9613409.2662

START

LK3680-LAS

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0043534

Lockheed Analytical Services

Ms. Doris Ayres
Bechtel Hanford, Inc.
345 Hill
Richland, WA 99352

FEB 1995
RECEIVED
Data
Log In

ANALYTICAL DATA REPORT

FOR

VOLATILE, SEMIVOLATILES ORGANICS,
PESTICIDES/PCBS, METALS, CHLORIDE,
NITRATE, NITRITE, PHOSPHATE, SULFATE,
FLUORIDE AND RADIOCHEMISTRY

APR 1996
RECEIVED
EDMC

LOG-IN NUMBER:	L3680
QUOTATION NUMBER:	Q400000-B
SAF:	B94-098
DOCUMENT FILE NUMBER:	0119596
WHC DOCUMENT CONTROL NO.	153
SDG NUMBER:	LK3680

001

9613409.2663

Lockheed
Environmental Systems & Technologies Co.

Lockheed Analytical Services
975 Kelly Johnson Drive
Las Vegas, Nevada 89119-3705

Phone: (702) 361-0220
Phone: (800) 582-7605
Fax: (702) 361-8146

February 21, 1995

Ms. Doris Ayres
Bechtel Hanford, Inc.
345 Hills
P.O. Box 969
Richland, WA 99352

FEB 1995 RECEIVED

RE:	Log-in No.:	L3680
	Quotation No.:	Q400000-B
	SAF:	B94-098
	Document File No.:	0119596
	WHC Document File No.: .:	153
	SDG No.:	LK3680

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 19 January 1995.

The temperature of the cooler upon receipt was 5°C. Sample containers received agree with the chain-of-custody documentation. Sample containers were received intact. The vials for volatile analyses did not contain headspace. Samples were received in time to meet the analytical holding time requirements.

The case narratives included in the following attachments provide a detailed description of all events that occurred during sample preparation, analysis, and data review specific to the samples and analytical methods requested.

A list of data qualifiers, chain-of-custody forms, sample receiving checklist, and log-in report are also enclosed representing the samples received within this group.

If you have any questions concerning the analysis or the data please call Kathleen Hall at (509) 943-4423.

9613409.2664

Lockheed Analytical Services

Log-in No.: L3680
Quotation No.: Q400000-B
SAF: B94-098
Document File No.: 0119596
WHC Document File No.: 153
SDG No.: LK3680
Page1

Release of this data report has been authorized by the Laboratory Director or the Director's designee as evidenced by the following signature.

" I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manger or a designee, as verified by the following signature."

Sincerely,

for Kathleen M. Hall
Client Services Representative

cc: Client Services
Document Control

04

CASE NARRATIVE
INORGANIC NON METALS ANALYSES

The routine calibration and quality control analyses performed for this batch include as applicable: instrument tune (ICP/MS only), initial and continuing calibration verification, initial and continuing calibration blanks, method blank(s), laboratory control sample(s), ICP interference check samples (ICP only), serial dilutions, analytical (post-digestion) spike samples, matrix spike (predigestion) sample(s), duplicate sample(s).

Preparation and Analysis Requirements

- Two water samples were received for LK3680 and prepared as batch 119WH and analyzed for selected analytes as requested on the chain of custody.

Client ID	LAL #		Method
BODMX2	L3680-20	MS,DUP	300.0 CHLORIDE, FLUORIDE, NITRATE-N, NITRITE-N, PHOSPHATE, AND SULFATE
BODMX2	L3680-10	MS,DUP	353.2 NITRATE-NITRITE-NITROGEN
BODMX2	L3680-8	MS, DUP	9020M TOTAL ORGANIC HALIDES
BODMX2	L3680-7	MS, DUP	9030 SULFIDE

Holding Time Requirements

- All samples were analyzed within the specified holding time, except Method 300.0 Nitrate-N, Nitrite-N and Method 365.2 Orthophosphate which were received from the client out of holding time. Analyses proceeded at the direction of the client and the applicable samples are flagged with an "H".

Method Blanks

- The concentration levels of all the requested analytes in the method blank were below the reporting detection limits.

Internal Quality Control

- All Internal Quality Control were within acceptance limits, except the following:

Method 9020M Total Organic Halides: The duplicate sample precision was outside of acceptance limits. Poor duplicate sample precision may be attributed to inhomonogenity. Therefore, some variability may exist in sample results due to this inconsistency. The affected samples are flagged with an "*".

Method 9030 Sulfide: The matrix spike recovered outside the control limits for Sulfide. However, the acceptable recovery for the LCS for Sulfide indicated that the analytical system was operating correctly and that the out-of-control recovery may be attributed to matrix interferences. The affected samples are flagged with an "N".

Kay McCann	February 21, 1995
Prepared By	**Date**

Lockheed Analytical Services

Log-in No.: L3680
Quotation No.: Q400000-B
SAF: B94-098
Document File No.: 0119596
WHC Document File No.: 153
SDG No.: LK3680
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CASE NARRATIVE
INORGANIC METALS ANALYSES

The routine calibration and quality control analyses performed for this batch include as applicable: instrument tune (ICP/MS only), initial and continuing calibration verification, initial and continuing calibration blanks, method blank(s), laboratory control sample(s), ICP interference check samples (ICP only), serial dilutions, analytical (post-digestion) spike samples, matrix spike (predigestion) sample(s), duplicate sample(s).

Holding Times-

All samples were analyzed within the method-specific holding times.

Method Blanks-

The method blanks were free of contamination.

Internal Quality Control-

All Internal Quality Control were within acceptance limits with the following exception: The matrix spike recoveries for antimony (64%), and zinc (58%) were outside of the ±25% acceptance limits. The recoveries based on the LCS Solid (61% antimony, and 113% zinc) were all within the manufacturers acceptance limits.

For sodium, the soil LCS (ERA Lot #219) recovery exceeded the manufacturer's advisory limits. The recovery is the result of the low true concentration (i.e., less than the reporting detection limit) for the standard. Signals detected below the RDL consists primarily of noise.

The duplicate sample precision for arsenic, aluminum, chromium, and zinc were outside of acceptance limits. Poor duplicate sample precision may be attributed to inhomogeneity of the sample. Therefore, some variability may exist in sample results due to this inconsistency.

Sample Results-

Results are reported on a dry weight basis.

Shellee McGrath
Prepared By

February 7, 1995
Date

CASE NARRATIVE
ORGANIC ANALYSES

Analytical Method 8240 Volatiles

Analytical Batch 012795-8240-E1

All associated client samples were analyzed within holding time on January 27, 1995. All instrument tunes, initial and continuing calibrations were within QC criteria. Target compounds were not detected in the method blank (19204MB) but one tentatively identified compound (TIC) was detected. All associated samples with detected TIC as in the method blank were flagged with the qualifier "**B**". Surrogate recoveries were within QC limits for all associated samples analyzed. All compound recoveries in the matrix spike (19204MS), matrix spike duplicate (19204MSD) and laboratory control sample (19204LCS) were within QC limits except for Trichloroethene in the MS and LCS samples. All the relative percent differences (RPDs) between the MS and MSD recoveries were outside QC limits. All internal standard area counts and retention times were within QC limits except in samples 19204MS and 19204MSD. Target compounds were not detected in the associated client samples analyzed but one tentatively identified compound (TIC) was detected in sample BODMX3 (L3680-15).

Analytical Method 8270 Semivolatiles

Analytical Batch 012695-8270-L

All associated client samples were extracted within holding time on January 23, 1995 and analyzed within holding time on January 26 and 27, 1995. All instrument tunes, initial and continuing calibrations were within QC criteria. Target compounds were not detected in the method blank (18194MB) but one tentatively identified compound (TIC) was detected. All associated samples with detected TIC as in the method blank were flagged with the qualifier "**B**". Surrogate recoveries were within QC limits for all associated samples analyzed. All compound recoveries in the matrix spike matrix spike (18194MS), matrix spike duplicate (18194MSD) and laboratoty control sample (18194LCS) were within QC limits except for 4-Nitrophenol, 2,4-Dinitrotoluene and Pentachlorophenol in both the MS and MSD. All relative percent differences (RPDs) between the MS and MSD recoveries were within QC limits for each spiked compound. The MS and MSD were reanalyzed in this analytical batch and both analyses results were reported in this data package. All internal standard area counts and retention times were within QC limits for all associated samples analyzed. Target compounds and TICs were detected in the associated client samples analyzed.

Note: Matrix spike compounds 4-Nitrophenol and Pentachlorophenol had concentrations above the calibration range. These samples were reanalyzed in this analytical batch but not diluted because we normally spike these two compounds at 10,000 μg/kg. Since the method blank and LCS met all QC criteria, no further corrective action was performed.

Analytical Method 8080 Pesticides/PCBs

The associated samples were analyzed in two analytical batches.

Note: PCB 1254 and PCB 1260 concentrations on the forms submitted were quantitated and reported from analytical batch 020695-8080-C1 using the initial calibrations for PCB 1254 and PCB 1260 analyzed on February 06, 1995. All sample concentrations were reported from GC column RTX-1701.

Analytical Batch 020195-8080-A1

The associated client samples were extracted within holding time on January 22, 1995 and analyzed within holding time on February 02, 1995. All initial and continuing calibrations and retention time checks were within QC criteria. Target compounds were not detected in the method blank (18195MB). Surrogate recoveries were within QC limits for all associated samples analyzed. All compound recoveries in the matrix spike (18195MS), matrix spike duplicate (18195MSD) and laboratory control sample (18195LCS) were within QC limits except for compounds 4,4'-DDT, Dieldrin and Endrin in the MSD sample due to sample matrix interference. All relative percent differences (RPDs) between the MS and MSD recoveries were within QC limits except for compounds 4,4'-DDT, Dieldrin and Endrin due to sample matrix interference. PCB 1254 and PCB 1260 were detected in the associated client samples analyzed. These samples were quantitated using PCB 1254 and PCB 1260 initial calibration curve analyzed on February 06, 1995.

Analytical Batch 020695-8080-C1

The associated client samples were extracted within holding time on January 22, 1995 and analyzed within holding time on February 06, 1995. All initial and continuing calibrations and retention time checks were within QC criteria except for the high percent difference (%D) from the initial calibration of PCB 1254 and PCB 1260 continuing calibration verification (CCV) checks on RTX-5 column ending this analytical batch. Since this column is used as confirmation column only, it is believed not to affect data quality. All method blank results are referenced in analytical batch 020195-8080-A1. Surrogate recoveries for all associated samples analyzed are referenced in analytical batch 020195-8080-A1. All compound recoveries in the matrix spike (18195MS), matrix spike duplicate (18195MSD) and laboratory control sample (18195LCS) are referenced in analytical batch 020195-8080-A1. PCB 1254 and PCB 1260 were detected in the associated client samples analyzed in analytical batch 020195-8080-A1. The samples were quantitated and reported using PCB 1254 and PCB 1260 initial calibration curve analyzed in this analytical batch.

Lydia M. Coleman
Prepared By

February 21, 1995
Date

CASE NARRATIVE
RADIOCHEMICAL ANALYSES

The routine calibration and quality control analyses performed for this batch include as applicable: instrument calibration, initial and continuing calibration verification, quench monitoring standards, instrument background analysis, method blanks, yield tracer, laboratory control samples, matrix spike samples, duplicate samples.

Holding Time Requirements

All holding time requirements were met.

Analytical Method

Gamma Spectrum Analysis

The Gamma Spectrum Analysis was performed using LAL-91-SOP-0064. No problems were encountered during analysis. All QC criteria were met.

Gross Alpha Beta

The Gross Alpha Beta Analysis was performed using LAL-91-SOP-0061. The matrix spike recovery was high, however the LCS recovered within control limits. All other QC criteria were met.

Yvonne Jacoby
Prepared By

February 21, 1995
Date

SAMPLE AND DATA MANAGEMENT
RECORD OF DISPOSITION

ROD-B95-016
Record of Disposition No.

DATE: 01/31/95	LABORATORY: Lockheed
PROJECT TITLE/NO.: 100-D Ponds/B94-098	NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS:

1) B0DMX2, B0DMX3 (1 SDG, summary deliverable)

2) B0DMX4 (1 SDG, summary deliverable)

DESCRIPTION OF EVENT:

1) These samples were collected in the first phase of the sampling event. They were analyzed together in one batch with one set of QC.

2) This sample was collected in the second phase of the sampling event. It was analyzed in one batch with one set of QC.

SAF requests all data packages be standalone; both packages should be summary.

DISPOSITION OF SAMPLES:

1) Results for samples B0DMX2 and B0DMX3 should be reported in one summary data package.

2) Results from sample B0DMX4 should be reported in one summary data package.

APPROVAL SIGNATURES:

K. C. Smith/ [signature] — 1/31/95
OSM Project Coordinator (Print/Sign Name) — Date

M.T. Stankovich/ [signature] — 2/13/95
Technical Representative (Print/Sign Name) — Date

N/A
Quality Assurance (Print/Sign Name) — Date

TOTAL METALS RESULTS

Client Sample ID: BODMX2	Date Collected: 01-17-95	Matrix: soil
LAL Batch ID(s): 119 wh	Date Received: 01-19-95	Percent Solids: 63.1

Constituents	Method	Concentration (mg/kg)	IDL (mg/kg)	RDL (mg/kg)	Data Qualifier(s)	Date Analyzed	LAL ID
Aluminum	6010	37,000	22	63	*	02-02-95	L3680-3
Antimony	6010	<16	16	19	U N	02-02-95	L3680-3
Arsenic	7060	14	0.95	3.2	*	01-23-95	L3680-3
Barium	6010	99	3.5	63		02-02-95	L3680-3
Beryllium	6010	0.38	0.32	1.6	B	02-02-95	L3680-3
Cadmium	6010	1.5	1.3	1.6	B	02-02-95	L3680-3
Calcium	6010	5100	9.5	1580		02-02-95	L3680-3
Chromium	6010	48	1.3	3.2	*	02-02-95	L3680-3
Cobalt	6010	7.5	2.8	16	B	02-02-95	L3680-3
Copper	6010	59	2.5	7.9		02-02-95	L3680-3
Iron	6010	23,000	4.8	32		02-02-95	L3680-3
Lead	7421	35	3.2	4.8	D(1:5)	01-23-95	L3680-3
Magnesium	6010	4000	11	1580		02-02-95	L3680-3
Manganese	6010	230	0.63	4.8		02-02-95	L3680-3
Nickel	6010	18	4.4	13		02-02-95	L3680-3
Potassium	6010	900	196	1580	B	02-02-95	L3680-3
Selenium	7740	<0.95	0.95	1.6	U W	01-23-95	L3680-3
Silver	6010	<2.2	2.2	3.2	U	02-02-95	L3680-3
Sodium	6010	670	22	1580	B	02-02-95	L3680-3
Thallium	7841	<0.95	0.95	3.2	U	01-23-95	L3680-3
Vanadium	6010	52	2.5	16		02-02-95	L3680-3
Zinc	6010	330	2.5	6.3	* N	02-02-95	L3680-3

Comments:

TOTAL METALS RESULTS

Client Sample ID: BODMX3	Date Collected: 01-17-95	Matrix: soil
LAL Batch ID(s): 119 wh	Date Received: 01-19-95	Percent Solids: 33.4

Constituents	Method	Concentration (mg/kg)	IDL (mg/kg)	RDL (mg/kg)	Data Qualifier(s)	Date Analyzed	LAL ID
Aluminum	6010	62,000	42	120	*	02-02-95	L3680-14
Antimony	6010	<30	30	36	U N	02-02-95	L3680-14
Arsenic	7060	40	1.8	6.0	*	01-23-95	L3680-14
Barium	6010	99	6.6	120	B	02-02-95	L3680-14
Beryllium	6010	<0.6	0.6	3.0	U	02-02-95	L3680-14
Cadmium	6010	3.3	2.4	3.0		02-02-95	L3680-14
Calcium	6010	4000	18	3000*		02-02-95	L3680-14
Chromium	6010	82	2.4	6.0	*	02-02-95	L3680-14
Cobalt	6010	8.5	5.4	30	B	02-02-95	L3680-14
Copper	6010	66	4.8	15		02-02-95	L3680-14
Iron	6010	24,000	9.0	60		02-02-95	L3680-14
Lead	7421	160	12	18	D(1:10)	01-23-95	L3680-14
Magnesium	6010	3700	22	3000		02-02-95	L3680-14
Manganese	6010	180	1.2	9.0		02-02-95	L3680-14
Nickel	6010	24	8.4	24		02-02-95	L3680-14
Potassium	6010	1300	370	3000	B	02-02-95	L3680-14
Selenium	7740	<1.8	1.8	3.0	U W	01-23-95	L3680-14
Silver	6010	<4.2	4.2	6.0	U	02-02-95	L3680-14
Sodium	6010	1200	42	3000	B	02-02-95	L3680-14
Thallium	7841	<1.8	1.8	6.0	U	01-23-95	L3680-14
Vanadium	6010	49	4.8	30		02-02-95	L3680-14
Zinc	6010	830	4.8	12	* N	02-02-95	L3680-14

Comments:

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LOCKHEED ANALYTICAL SERVICES

COMMON IONS AND ADDITIONAL ANALYTES

Sample Results

Client Sample ID: B0DMX2	Date Collected: 17-JAN-95
Matrix: Soil	Date Received: 19-JAN-95

Constituent	Units	Method	Result	Reporting Det|Limit	Data Qualifier(s)	Date Analyzed	LAS Batch|ID	LAS Sample|ID
Chloride	mg/kg	300.0	10.	0.2		24-JAN-95	18137	L3680-9
Fluoride	mg/kg	300.0	0.93	0.1		24-JAN-95	18174	L3680-9
Nitrate-N	mg/kg	300.0	44.	0.2	H	24-JAN-95	18138	L3680-9
Nitrite-N	mg/kg	300.0	< 0.1	0.1	H	24-JAN-95	18139	L3680-9
Ortho Phosphate	mg/kg	300.0	< 1	1	H	24-JAN-95	18140	L3680-9
Sulfate	mg/kg	300.0	1500	1		25-JAN-95	18141	L3680-9
Nitrate-Nitrite-Nitrogen	mg/kg	353.2	27.	0.1		31-JAN-95	18172	L3680-10
Extractable Organic Halides	mg/kg	9020M	< 6	6	*H	02-FEB-95	18171	L3680-8
Sulfide	mg/kg	9030	< 3	3	NH	31-JAN-95	18165	L3680-7

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LOCKHEED ANALYTICAL SERVICES

COMMON IONS AND ADDITIONAL ANALYTES

Sample Results

Client Sample ID: B0DMX3	Date Collected: 17-JAN-95
Matrix: Soil	Date Received: 19-JAN-95

Constituent	Units	Method	Result	Reporting Det|Limit	Data Qualifier(s)	Date Analyzed	LAS Batch|ID	LAS Sample|ID
Chloride	mg/kg	300.0	7.1	0.2		24-JAN-95	18137	L3680-20
Fluoride	mg/kg	300.0	6.7	0.1		24-JAN-95	18174	L3680-20
Nitrate-N	mg/kg	300.0	12.	0.2	H	24-JAN-95	18138	L3680-20
Nitrite-N	mg/kg	300.0	< 0.1	0.1	H	24-JAN-95	18139	L3680-20
Ortho Phosphate	mg/kg	300.0	< 1	1	H	24-JAN-95	18140	L3680-20
Sulfate	mg/kg	300.0	1600	1*		25-JAN-95	18141	L3680-20
Nitrate-Nitrite-Nitrogen	mg/kg	353.2	14.	0.1		31-JAN-95	18172	L3680-21
Extractable Organic Halides	mg/kg	9020M	28.	6	*H	02-FEB-95	18171	L3680-19
Sulfide	mg/kg	9030	5.3	3	NH	31-JAN-95	18165	L3680-18

9613409.2677

LOCKHEED ANALYTICAL SERVICES

GC/MS FOR VOLATILE ORGANICS
8240 VOLATILES

Client Sample ID:	B0DMX2	LAL Sample ID:	L3680-4
Date Collected:	17-JAN-95	Date Received:	19-JAN-95
Date Analyzed:	27-JAN-95	Analytical Dilution:	1
Matrix:	Soil	Analytical Batch ID:	012795-8240-E1
Percent Moisture:	36.87	Preparation Dilution:	0.992

SURROGATE RECOVERY (%)		
		QC Limits
1,2-Dichloroethane-d4	108	70-121
Toluene-d8	101	81-117
Bromofluorobenzene	92	74-121

CONSTITUENT	CAS NO.	RESULT ug/kg	PRACTICAL QUANTITATION LIMIT ug/kg	DATA QUALIFIER(S)
Chloromethane	74-87-3	<7.9	7.9	
Vinyl Chloride	75-01-4	<7.9	7.9	
Bromomethane	74-83-9	<7.9	7.9	
Chloroethane	75-00-3	<7.9	7.9	
Trichlorofluoromethane	75-69-4	<7.9	7.9	
Acetone	67-64-1	<16.	16.	
1,1-Dichloroethene	75-35-4	<7.9	7.9	
Carbon Disulfide	75-15-0	<7.9	7.9	
Methylene Chloride	75-09-2	<7.9	7.9	
trans-1,2-Dichloroethene	156-50-5	<7.9	7.9	
Vinyl Acetate	108-05-4	<16.	16.	
1,1-Dichloroethane	75-34-3	<7.9	7.9	
2-Butanone	78-93-3	<16.	16.	
Chloroform	67-66-3	<7.9	7.9	
2-Hexanone	591-78-6	<7.9	7.9	
1,1,1-Trichloroethane	71-55-6	<7.9	7.9	
Carbon tetrachloride	56-23-5	<7.9	7.9	
1,2-Dichloroethane	107-06-2	<7.9	7.9	
Benzene	71-43-2	<7.9	7.9	
Trichloroethene	79-01-6	<7.9	7.9	
1,2-Dichloropropane	78-87-5	<7.9	7.9	
Bromodichloromethane	75-27-4	<7.9	7.9	
2-Chloroethylvinylether	110-75-8	<31.	31.	
4-Methyl-2-Pentanone	108-10-1	<16.	16.	
cis-1,3-Dichloropropene	10061-01-5	<7.9	7.9	
Toluene	108-88-3	<7.9	7.9	
trans-1,3-Dichloropropene	10061-02-6	<7.9	7.9	
1,1,2-Trichloroethane	79-00-5	<7.9	7.9	
Tetrachloroethene	127-18-4	<7.9	7.9	
Dibromochloromethane	124-48-1	<7.9	7.9	
Chlorobenzene	108-90-7	<7.9	7.9	
Ethylbenzene	100-41-4	<7.9	7.9	
m,p-Xylene	1330-20-7	<7.9	7.9	
o-Xylene	95-47-6	<7.9	7.9	
Styrene	100-42-5	<7.9	7.9	
Bromoform	75-25-2	<7.9	7.9	
1,1,2,2-Tetrachloroethane	79-34-5	<7.9	7.9	
Bromochloromethane	74-97-5	<7.9	7.9	
1,3-Dichlorobenzene	541-73-1	<7.9	7.9	
1,4-Dichlorobenzene	106-46-7	<7.9	7.9	
1,2-Dichlorobenzene	95-50-1	<7.9	7.9	

VOLATILE ORGANIC ANALYSIS RESULTS
FOR ANALYSES USING METHOD 8240
TENTATIVELY IDENTIFIED COMPOUNDS

Client Sample ID: BODMX2	LAL Sample ID: L3680-4
Date Received: 19-JAN-95	Date Analyzed: 27-JAN-95
Matrix: SOIL	Dilution Factor: 1
Analytical Batch: 012795-8240-E1	QC Batch ID: 012795-8240

Tentatively Identified Compound	Estimated Concentration (µg/Kg)	Retention Time (minutes)	Data Qualifier(s)
NONE DETECTED			

9613409.2679

LOCKHEED ANALYTICAL SERVICES

GC/MS FOR VOLATILE ORGANICS
8240 VOLATILES

Client Sample ID:	B0DMX3	LAL Sample ID:	L3680-15
Date Collected:	17-JAN-95	Date Received:	19-JAN-95
Date Analyzed:	27-JAN-95	Analytical Dilution:	1
Matrix:	Soil	Analytical Batch ID:	012795-8240-E1
Percent Moisture:	66.57	Preparation Dilution:	0.975

SURROGATE RECOVERY (%)		
		QC Limits
1,2-Dichloroethane-d4	112	70-121
Toluene-d8	102	81-117
Bromofluorobenzene	95	74-121

CONSTITUENT	CAS NO.	RESULT ug/kg	PRACTICAL QUANTITATION LIMIT ug/kg	DATA QUALIFIER(s)
Chloromethane	74-87-3	<15.	15.	
Vinyl Chloride	75-01-4	<15.	15.	
Bromomethane	74-83-9	<15.	15.	
Chloroethane	75-00-3	<15.	15.	
Trichlorofluoromethane	75-69-4	<15.	15.	
Acetone	67-64-1	<29.	29.	
1,1-Dichloroethene	75-35-4	<15.	15.	
Carbon Disulfide	75-15-0	<15.	15.	
Methylene Chloride	75-09-2	<15.	15.	
trans-1,2-Dichloroethene	156-50-5	<15.	15.	
Vinyl Acetate	108-05-4	<29.	29.	
1,1-Dichloroethane	75-34-3	<15.	15.	
2-Butanone	78-93-3	<29.	29.	
Chloroform	67-66-3	<15.	15.	
2-Hexanone	591-78-6	<15.	15.	
1,1,1-Trichloroethane	71-55-6	<15.	15.	
Carbon tetrachloride	56-23-5	<15.	15.	
1,2-Dichloroethane	107-06-2	<15.	15.	
Benzene	71-43-2	<15.	15.	
Trichloroethene	79-01-6	<15.	15.	
1,2-Dichloropropane	78-87-5	<15.	15.	
Bromodichloromethane	75-27-4	<15.	15.	
2-Chloroethylvinylether	110-75-8	<58.	58.	
4-Methyl-2-Pentanone	108-10-1	<29.	29.	
cis-1,3-Dichloropropene	10061-01-5	<15.	15.	
Toluene	108-88-3	<15.	15.	
trans-1,3-Dichloropropene	10061-02-6	<15.	15.	
1,1,2-Trichloroethane	79-00-5	<15.	15.	
Tetrachloroethene	127-18-4	<15.	15.	
Dibromochloromethane	124-48-1	<15.	15.	
Chlorobenzene	108-90-7	<15.	15.	
Ethylbenzene	100-41-4	<15.	15.	
m,p-Xylene	1330-20-7	<15.	15.	
o-Xylene	95-47-6	<15.	15.	
Styrene	100-42-5	<15.	15.	
Bromoform	75-25-2	<15.	15.	
1,1,2,2-Tetrachloroethane	79-34-5	<15.	15.	
Bromochloromethane	74-97-5	<15.	15.	
1,3-Dichlorobenzene	541-73-1	<15.	15.	
1,4-Dichlorobenzene	106-46-7	<15.	15.	
1,2-Dichlorobenzene	95-50-1	<15.	15.	

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VOLATILE ORGANIC ANALYSIS RESULTS
FOR ANALYSES USING METHOD 8240
TENTATIVELY IDENTIFIED COMPOUNDS

Client Sample ID: BODMX3	LAL Sample ID: L3680-15
Date Received: 19-JAN-95	Date Analyzed: 27-JAN-95
Matrix: SOIL	Dilution Factor: 1
Analytical Batch: 012795-8240-E1	QC Batch ID: 012795-8240

Tentatively Identified Compound	Estimated Concentration (µg/Kg)	Retention Time (minutes)	Data Qualifier(s)
UNKNOWN	35	16.51	J

9613409.2681

LOCKHEED ANALYTICAL SERVICES

SEMI-VOLATILE ORGANICS BY GC/MS
8270 SEMI-VOLATILES

Client Sample ID:	B0DMX2	LAL Sample ID:	L3680-5
Date Collected:	17-JAN-95	Date Received:	19-JAN-95
Date Analyzed:	26-JAN-95	Date Extracted:	23-JAN-95
Matrix:	Soil	Analytical Batch ID:	012695-8270-L
QC Group:	8270 SEMI-VOLATILES_18194	Analytical Dilution:	1
Percent Moisture:	36.87	Preparation Dilution:	0.988

SURROGATE RECOVERY (%)		
		QC Limits
2-Fluorophenol	65	25-121
Phenol-d5	72	24-113
Nitrobenzene-d5	62	23-120
2-Fluorobiphenyl	77	30-115
2,4,6-Tribromophenol	99	19-122
Terphenyl-d14	85	18-137

CONSTITUENT	CAS NO.	RESULT ug/Kg	PRACTICAL QUANTITATION LIMIT ug/Kg	DATA QUALIFIER(s)
Phenol	108-95-2	<1000	1000	
bis(2-Chloroethyl)ether	111-44-4	<1000	1000	
2-Chlorophenol	95-57-8	<1000	1000	
1,3-Dichlorobenzene	541-73-1	<1000	1000	
1,4-Dichlorobenzene	106-46-7	<1000	1000	
Benzyl alcohol	100-51-6	<2000	2000	
1,2-Dichlorobenzene	95-50-1	<1000	1000	
2-Methylphenol	95-48-7	<1000	1000	
bis(2-chloroisopropyl)ether	39638-32-9	<1000	1000	
4-Methylphenol	106-44-5	<1000	1000	
N-Nitroso-di-n-propylamine	621-64-7	<1000	1000	
Hexachloroethane	67-72-1	<1000	1000	
Nitrobenzene	98-95-3	<1000	1000	
Isophorone	78-59-1	<1000	1000	
2-Nitrophenol	88-75-5	<1000	1000	
2,4-Dimethylphenol	105-67-9	<1000	1000	
Benzoic acid	65-85-0	<5100	5100	
bis(2-Chloroethoxy)methane	111-91-1	<1000	1000	
2,4-Dichlorophenol	120-83-2	<1000	1000	
1,2,4-Trichlorobenzene	120-82-1	<1000	1000	
Naphthalene	91-20-3	<1000	1000	
4-Chloroaniline	106-47-8	<2000	2000	
Hexachlorobutadiene	87-68-3	<1000	1000	
4-Chloro-3-methylphenol	59-50-7	<2000	2000	
2-Methylnaphthalene	91-57-6	<1000	1000	
Hexachlorocyclopentadiene	77-47-4	<1000	1000	
2,4,6-Trichlorophenol	88-06-2	<1000	1000	
2,4,5-Trichlorophenol	95-95-4	<1000	1000	
2-Chloronaphthalene	91-58-7	<1000	1000	
2-Nitroaniline	88-74-4	<5100	5100	
Dimethylphthalate	131-11-3	<1000	1000	
Acenaphthylene	208-96-8	<1000	1000	
2,6-Dinitrotoluene	606-20-2	<1000	1000	
3-Nitroaniline	99-09-2	<5100	5100	
Acenaphthene	83-32-9	<1000	1000	
2,4-Dinitrophenol	51-28-5	<5100	5100	
4-Nitrophenol	100-02-7	<5100	5100	

9613409.2682

LOCKHEED ANALYTICAL SERVICES

SEMI-VOLATILE ORGANICS BY GC/MS
8270 SEMI-VOLATILES

Client Sample ID:	B0DMX2	LAL Sample ID:	L3680-5
Date Collected:	17-JAN-95	Date Received:	19-JAN-95
Date Analyzed:	26-JAN-95	Date Extracted:	23-JAN-95
Matrix:	Soil	Analytical Batch ID:	012695-8270-L
QC Group:	8270 SEMI-VOLATILES_18194	Analytical Dilution:	1
Percent Moisture:	36.87	Preparation Dilution:	0.988

CONSTITUENT	CAS NO.	RESULT ug/Kg	PRACTICAL QUANTITATION LIMIT ug/Kg	DATA QUALIFIER(s)
Dibenzofuran	132-64-9	<1000	1000	
2,4-Dinitrotoluene	121-14-2	<1000	1000	
Diethylphthalate	84-66-2	<1000	1000	
4-Chlorophenyl-phenylether	7005-72-3	<1000	1000	
Fluorene	86-73-7	<1000	1000	
4-Nitroaniline	100-01-6	<5100	5100	
4,6-Dinitro-2-methylphenol	534-52-1	<5100	5100	
N-Nitrosodiphenylamine (1)	86-30-6	<1000	1000	
4-Bromophenyl-phenylether	101-55-3	<1000	1000	
Hexachlorobenzene	118-74-1	<1000	1000	
Pentachlorophenol	87-86-5	<5100	5100	
Phenanthrene	85-01-8	<1000	1000	
Anthracene	120-12-7	<1000	1000	
Carbazole	86-74-8	<1000	1000	
Di-n-butylphthalate	84-74-2	230	1000	J
Fluoranthene	206-44-0	<1000	1000	
Pyrene	129-00-0	<1000	1000	
Butylbenzylphthalate	85-68-7	<1000	1000	
3,3'-Dichlorobenzidine	91-94-1	<2000	2000	
Benzo(a)anthracene	56-55-3	<1000	1000	
Chrysene	218-01-9	<1000	1000	
bis(2-Ethylhexyl)phthalate	117-81-7	280	1000	J
Di-n-octylphthalate	117-84-0	<1000	1000	
Benzo(b)fluoranthene	205-99-2	<1000	1000	
Benzo(k)fluoranthene	207-08-9	<1000	1000	
Benzo(a)pyrene	50-32-8	<1000	1000	
Indeno(1,2,3-cd)pyrene	193-39-5	<1000	1000	
Dibenz(a,h)anthracene	53-70-3	<1000	1000	
Benzo(g,h,i)perylene	191-24-2	<1000	1000	

SEMIVOLATILE ORGANIC ANALYSIS RESULTS
FOR ANALYSES USING METHOD 8270
TENTATIVELY IDENTIFIED COMPOUNDS

Client Sample ID: B0DMX2	LAL Sample ID: L3680-5
Date Received: 19-JAN-95	Date Analyzed: 26-JAN-95
Matrix: SOIL	Dilution Factor: 1
Analytical Batch: 012695-8270-L	QC Batch ID: 8270 SEMIVOLATILES_18194

Tentatively Identified Compound	Estimated Concentration (µg/Kg)	Retention Time (minutes)	Data Qualifier(s)
UNKNOWN	440	9.10	BJ
HYDROCARBON	4100	9.72	J
HYDROCARBON	2000	9.91	J
HYDROCARBON	470	10.28	J
UNKNOWN	550	14.32	J
HYDROCARBON	990	15.94	J
HYDROCARBON	500	17.14	J
HYDROCARBON	1500	18.37	J
SUBSTITUTED PAH	1000	19.60	J
UNKNOWN AROMATIC	1100	19.63	J
SUBSTITUTED PAH	1600	20.07	J
HYDROCARBON	1200	20.72	J
HYDROCARBON	1200	21.10	J

9613409.2684

LOCKHEED ANALYTICAL SERVICES

SEMI-VOLATILE ORGANICS BY GC/MS
8270 SEMI-VOLATILES

Client Sample ID:	B0DMX3	LAL Sample ID:	L3680-16
Date Collected:	17-JAN-95	Date Received:	19-JAN-95
Date Analyzed:	26-JAN-95	Date Extracted:	23-JAN-95
Matrix:	Soil	Analytical Batch ID:	012695-8270-L
QC Group:	8270 SEMI-VOLATILES_18194	Analytical Dilution:	1
Percent Moisture:	66.57	Preparation Dilution:	0.983

SURROGATE RECOVERY (%)		
		QC Limits
2-Fluorophenol	47	25-121
Phenol-d5	60	24-113
Nitrobenzene-d5	47	23-120
2-Fluorobiphenyl	62	30-115
2,4,6-Tribromophenol	85	19-122
Terphenyl-d14	69	18-137

CONSTITUENT	CAS NO.	RESULT ug/Kg	PRACTICAL QUANTITATION LIMIT ug/Kg	DATA QUALIFIER(s)
Phenol	108-95-2	<1900	1900	
bis(2-Chloroethyl)ether	111-44-4	<1900	1900	
2-Chlorophenol	95-57-8	<1900	1900	
1,3-Dichlorobenzene	541-73-1	<1900	1900	
1,4-Dichlorobenzene	106-46-7	<1900	1900	
Benzyl alcohol	100-51-6	<3800	3800	
1,2-Dichlorobenzene	95-50-1	<1900	1900	
2-Methylphenol	95-48-7	<1900	1900	
bis(2-chloroisopropyl)ether	39638-32-9	<1900	1900	
4-Methylphenol	106-44-5	<1900	1900	
N-Nitroso-di-n-propylamine	621-64-7	<1900	1900	
Hexachloroethane	67-72-1	<1900	1900	
Nitrobenzene	98-95-3	<1900	1900	
Isophorone	78-59-1	<1900	1900	
2-Nitrophenol	88-75-5	<1900	1900	
2,4-Dimethylphenol	105-67-9	<1900	1900	
Benzoic acid	65-85-0	<9700	9700	
bis(2-Chloroethoxy)methane	111-91-1	<1900	1900	
2,4-Dichlorophenol	120-83-2	<1900	1900	
1,2,4-Trichlorobenzene	120-82-1	<1900	1900	
Naphthalene	91-20-3	<1900	1900	
4-Chloroaniline	106-47-8	<3800	3800	
Hexachlorobutadiene	87-68-3	<1900	1900	
4-Chloro-3-methylphenol	59-50-7	<3800	3800	
2-Methylnaphthalene	91-57-6	<1900	1900	
Hexachlorocyclopentadiene	77-47-4	<1900	1900	
2,4,6-Trichlorophenol	88-06-2	<1900	1900	
2,4,5-Trichlorophenol	95-95-4	<1900	1900	
2-Chloronaphthalene	91-58-7	<1900	1900	
2-Nitroaniline	88-74-4	<9700	9700	
Dimethylphthalate	131-11-3	<1900	1900	
Acenaphthylene	208-96-8	<1900	1900	
2,6-Dinitrotoluene	606-20-2	<1900	1900	
3-Nitroaniline	99-09-2	<9700	9700	
Acenaphthene	83-32-9	<1900	1900	
2,4-Dinitrophenol	51-28-5	<9700	9700	
4-Nitrophenol	100-02-7	<9700	9700	

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LOCKHEED ANALYTICAL SERVICES

SEMI-VOLATILE ORGANICS BY GC/MS
8270 SEMI-VOLATILES

Client Sample ID:	B0DMX3	LAL Sample ID:	L3680-16
Date Collected:	17-JAN-95	Date Received:	19-JAN-95
Date Analyzed:	26-JAN-95	Date Extracted:	23-JAN-95
Matrix:	Soil	Analytical Batch ID:	012695-8270-L
QC Group:	8270 SEMI-VOLATILES_18194	Analytical Dilution:	1
Percent Moisture:	66.57	Preparation Dilution:	0.983

CONSTITUENT	CAS NO.	RESULT ug/Kg	PRACTICAL QUANTITATION LIMIT ug/Kg	DATA QUALIFIER(s)
Dibenzofuran	132-64-9	<1900	1900	
2,4-Dinitrotoluene	121-14-2	<1900	1900	
Diethylphthalate	84-66-2	<1900	1900	
4-Chlorophenyl-phenylether	7005-72-3	<1900	1900	
Fluorene	86-73-7	<1900	1900	
4-Nitroaniline	100-01-6	<9700	9700	
4,6-Dinitro-2-methylphenol	534-52-1	<9700	9700	
N-Nitrosodiphenylamine (1)	86-30-6	<1900	1900	
4-Bromophenyl-phenylether	101-55-3	<1900	1900	
Hexachlorobenzene	118-74-1	<1900	1900	
Pentachlorophenol	87-86-5	<9700	9700	
Phenanthrene	85-01-8	630	1900	J
Anthracene	120-12-7	<1900	1900	
Carbazole	86-74-8	<1900	1900	
Di-n-butylphthalate	84-74-2	<1900	1900	
Fluoranthene	206-44-0	1100	1900	J
Pyrene	129-00-0	530	1900	J
Butylbenzylphthalate	85-68-7	<1900	1900	
3,3'-Dichlorobenzidine	91-94-1	<3800	3800	
Benzo(a)anthracene	56-55-3	270	1900	J
Chrysene	218-01-9	430	1900	J
bis(2-Ethylhexyl)phthalate	117-81-7	<1900	1900	
Di-n-octylphthalate	117-84-0	<1900	1900	
Benzo(b)fluoranthene	205-99-2	470	1900	J
Benzo(k)fluoranthene	207-08-9	270	1900	J
Benzo(a)pyrene	50-32-8	240	1900	J
Indeno(1,2,3-cd)pyrene	193-39-5	200	1900	J
Dibenz(a,h)anthracene	53-70-3	<1900	1900	
Benzo(g,h,i)perylene	191-24-2	240	1900	J

SEMIVOLATILE ORGANIC ANALYSIS RESULTS
FOR ANALYSES USING METHOD 8270
TENTATIVELY IDENTIFIED COMPOUNDS

Client Sample ID: B0DMX3	LAL Sample ID: L3680-16
Date Received: 19-JAN-95	Date Analyzed: 26-JAN-95
Matrix: SOIL	Dilution Factor: 1
Analytical Batch: 012695-8270-L	QC Batch ID: 8270 SEMIVOLATILES_18194

Tentatively Identified Compound	Estimated Concentration (µg/Kg)	Retention Time (minutes)	Data Qualifier(s)
HYDROCARBON	11,000	9.91	J
HYDROCARBON	950	10.28	J
HYDROCARBON	880	14.88	J
HYDROCARBON	870	15.29	
HYDROCARBON	1500	15.95	J
PHENOL, 2,2-METHYLENE BIS [6-(1,1-DIMETHYLETHYL)-4-ETHYL-	1400	16.20	J
HYDROCARBON	890	16.58	J
UNKNOWN	1300	17.14	J
UNKNOWN	880	17.35	J
UNKNOWN	1600	18.14	J
UNKNOWN	3000	18.37	J
UNKNOWN	1600	18.99	J
SUBSTITUTED PAH	2300	19.61	J
SUBSTITUTED PAH	4000	20.08	J
UNKNOWN	2900	21.10	J

LOCKHEED ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES/PCBS BY GC/ECD
8080 PEST/PCBS

Client Sample ID:	B0DMX2	LAL Sample ID:	L3680-6
Date Collected:	17-JAN-95	Date Received:	19-JAN-95
Date Analyzed:	02-FEB-95	Analytical Batch ID:	020195-8080-A-1
Date Extracted:	22-JAN-95	Analytical Dilution:	10
Matrix:	Soil	Preparation Dilution:	1.9
Percent Moisture:	36.87	QC Group:	8080 PEST/PCBS_18195

SURROGATE RECOVERY (%)		
		QC Limits
TCMX	91	60-150
DCB	100	60-150

CONSTITUENT	CAS NO.	RESULT ug/Kg	PRACTICAL QUANTITATION LIMIT ug/Kg	DATA QUALIFIER(s)
A-BHC	319-84-6	<51.	51.	
B-BHC	319-85-7	<51.	51.	
G-BHC	58-89-9	<51.	51.	
D-BHC	319-86-8	<51.	51.	
Heptachlor	76-44-8	<51.	51.	
Aldrin	309-00-2	<51.	51.	
Heptachlor Epoxide	1024-57-3	<51.	51.	
G-Chlordane	5103-74-2	<51.	51.	
Endosulfan I	959-98-8	<51.	51.	
A-Chlordane	5103-71-9	<51.	51.	
4,4'-DDE	72-55-9	<99.	99.	
4,4'-DDT	50-29-3	<99.	99.	
Dieldrin	60-57-1	<99.	99.	
Endrin	72-20-8	<99.	99.	
Endosulfan II	33213-65-9	<99.	99.	
4,4'-DDD	72-54-8	<99.	99.	
Endrin Aldehyde	7421-36-3	<99.	99.	
Endosulfan Sulfate	1031-07-8	<99.	99.	
Methoxychlor	72-43-5	<510	510	
Toxaphene	8001-35-2	<5100	5100	
PCB-1016	12674-11-2	<390	390	
PCB-1221	11104-28-2	<390	390	
PCB-1232	11141-16-5	<390	390	
PCB-1242	53469-21-9	<390	390	
PCB-1248	12672-29-6	<390	390	
PCB-1254	11097-69-1	2000	390	
PCB-1260	11096-82-5	2000	390	
Chlordane (Technical)	57-74-9	<1200	1200	

LOCKHEED ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES/PCBS BY GC/ECD
8080 PEST/PCBS

Client Sample ID:	B0DMX3	LAL Sample ID:	L3680-17
Date Collected:	17-JAN-95	Date Received:	19-JAN-95
Date Analyzed:	02-FEB-95	Analytical Batch ID:	020195-8080-A-1
Date Extracted:	22-JAN-95	Analytical Dilution:	10
Matrix:	Soil	Preparation Dilution:	0.53
Percent Moisture:	66.57	QC Group:	8080 PEST/PCBS_18195

SURROGATE RECOVERY (%)		
		QC Limits
TCMX	104	60-150
DCB	102	60-150

CONSTITUENT	CAS NO.	RESULT ug/Kg	PRACTICAL QUANTITATION LIMIT ug/Kg	DATA QUALIFIER(s
A-BHC	319-84-6	<27.	27.	
B-BHC	319-85-7	<27.	27.	
G-BHC	58-89-9	<27.	27.	
D-BHC	319-86-8	<27.	27.	
Heptachlor	76-44-8	<27.	27.	
Aldrin	309-00-2	<27.	27.	
Heptachlor Epoxide	1024-57-3	<27.	27.	
G-Chlordane	5103-74-2	<27.	27.	
Endosulfan I	959-98-8	<27.	27.	
A-Chlordane	5103-71-9	<27.	27.	
4,4'-DDE	72-55-9	<53.	53.	
4,4'-DDT	50-29-3	<53.	53.	
Dieldrin	60-57-1	<53.	53.	
Endrin	72-20-8	<53.	53.	
Endosulfan II	33213-65-9	<53.	53.	
4,4'-DDD	72-54-8	<53.	53.	
Endrin Aldehyde	7421-36-3	<53.	53.	
Endosulfan Sulfate	1031-07-8	<53.	53.	
Methoxychlor	72-43-5	<270	270	
Toxaphene	8001-35-2	<2700	2700	
PCB-1016	12674-11-2	<210	210	
PCB-1221	11104-28-2	<210	210	
PCB-1232	11141-16-5	<210	210	
PCB-1242	53469-21-9	<210	210	
PCB-1248	12672-29-6	<210	210	
PCB-1254	11097-69-1	11000	210	
PCB-1260	11096-82-5	11000	210	
Chlordane (Technical)	57-74-9	<640	640	

RAD DATA REPORT (ra01)

Bechtel Hanford, Inc. * Richland, WA

Bechtel Hanford Project (Project BECHTEL-HANFORD)

Client Sample ID: B0DMX2 | LAL Sample ID: L3680-11

Date Collected: 17-JAN-95 | Date Received: 19-JAN-95

Matrix: Soil | Login Number: L3680

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Gross Alpha	26-JAN-95	GR ALP/BETA LAL-0061_18164	5.3	3.9	5.1	C	pCi/g
Gross Beta	26-JAN-95	GR ALP/BETA LAL-0061_18164	19.7	4.4	5.5		pCi/g

RAD DATA REPORT (ra01)

Bechtel Hanford, Inc. * Richland, WA

Bechtel Hanford Project (Project BECHTEL-HANFORD)

Client Sample ID: B0DMX2 LAL Sample ID: L3680-12

Date Collected: 17-JAN-95 Date Received: 19-JAN-95

Matrix: Soil Login Number: L3680

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ac-228	27-JAN-95	GAMMA SPEC LAL-0064_18169	0.55	0.25	0.38		pCi/g
Co-58	27-JAN-95	GAMMA SPEC LAL-0064_18169	0.016	0.050	0.085		pCi/g
Co-60	27-JAN-95	GAMMA SPEC LAL-0064_18169	0.510	0.086	0.077		pCi/g
Cs-137	27-JAN-95	GAMMA SPEC LAL-0064_18169	2.15	0.26	0.079		pCi/g
Eu-152	27-JAN-95	GAMMA SPEC LAL-0064_18169	1.41	0.21	0.29		pCi/g
Eu-154	27-JAN-95	GAMMA SPEC LAL-0064_18169	0.14	0.17	0.33		pCi/g
Eu-155	27-JAN-95	GAMMA SPEC LAL-0064_18169	0.057	0.094	0.16		pCi/g
Fe-59	27-JAN-95	GAMMA SPEC LAL-0064_18169	-0.005	0.057	0.16		pCi/g
Pb-212	27-JAN-95	GAMMA SPEC LAL-0064_18169	0.72	0.13	0.11		pCi/g
Pb-214	27-JAN-95	GAMMA SPEC LAL-0064_18169	0.62	0.13	0.15		pCi/g
Ra-226(GAMMA)	27-JAN-95	GAMMA SPEC LAL-0064_18169	2.8	1.1	1.3		pCi/g
U-235(GAMMA)	27-JAN-95	GAMMA SPEC LAL-0064_18169	-0.15	0.21	0.37		pCi/g

RAD DATA REPORT (ra01)

Bechtel Hanford, Inc. * Richland, WA

Bechtel Hanford Project (Project BECHTEL-HANFORD)

Client Sample ID: B0DMX3 | LAL Sample ID: L3680-22

Date Collected: 17-JAN-95 | Date Received: 19-JAN-95

Matrix: Soil | Login Number: L3680

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Gross Alpha	26-JAN-95	GR ALP/BETA LAL-0061_18164	18.2	6.3	5.2	C	pCi/g
Gross Beta	26-JAN-95	GR ALP/BETA LAL-0061_18164	23.0	4.6	5.5		pCi/g

RAD DATA REPORT (ra01)

Bechtel Hanford, Inc. * Richland, WA

Bechtel Hanford Project (Project BECHTEL-HANFORD)

Client Sample ID: BODMX3 | LAL Sample ID: L3680-23

Date Collected: 17-JAN-95 | Date Received: 19-JAN-95

Matrix: Soil | Login Number: L3680

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ac-228	30-JAN-95	GAMMA SPEC LAL-0064_18169	0.89	0.36	0.56		pCi/g
Co-58	30-JAN-95	GAMMA SPEC LAL-0064_18169	-0.006	0.065	0.12		pCi/g
Co-60	30-JAN-95	GAMMA SPEC LAL-0064_18169	0.75	0.12	0.13		pCi/g
Cs-137	30-JAN-95	GAMMA SPEC LAL-0064_18169	2.56	0.33	0.13		pCi/g
Eu-152	30-JAN-95	GAMMA SPEC LAL-0064_18169	2.09	0.30	0.44		pCi/g
Eu-154	30-JAN-95	GAMMA SPEC LAL-0064_18169	0.28	0.25	0.52		pCi/g
Eu-155	30-JAN-95	GAMMA SPEC LAL-0064_18169	0.21	0.17	0.22		pCi/g
Fe-59	30-JAN-95	GAMMA SPEC LAL-0064_18169	-0.009	0.095	0.28		pCi/g
Pb-212	30-JAN-95	GAMMA SPEC LAL-0064_18169	0.85	0.19	0.20		pCi/g
Pb-214	30-JAN-95	GAMMA SPEC LAL-0064_18169	0.77	0.19	0.22		pCi/g
Ra-226(GAMMA)	30-JAN-95	GAMMA SPEC LAL-0064_18169	-0.5	1.6	2.1		pCi/g
U-235(GAMMA)	30-JAN-95	GAMMA SPEC LAL-0064_18169	0.50	0.35	0.47		pCi/g

9613409.2693

LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jan 19 1995, 05:08 pm

Login Number: L3680
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
L3680-1	B0DMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-43					
Soil 4 S SCREENING		Hold:16-JUL-95			
L3680-2	B0DMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-43					
Soil 4 S SCREENING		Hold:16-JUL-95			
L3680-3	B0DMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5 "METALS=As,Pb,Se,Tl"					
Location: RFG01-12B					
Soil 4 S 6010 ICP METALS		Hold:16-JUL-95			
Soil 4 S 7000 FURNACE METALS		Hold:16-JUL-95			
Soil 4 S PERCENT SOLIDS		Hold:31-JAN-95			
L3680-4	B0DMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 8240 VOLATILES		Hold:31-JAN-95			
L3680-5	B0DMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 8270 SEMI-VOLATILES		Hold:31-JAN-95			
L3680-6	B0DMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 8080 PEST/PCBS		Hold:31-JAN-95			
L3680-7	B0DMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-43					
Soil 4 S 9030 SULFIDE		Hold:24-JAN-95			
L3680-8	B0DMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-43					
Soil 4 S 9020M EOX		Hold:24-JAN-95			

9613409.2694

LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jan 20 1995, 02:50 pm

Login Number: L3680
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
* L3680-9	B0DMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 300.0 CHLORIDE		Hold:14-FEB-95			
Soil 4 S 300.0 FLUORIDE					
Soil 4 S 300.0 NITRATE		Hold:19-JAN-95			
Soil 4 S 300.0 NITRITE					
Soil 4 S 300.0 PHOSPHATE					
Soil 4 S 300.0 SULFATE		Hold:14-FEB-95			
L3680-10	B0DMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 353.2 NITRATE		Hold:07-FEB-95			
L3680-11	B0DMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: 156CART-1					
Soil 4 S GR ALP/BETA LAL-0061		Hold:16-JUL-95			
L3680-12	B0DMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: 156CART-1					
Soil 4 S GAMMA SPEC LAL-0064		Hold:16-JUL-95			
L3680-13	B0DMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: 156CART-1					
L3680-14	B0DMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5 "METALS=As,Pb,Se,Tl"					
Location: RFG01-12B					
Soil 4 S 6010 ICP METALS		Hold:16-JUL-95			
Soil 4 S 7000 FURNACE METALS		Hold:16-JUL-95			
Soil 4 S PERCENT SOLIDS		Hold:31-JAN-95			
L3680-15	B0DMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 8240 VOLATILES		Hold:31-JAN-95			
L3680-16	B0DMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					

* CHANGED 340.2 FLUORIDE TO 300.0 FLUORIDE PER COC & SOW

RC 1-20-95

18

—LOGIN ERROR—

0119546

9613409.2695

LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jan 20 1995, 02:52 pm

Login Number: L3680
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
Soil 4 S 8270 SEMI-VOLATILES		Hold:31-JAN-95			
L3680-17	B0DMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 8080 PEST/PCBS		Hold:31-JAN-95			
L3680-18	B0DMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-43					
Soil 4 S 9030 SULFIDE		Hold:24-JAN-95			
L3680-19	B0DMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-43					
Soil 4 S 9020M EOX		Hold:24-JAN-95			
* L3680-20	B0DMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 300.0 CHLORIDE		Hold:14-FEB-95			
Soil 4 S 300.0 FLUORIDE					
Soil 4 S 300.0 NITRATE		Hold:19-JAN-95			
Soil 4 S 300.0 NITRITE					
Soil 4 S 300.0 PHOSPHATE					
Soil 4 S 300.0 SULFATE		Hold:14-FEB-95			
L3680-21	B0DMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 353.2 NITRATE		Hold:07-FEB-95			
L3680-22	B0DMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: 156CART-1					
Soil 4 S GR ALP/BETA LAL-0061		Hold:16-JUL-95			
L3680-23	B0DMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: 156CART-1					
Soil 4 S GAMMA SPEC LAL-0064		Hold:16-JUL-95			

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9613409.2696

LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jan 19 1995, 05:08 pm

Login Number: L3680
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
L3680-9	BODMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 300.0 CHLORIDE		Hold:14-FEB-95			
Soil 4 S 300.0 NITRATE		Hold:19-JAN-95			
Soil 4 S 300.0 NITRITE					
Soil 4 S 300.0 PHOSPHATE					
Soil 4 S 300.0 SULFATE		Hold:14-FEB-95			
Soil 4 S 340.2 FLUORIDE		Hold:14-FEB-95			
L3680-10	BODMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 353.2 NITRATE		Hold:07-FEB-95			
L3680-11	BODMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: 157					
Soil 4 S GR ALP/BETA LAL-0061		Hold:16-JUL-95			
L3680-12	BODMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: 157					
Soil 4 S GAMMA SPEC LAL-0064		Hold:16-JUL-95			
L3680-13	BODMX2	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: 157					
L3680-14	BODMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5 "METALS=As,Pb,Se,Tl"					
Location: RFG01-12B					
Soil 4 S 6010 ICP METALS		Hold:16-JUL-95			
Soil 4 S 7000 FURNACE METALS		Hold:16-JUL-95			
Soil 4 S PERCENT SOLIDS		Hold:31-JAN-95			
L3680-15	BODMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 8240 VOLATILES		Hold:31-JAN-95			
L3680-16	BODMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					

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LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jan 19 1995, 05:08 pm

Login Number: L3680
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
Soil 4 S 8270 SEMI-VOLATILES		Hold:31-JAN-95			
L3680-17	BODMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 8080 PEST/PCBS		Hold:31-JAN-95			
L3680-18	BODMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-43					
Soil 4 S 9030 SULFIDE		Hold:24-JAN-95			
L3680-19	BODMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-43					
Soil 4 S 9020M EOX		Hold:24-JAN-95			
L3680-20	BODMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 300.0 CHLORIDE		Hold:14-FEB-95			
Soil 4 S 300.0 NITRATE		Hold:19-JAN-95			
Soil 4 S 300.0 NITRITE					
Soil 4 S 300.0 PHOSPHATE					
Soil 4 S 300.0 SULFATE		Hold:14-FEB-95			
Soil 4 S 340.2 FLUORIDE		Hold:14-FEB-95			
L3680-21	BODMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: RFG01-12B					
Soil 4 S 353.2 NITRATE		Hold:07-FEB-95			
L3680-22	BODMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: 157					
Soil 4 S GR ALP/BETA LAL-0061		Hold:16-JUL-95			
L3680-23	BODMX3	17-JAN-95	19-JAN-95		23-FEB-95
TEMP 5					
Location: 157					
Soil 4 S GAMMA SPEC LAL-0064		Hold:16-JUL-95			

9613409.2698

LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jan 19 1995, 05:08 pm

Login Number: L3680
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
L3680-24 TEMP 5 Location: 157	BODMX3	17-JAN-95	19-JAN-95		23-FEB-95
L3680-25 Location:	REPORT TYPE	19-JAN-95	19-JAN-95		23-FEB-95

Water 1 S EDD - DISK DEL.
Water 1 S GC2
Water 1 S INORG TYPE 2 RPT +

Signature: Paul C Davis
Date: 1-19-95 22

011959

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1 2

Data Turnaround: [ ] Priority [X] Normal

Collector: Dave St John/Doug Bowers Wendy Thompson	Company Contact: RC SMITH/MT STANKOVICH	Telephone No.: (509)372-2537/(509)376-2493
Project Designation: 100-D PONDS PHASE II SAMPLING	Sampling Location: 100-D	SAF No.: B94-098
Ice Chest No.: SML-186	Field Logbook No.	Method of Shipment: FEDERAL EXPRESS
Shipped To: LOCKHEED	Offsite Property No. W95-0-0201-4	Bill of Lading/Air Bill No. 2904616897

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

SAMPLE ANALYSIS	ICP METALS-TAL/AA MATALS (As,Pb, Se,Tl)	VOA-TCL	SEMI-VOA-TCL	PCB/PEST	SULFIDE	TOX	ANIONS-IC(F, Cl,SO4, PO4, NO2, NO3)	NO2-NO3	TOTAL ALPHA/BETA, GEA	ACTIVITY SCAN	Total alpha beta gamma spec	total alpha beta gamma spec			
Preservative	COOL 4	COOL 4	COOL 4	COOL 4	COOL 4	COOL 4	COOL 4	COOL 4		COOL 4					
Type of Container	aG	Gs	aG	aG	aG	aGs	aG	aG	aG	P/G	aG	aG			
No. of Container(s)	1	1	1	1	1	1	1	1	3	1	1	1			
Volume	125ml	125ml	125ml	125ml	40ml	40ml	125ml	125ml	500ml*	20ml	500ml	950ml			

Sample No.	Matrix*	Date Sampled	Time Sampled														
wst 1-17-95 ~~BODMX2~~ BODMX2	S	1/17/95	0935	X	X	X	X	X	X	X	X	X	X	X	wst 1-17-95		
BODMX3	S	1/17/95	1047	X	X	X	X	X	X	X	X	X	X	wst 1-17-95			

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Doug Bowers	Date/Time: 1-18-95/0830	Received By: ERC Bill Whitten	Date/Time: 0830 1-18-95
Relinquished By: ERC Bill Whitten	Date/Time: 0900 1-18-95	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

DATA DELIVERABLE-STAND ALONE.
LABORATORY ANALYSIS FOR PHOSPHATE, NITRATE, NITRITE IS REQUESTED FOR "INFORMATION ONLY." THE ERC CONTRACTOR ACKNOWLEDGES THE 48-HOUR HOLDING TIME WILL NOT BE MET.

*=THE TOTAL VOLUME REQUIRED FOR TOTAL ALPHA/BETA, GEA ANALYSIS IS 1500g

BODMX2 = N4306
BODMX3 = N4307

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
	[signature]	Sample Custodian	1-19-95 / 1000

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613409.2699

0119

9613409.2700

CLEANIGHT DELIVERY

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NO. (To be obtained from PROPERTY MANAGEMENT)
BHI		W95-0-02001-1

PART I - TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng. Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from [X] Contractor [ ] Vendor

Routing [illegible] [1] Prepaid [ ] Collect

Shipped to	Off-site Custodian
Company: LockHeed Analytical Services	
Address: 975 Kelly Johnson Drive	
City: Las Vegas, State NV Zip Code 89119	On-site Custodian / Payroll No.
Country:	

Qty.	Property No.	Description (include Manufacture Name, Model, Serial No.)	Acquisition Cost
1 61 lbs		Sample #: B00MX2 B00MX3 Cooler ID: SML-186 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs		~~Sample #:~~ ~~Cooler ID:~~ ~~Polycooler with groundwater samples packed in wet ice and vermiculate~~	N/A

[ ] Classified [X] Unclassified [ ] Shipped Under DOE Contract [ ] Shipped Under Contractor's Use Permit Contract

Necessity for the off-site use of this property

[X] Required for Project Work. List Project No. 100-D-BOMDS PHASE II

[ ] Business Trip

Bill of lading # 29046168997

[ ] Off-site Assignment

[ ] Shipment to Subcontractor. List Subcontract No. NIA

[ ] Other (Please specify) Sampling supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearence for Public Release	RM Survey No.	Date
[illegible]	[illegible]	1-11-95

Location of and Contact for Property (Name/Phone No./Bldg./Area)

P. H. Butcher/(509)376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
1-18-95	~~8B410~~ PV3AA ITE 3072	

Originated By	Date	Authorized By	Date
BJ WHITTEN	1-18-95	[signature]	1-18-95
Property Representative Signature	**Date**	**Property Management Approval**	**Date**
		[illegible]	1/19/95

PART II - TO BE COMPLETED BY SHIPPING

Authorized Shipping Signature	Date
[signature]	1/19/95

DISTRIBUTION (AFTER FINAL SIGNATURES)

White - Property Management Yellow - Shipping Green - Accounts Payable Pink - Originator Goldenrod - Property Management

54-3000-479 (01/94)

011959

9613409.2701

AMPLE STATUS REPORT FOR N 4306. RAD SCREEN BODMR2 TIME: 1/18/95 7:57
DISPATCHED: 1/10/95 10:27 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 1/18/95 7:53

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5442

END OF REPORT

BODMX2
BW
1-18-95

25

011959

9613409.2702

AMPLE STATUS REPORT FOR N 4307. RAD SCREEN BODMR3 TIME: 1/18/95 7:57
DISPATCHED: 1/10/95 10:27 SAMPLE HAS NOT BEEN SLURPED PAGE 1
RECEIVED: 1/18/95 7:54

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	XR5442

END OF REPORT

BODMX3
BW
1-18-95

2E

011959

9613409.2703

Sample Login

Login Review Checklist

Lot Number ~~L3675~~ 1-20-95 L3680

The login review should be conducted by that person logging in the samples as well as a peer. Please use this checklist to ensure that such reviews occur in a uniform basis. Please sign and date below to verify that a login review has occurred. This checklist should be affixed to each login package prior to distribution.

For an effective login review, at a minimum, five reports from the login process are required. These are the chain of custody (or equivalent), the login chain of custody report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning a review, ensure that these five components are available. For jobs with single component samples, the sample summary report may be ommited.

Sample Summary Report N/A	Yes	No
1. Are all sample IDs correct?	Y	
2. Are all samples present?	Y	
3. Are all matrices correct? (e.g., TCLP analyses should be on a TCLP leachate, field blanks should be water)	Y	
4. Are all analyses on the chain of custody/login quotation included?	Y	
5. Are analyses logged in for the correct container? (e.g., analyses requiring preservation logged in for a preserved container and vice versa)	Y	
6. Are samples logged in according to laboratory batching procedures? (e.g., TCLP regular leaching and associated metals/semivolatile organics should be logged in on the same bottle)	Y	

Login Chain of Custody Report		
1. Are the Collect, Receive , and Due dates correct for every sample?	Y	
2. Have appropriate sample comments been included? (e.g., MS/MSD designation, comments from the client concerning method modifications)	Y	

Sample Receiving Checklist			
1. Are any discrepancies between the chain of custody and the login noted? (e.g., client IDs different on chains of custody and bottle labels, samples not sent, samples lost from breakage)			NA

[signature] 1-19-95 [signature] 1-19-95

Primary review signature Date Secondary review signature Date

011959

Figure 1

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 1-19-95/1500 Client Name Westinghouse

Project/Client # B94-098 Batch or Case # N/A

Cooler ID (if noted on outside of cooler) N/A

1. Condition of shipping container? good
2. Custody Seals on cooler intact? Yes [X] No [ ]
3. Custody Seals dated and signed? Yes [X] No [ ]
4. Chain of Custody record is taped on inside of cooler lid? Yes [X] No [ ]
5. Vermiculite/packing material is: Wet [ ] Dry [X] _____
6. Each sample is in a plastic bag? Yes [X] No [ ] _____
7. Number of sample containers in cooler: _____
8. Samples have:
   - ____ tape
   - ____ hazard labels
   - X custody seals
   - X appropriate sample labels
9. Samples are:
   - X in good condition
   - ____ leaking
   - ____ broken
   - ____ have air bubbles
   - ____ other
10. Coolant Present? Yes [X] No [ ] Sample Temperature 5°C
11. The following paperwork should be accounted for (N/A if not applicable):

    Chain of Custody #(s) N/A

    Request for Analysis #(s) N/A

    Airbill # 290 4616 897 Carrier FedX
12. Have any anomalies been identified above? Yes [ ] No [ ] N/A
13. Memos have been initiated for all anomalies identified above? Yes [ ] N/A

Printed Name/Signature Anthony C. Miller [signature] Date/Time 1-19-95/1000

28

01195

Lockheed Analytical Services
Sample Receiving Checklist

Client Name: Westinghouse Job No. ~~L3675~~ L3680 1-20-95 Cooler ID:

COOLER CONDITION UPON RECEIPT			
Temperature of cooler upon receipt:	5°C		
temperature of temp. blank upon receipt:			
	Yes	No	* Comments/Discrepancies
custody seals intact	X		
chain of custody present	X		
blue ice (or equiv.) present/frozen	X		
rad survey completed	X		

SAMPLE CONDITION UPON RECEIPT			
	Yes	No	* Comments/Discrepancies
all bottles labeled	X		
samples intact	X		
proper container used for sample type	X		
sample volume sufficient for analysis	X		
proper pres. indicated on the COC	X		
VOA's contain headspace		X	
are samples bi-phasic (if so, indicate sample ID'S):			NA

MISCELLANEOUS ITEMS			
	Yes	No	* Comments/Discrepancies
samples with short holding times	X		Nitrate
samples to subcontract		X	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: [illegible] 1-19-95

Sent to the client (date/initials): ** Client's signature upon receipt:

*Notes: * = contact the appropriate CSR of any discrepancies immediately upon receipt*

*** = please review this information and return via facsimile to the appropriate CSR (702) 361-8146*

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Lockheed Analytical Laboratory
SAMPLE SUMMARY REPORT (su02)
Bechtel Hanford, Inc. * Richland, WA

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
BODMX2	L3680-1		Soil	SCREENING
	L3680-3		Soil	6010 ICP METALS
	L3680-3		Soil	7000 FURNACE MET
	L3680-3		Soil	PERCENT SOLIDS
	L3680-4		Soil	8240 VOLATILES
	L3680-5		Soil	8270 SEMI-VOLATI
	L3680-6		Soil	8080 PEST/PCBS
	L3680-7		Soil	9030 SULFIDE
	L3680-8		Soil	9020M EOX
	L3680-9		Soil	300.0 CHLORIDE
	L3680-9		Soil	300.0 NITRATE
	L3680-9		Soil	300.0 NITRITE
	L3680-9		Soil	300.0 PHOSPHATE
	L3680-9		Soil	300.0 SULFATE
	L3680-9		Soil	340.2 FLUORIDE
	L3680-10		Soil	353.2 NITRATE
	L3680-11		Soil	GR ALP/BETA LAL-
	L3680-12		Soil	GAMMA SPEC LAL-0
BODMX3	L3680-2		Soil	SCREENING
	L3680-14		Soil	6010 ICP METALS
	L3680-14		Soil	7000 FURNACE MET
	L3680-14		Soil	PERCENT SOLIDS
	L3680-15		Soil	8240 VOLATILES
	L3680-16		Soil	8270 SEMI-VOLATI
	L3680-17		Soil	8080 PEST/PCBS
	L3680-18		Soil	9030 SULFIDE
	L3680-19		Soil	9020M EOX
	L3680-20		Soil	300.0 CHLORIDE
	L3680-20		Soil	300.0 NITRATE
	L3680-20		Soil	300.0 NITRITE
	L3680-20		Soil	300.0 PHOSPHATE
	L3680-20		Soil	300.0 SULFATE
	L3680-20		Soil	340.2 FLUORIDE
	L3680-21		Soil	353.2 NITRATE
	L3680-22		Soil	GR ALP/BETA LAL-
	L3680-23		Soil	GAMMA SPEC LAL-0
REPORT TYPE	L3680-25		Water	EDD - DISK DEL.
	L3680-25		Water	GC2
	L3680-25		Water	INORG TYPE 2 RPT