S1 (TOL)	= Toluene-d8	(88-110)
S2 (BFB)	= Bromofluorobenzene	(86-115)
S3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ARDL, INC. Contract: ANNETTE ISLAND

Lab code: --- Case No.: 9883 SAS No.: --- SDG No.: ---

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	ANN94TR00101	68	69	100	27	40	79		0
02	ANN94TR00101MS	69	73	106	28	41	84		0
03	ANN94TR00101MSD	71	74	100	25	35	79		0
04	ANN94TR00201	62	69	85	11	11 *	37		1
05	ANN94TR00301	73	77	96	29	46	82		0
06	BLANK B4011	75	75	103	30	46	81		0
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28									
29									
30									

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl-d14	(33-141)
S4 (PHL)	= Phenol-d5	(10- 94)
S5 (2FP)	= 2-Fluorophenol	(21-100)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

20017

FORM II SV-1

1/87 Rev

2E
TCLP PESTICIDE SURROGATE RECOVERY

Lab Name: ARDL, Inc. Contract: ANNETTE ISLAND
Lab Code:_____ Case No.: 9883 SAS No.:_____ SDG No.: _____
Date Analyzed: 09/19/94

	EPA SAMPLE NO.	S1 (DCB) #	S2 (TCMX)
01	ANN94TR00101	64	103
02	ANN94TR00201	109	94
03	ANN94TR00201MS	103	104
04	ANN94TR00201MSD	81	105
05	ANN94TR00301	41	83
06	9883-B4010	97	110
07	9883-SPB4010	134	123
08			
09			
10			
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S1 (DCB) = Decachlorobiphenyl
S2 (TCMX)= Tetrachloro-m-xylene

QC LIMITS
TCMX(46-162)
DCB (18-178)

= Column used to flag recovery values

* = Values outside of QC limits

D = Surrogates diluted out

3A TCLP
TCLP VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Name: ARDL, INC. Contract: ANNETTE ISLAND

Code: ------- Case No.:9883 SAS No.: ----- SDG No.: -----

rix Spike - EPA Sample NO.: ANN94TR00101

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	MS CONC (ug/L)	MSD CONC (ug/L)	AVERAGE % SPIKE RECOVERY
Vinyl chloride	50.00	0.00	27.00	42.00	68
1,1-Dichloroethene	50.00	0.00	52.00	47.00	99
Chloroform	50.00	0.00	47.00	46.00	93
1,2-Dichloroethane	50.00	0.00	47.00	46.00	93
2-Butanone	200.00	0.00	272.00	255.00	130
Carbon Tetrachloride	50.00	0.00	40.00	37.00	77
Trichloroethene	50.00	0.00	42.00	41.00	83
Benzene	50.00	0.00	48.00	47.00	95
Tetrachloroethane	50.00	0.00	51.00	43.00	94
Chlorobenzene	50.00	0.00	48.00	44.00	92

COMMENTS:

3C TCLP

TCLP SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ab Name: ARDL, INC. Contract: ANNETTE ISLAND

ab code: --- Case No.: 9883 SAS No.: --- SDG No.: ---

atrix Spike - EPA Sample No.: ANN94TR00101

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC (ug/L)	MS CONC (ug/L)	MSD CONC (ug/L)	BIAS CORRECT FACTOR
Pyridine	50.00	0.00	15.00	15.00	30
1,4-Dichlorobenzene	50.00	0.00	19.00	23.00	42
2-Methylphenol	50.00	0.00	30.00	24.00	54
3&4 Methylphenol	100.00	0.00	56.00	45.00	50
Hexachloroethane	50.00	0.00	17.00	21.00	38
Nitrobenzene	50.00	0.00	34.00	36.00	70
Hexachlorobutadiene	50.00	0.00	17.00	21.00	38
2,4,6-Trichlorophenol	50.00	0.00	35.00	31.00	66
2,4,5-Trichlorophenol	50.00	0.00	41.00	35.00	76
2,4-Dinitrotoluene	50.00	0.00	36.00	36.00	72
Hexachlorobenzene	50.00	0.00	42.00	40.00	82
Pentachlorophenol	50.00	0.00	48.00	43.00	91

IAS CORRECTION FACTOR = AVERAGE % RECOVERY OF MS & MSD

OMMENTS:

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3E

TCLP PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ab Name: ARDL, Inc. Contract: ANNETTE ISLAND

ab Code:___ Case No.: 9983 SAS No.:___ SDG No.:___

atrix Spike-EPA Sample No.: ANN94TR00201

ate Analyzed: 09/19/94

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	10	---	10	100	50-150
Heptachlor	10	---	11	110	50-150
Heptachlor Epoxide	10	---	11	110	50-150
Methoxychlor	10	---	14	140	50-150
Endrin	10	---	9.1	91	50-150
Chlordane	10	---	11	110	50-150
Toxaphene	20	---	24	120	50-150

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	10	10	100	0.0	25	50-150
Heptachlor	10	11	110	0.0	25	50-150
Heptachlor Epoxide	10	11	110	0.0	25	50-150
Methoxychlor	10	14	140	0.0	25	50-150
Endrin	10	9.8	98	7.4	25	50-150
Chlordane	10	10	100	9.5	25	50-150
Toxaphene	20	23	115	4.2	25	50-150

E Not established

Column to be used to flag recovery and RPD values with an asterisk

Values outside of QC limits

OMMENTS:_____

TCLP PESTICIDE SPIKE BLANK RECOVERY

ab Name: ARDL, Inc. Contract: ANNETTE ISLAND

ab Code:___ Case No.: 9883 SAS No.:___ SDG No.:___

ate Analyzed: 09/19/94 Batch No: SPB4010

COMPOUND	SPIKE ADDED (ug/L)	SPIKE BLANK CONCENTRATION (ug/L)	% REC	QC(1) LIMITS REC.
gamma-BHC(Lindane)	10	12	120	50-150
Heptachlor	10	13	130	50-150
Heptachlor Epoxide	10	12	120	50-150
Methoxychlor	10	16	160 *	50-150
Endrin	10	10	100	50-150
Chlordane	10	13	130	50-150
Toxaphene	20	29	145	50-150

Outside QC Limits

1) Advisory limits until laboratory limits are established

OMMENTS:_____

3/90

20022

4A
VOLATILE METHOD BLANK SUMMARY

:b Name: ARDL, INC. Contract: ---

:b Code: --- Case No.: --- SAS No.: --- SDG No.: ---

.b File ID: >J7785 Lab Sample ID: BK3 9/20/94

ıte Analyzed: 9/20/94 Time Analyzed: 14:09

:trix: (soil/water) WATER Level:(low/med) LOW

ıstrument ID: HP-3

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	SS-PIT-GW	8309-20	>J7786	15:04
02	SS-PIT-GWMS	8309-20MS	>J7788	16:35
03	SS-PIT-GWMSD	8309-20MSD	>J7789	17:17
04	ANN94TR00101	9883-1	>J7791	18:40
05	ANN94TR00101MS	9883-1MS	>J7794	20:44
06	ANN94TR00101MSD	9883-1MSD	>J7795	21:26
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)MMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BK3 9/20/94

ab Name: ARDL, INC. Contract: ---

ab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

atrix: (soil/water) WATER Lab Sample ID: BK3 9/20/94

ample wt/vol: 5.0 (g/ml) mL Lab File ID: >J7785

evel: (low/med) LOW Date Received: NA

Moisture: not dec. --- Date Analyzed: 9/20/94

olumn: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	10	U
75-35-4	1,1-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	100	U
56-23-5	Carbon Tetrachloride	5	U
79-01-6	Trichloroethene	5	U
71-43-2	Benzene	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U

4A
VOLATILE METHOD BLANK SUMMARY

ıb Name: ARDL, INC. Contract: ---

ıb Code: --- Case No.: --- SAS No.: --- SDG No.: ---

ıb File ID: >J7805 Lab Sample ID: BK3 9/21/94

ıte Analyzed: 9/21/94 Time Analyzed: 12:51

ıtrix: (soil/water) WATER Level:(low/med) LOW

ıstrument ID: HP-3

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	ANN94TR00201	9883-2	>J7806	13:45
02	ANN94TR00301	9883-3	>J7807	14:50
03				
04				
05				
06				
07				
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MMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BK3 9/21/94

b Name: ARDL, INC. Contract: ---

b Code: --- Case No.: --- SAS No.: --- SDG No.: ---

trix: (soil/water) WATER Lab Sample ID: BK3 9/21/94

mple wt/vol: 5.0 (g/ml) mL Lab File ID: >J7805

vel: (low/med) LOW Date Received: NA

Moisture: not dec. --- Date Analyzed: 9/21/94

lumn: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
75-01-4	Vinyl Chloride	10	U
75-35-4	1,1-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	100	U
56-23-5	Carbon Tetrachloride	5	U
79-01-6	Trichloroethene	5	U
71-43-2	Benzene	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U

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4B
SEMIVOLATILE METHOD BLANK SUMMARY

ıb Name: ARDL, INC. Contract: ---

ıb Code: --- Case No.: --- SAS No.: --- SDG No.: ---

ıb File ID: >M6749 Lab Sample ID: BLANK B4011

ıte Extracted: 9/19/94 Extraction:(SepF/Cont/Sonc) SEPF

ıte Analyzed: 9/20/94 Time Analyzed: 18:32

ıtrix: (soil/water) TCLP Level:(low/med) LOW

ıstrument ID: HP-6

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	ANN94TR00101	9883-1	>M6750	9/20/94
02	ANN94TR00101MS	9883-1MS	>M6751	9/20/94
03	ANN94TR00101MSD	9883-1MSD	>M6752	9/20/94
04	ANN94TR00201	9883-2	>M6753	9/20/94
05	ANN94TR00301	9883-3	>M6754	9/20/94
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ıMMENTS:

20027

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BLANK B4011

b Name: ARDL, INC. Contract: ---

b Code: --- Case No.: --- SAS No.: --- SDG No.: ---

trix: (soil/water) TCLP Lab Sample ID: BLANK B4011

mple wt/vol: 1000.0 (g/ml) mL Lab File ID: >M6749

vel: (low/med) LOW Date Received: NA

Moisture: --- decanted: (Y/N) N Date Extracted: 9/19/94

ncentrated Extract Volume: 1000.0 (uL) Date Analyzed: 9/20/94

jection Volume: 1.0 (uL) Dilution Factor: 1.0

C Cleanup: (Y/N) N pH: ---

LP Preparation Date: 9/16/94

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
110-86-1	Pyridine	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-48-7	2-Methylphenol (o-Cresol)	10	U
108-39-4	3 & 4-Methylphenol(m&p-Cresol)	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
121-14-2	2,4-Dinitrotoluene	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U

1D
TCLP PESTICIDE ORGANIC ANALYSIS

Customer Sample No.

Lab Name: ARDL, Inc. Contract: ANNETTE ISLAND
Lab Code: _____ Case No.: 9883 SAS No.: _____ SDG No.:

Matrix(soil/water) : TCLP Lab Sample ID : 9883-B4010
Sample(wt/vol) : 1000 (g/mL) mL Lab File ID :
Level(low/med) : LOW Date Received :
% Moisture(not dec): --- Date Extracted : 09/16/94
Extraction(Sepf/Conc/Sonc) SEPF Date Analyzed : 09/19/94
GPC Cleanup (Y/N): N pH: --- Dilution Factor: 1.0
Final Extraction Volume: 10 mL

Cas No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
58-89-9	gamma-BHC(Lindane)	1.0	U
76-44-8	Heptachlor	1.0	U
1024-57-3	Heptachlor Epoxide	1.0	U
72-20-8	Endrin	1.0	U
72-43-5	Methoxychlor	1.8	U
57-74-9	Chlordane	1.0	U
8001-35-2	Toxaphene	2.4	U

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